An Alternative Measure for Attitudes towards Bisexual People

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Abstract

Existing measures of attitudes towards bisexual people include items assessing people’s attitudes, stereotypes, and behavioral intentions regarding this sexual minority, despite the theoretical differences between these constructs. The purpose of the current study was to create separate and well-defined measures for assessing these constructs. The responses to the newly created measures were collected online from 377 US MTurk Workers (88% heterosexual, 75% white, 57% men, median age 32 years). Common factor analyses were performed to determine the factor structure of the measures and how they should be scored. According to several exploratory data analyses, these measures showed moderately (but not extremely) strong correlations and somewhat differing pattern of gender differences. Together, both the social psychology literature and current empirical evidence implied that it might be a better practice to treat attitudes, stereotypes, and behavioral intentions regarding bisexual people as different constructs and assess them using distinct and clear-cut measures.

*Keywords: Bisexual, Measurement, Attitudes, Stereotypes, Behavioral Intentions*
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Introduction

Bisexual people\(^1\) have been reported being victims of unfavorable attitudes and discrimination that come from both heterosexual people and non-bisexual members of the LGBTQ community (Dodge et al., 2006). These social stressors may contribute to the higher rates of mental health and physical health issues (Frost, Lehavot, & Meyer, 2015; Meyer, 2003) among bisexual as opposed to heterosexual population. In a partial attempt to understand and solve these problems, attitudes toward bisexual individuals have been regularly examined in the social justice literature on LGBTQ issues. However, the existing measures of attitudes towards bisexual people seem to assess a mixture of stereotypes and behavioral intentions in addition to attitudes toward bisexual people per se. Because these three concepts are theoretically distinct according to the social psychology literature, intermingling these constructs in the same measure will result in poor content validity. To address this potential problem, I developed measures that separately assess people’s attitudes about, stereotypes of, and behavioral intentions toward bisexual people. I also examined the structures of these newly developed measures, explored their intercorrelations, and examined the group differences on the mean level of these measures.

Attitudes about Bisexual People

Definition and Structure

To create a valid measure for attitudes toward bisexual people, it is necessary to understand how attitudes are theorized. In the social psychology literature, an attitude refers to a stable and global evaluation of a target on a continuum of psychological valence, ranging from

\(^1\) For the current study, bisexual people are defined as those who have sexual attractions to both males and females.
being negative to positive ("Attitude", n.d.; Eagly & Chaiken, 1993). This target can be either an object or a person; an individual or a group.

The classic tripartite model of attitudes theorizes that people’s attitudes toward a target can be inferred from these people’s beliefs about, feelings about, and behaviors toward that target (Fazio & Olson, 2007; Zanna & Rempel, 1988). These three attitudinal components are often assumed to correspond with each other in terms of their psychological valence (Fazio & Olson, 2007; Zanna & Rempel, 1988); for example, if people have positive feelings about a target, then they are also likely to have positive beliefs about and behaviors toward that target.

Nevertheless, this model of attitudes has been challenged by literature on attitudinal ambivalence, which refers to the conflicting state of possessing both strong positive and negative attitudes toward a target (Harreveld, Nohlen, & Schneider, 2015). This apparent conflict and incongruency can occur either within the same attitudinal domain, such as having both positive and negative beliefs simultaneously about the same target, or between two different attitudinal domains, such as having negative beliefs about but positive feelings about the same target (Fazio & Olson, 2007; Harreveld et al., 2015; Zanna & Rempel, 1988). Due to the potential conflicts and inconsistencies among attitudinal components and valences, it may be necessary to separately assess the three attitudinal components on both a positive and a negative spectrum to capture a more complete measurement of attitudes.

**Descriptions and Limitations of Existing Attitudinal Measures**

Despite the existence of such a theoretical model of attitudes, it is not well incorporated into the existing measures of attitudes toward bisexual people. For example, Herek (2002) used a 101-point feeling thermometer ranging from 0 to 100. A high score on this measure indicated a positive feeling about bisexual people. The strength of this measure was that it was quick to
administer. However, a limitation of this measure was that it assessed only the affective component of attitudes on a single continuum, ranging from unfavorable feeling to favorable feeling. Considering the tripartite model of attitudes and attitudinal ambivalence literature, this single-item measure may fail to capture a full picture of people’s attitudes toward bisexual people.

The Attitude Regarding Bisexuality Scale (Mohr & Rochlen, 1999) is a well-adopted measure for attitudes toward bisexual individuals. Although the original purpose of this measure was developed to assess people’s attitudes about bisexuality rather than those about bisexual people, this measure has been frequently used to assess the latter construct. This measure examines the degree to which people tolerate bisexuality and consider it as a valid and stable sexual orientation. However, about half of the items on this scale are relevant to stereotypes about bisexual people (e.g., Bisexual women have a clear sense of their true sexual orientation [Reversely Worded]), rather than attitudes toward bisexual people per se. Considering that stereotypes and attitudes are theoretically distinct constructs, the inclusion of stereotype items into the same measure may compromise the content validity of the Attitude Regarding Bisexual Scale.

The Biphobia Scale (Mulick & Wright, 2002) is another frequently used measure. It contains 30 questions designed to evaluate the extent to which people have negative beliefs about, unfavorable feelings about, and undesirable behavioral intentions toward bisexual people. Although this measure demonstrated a higher level of content validity than did the aforementioned measures, it still has two limitations. Firstly, it examines people’s attitudes on the negative dimension only, which neglects the positive dimension of attitudes. Secondly, it is difficult to determine the attitudinal valence of some items within the scale. For example, a
sample item from the Biphobia Scale is “Bisexual people are not capable of monogamous relationships”. Although people who endorse this stereotype are assumed to have negative attitudes toward bisexual people, this assumption cannot always be guaranteed. For example, a high score on this item may not necessarily reflect a negative attitude toward bisexual people, especially for those who do not consider this lack of capability as an undesirable characteristic. Therefore, the score on this measure may not fully reflect one’s attitudes toward bisexual people.

To address the aforementioned limitations, I developed an alternative measure for assessing attitudes toward bisexual people. This measure is designed to assess the three attitudinal domains (i.e., cognitive, affective, and behavioral) on both a positive spectrum and a negative spectrum, using items that reflect general evaluations of bisexual people. By assessing all attitudinal components on both positive and negative spectrum, I hoped to gain a more complete understanding of people’s attitudes toward bisexual people.

Correlates of Attitudes

Previous studies have examined the correlates of attitudes toward bisexual people. The most commonly examined correlates are demographic variables. It has been found that more favorable attitudes toward bisexual people are associated with being female, being non-Black, having higher education levels, being less religious, and being non-heterosexual (Dodge et al., 2016; Herek, 2002; Maclnnis, & Hodson, 2012; Worthen, Lingiardi, & Caristo, 2016). Among the demographic variables being examined, one’s sexual orientation seemed to be the strongest predictor of attitudes toward bisexual people\(^2\), such that being non-heterosexual was associated with a higher level of positive attitudes toward bisexual people (Dodge et al., 2016; Worthen,

\(^2\) This statement may not be accurate because different studies used different analyses and indices to estimate the size of the relationship between attitudes and various correlates. As a result, these estimates were not always comparable.
In addition, some belief variables showed weak to moderate relationships with attitudes toward bisexual people. Specifically, positive attitudes toward bisexuals were associated with a higher level of egalitarian beliefs, a higher level of beliefs in the biological causes of homosexuality, and a lower level of beliefs that sexual orientation are composed of discrete categories (Feinstein, Dyar, Bhatia, Latack, & Davila, 2016; Hubbard & de Visser, 2015; Worthen, 2012). Moreover, ideology variables, such as political orientation and social dominance orientation, had also been found to predict attitudes toward bisexual people: positive attitudes were associated with greater political liberalism (as opposed to conservatism) and lower degree of social dominance orientation (Feinstein et al., 2016; Worthen et al., 2016; Woodford, Silverschanz, Swank, Scherrer, & Raiz, 2012).

However, none of the studies above have examined the relationships between attitudes about, stereotypes about, and behavioral intentions toward bisexual people. This lack of research may result from the fact that existing attitudinal measures assess people’s attitudes, stereotypes, and behavioral intentions together, without differentiating these constructs. Because these constructs were assessed using different measures in the current study, I examined how attitudes toward bisexual people relate to the endorsement of bisexual stereotypes and behavioral intentions toward this sexual minority group. This examination was done in two ways. Firstly, I observed their bivariate correlations at a zero-order level. Secondly, I investigated the relationships between these constructs based on some theoretical models proposed in existing social psychology literature: Some articles have discussed the roles of attitudes (Ajzen & Cote, 2008; Glasman & Albarracin, 2006) and stereotypes (Wheeler & Petty, 2001) in predicting behaviors. To test these prediction models in the current study, I ran several multiple regression
analyses to predict the behavioral intentions toward bisexual using attitudes and stereotypical beliefs about members from this sexual minority.

**Group Differences on Attitudes**

I am also interested in how attitudes toward bisexual people differ across the gender groups of the perceivers (i.e., perceiver gender) and the gender groups of the bisexual people being evaluated (i.e., target gender). Previous studies found a main effect of perceiver gender, such that men indicated a higher level of negative attitudes toward bisexual individuals than did women. The effect size ranged from nearly absent (Hertlein, Hartwell, & Munns, 2016) to small (Helms & Waters, 2016; Herek, 2002) and medium (Yost & Thomas, 2012). In addition, there was also a main effect of target’s gender such that people tended to report more negative attitudes to bisexual men than to bisexual women. The size of this effect varied from small (Helms & Waters, 2016; Herek, 2002) to large (Yost & Thomas, 2012). Moreover, there was an interaction effect between perceiver gender and target gender. Specifically, women did not differ in their attitudes toward bisexual men and women, whereas men indicated more negative attitudes to bisexual men than to bisexual women. This interaction effect ranged from small (Herek, 2002) to large (Yost & Thomas, 2012). To ascertain whether the previous findings can be replicated using the newly developed attitudinal measure, I examined the main effect of perceiver gender, target gender, and their interaction effect on attitudes toward bisexual people.

**Summary**

Existing measures for attitudes toward bisexual people have two major drawbacks. Firstly, these measures do not have a high level of content validity because they do not cover the full domains of attitudes and because they only assess attitudes on either positive or negative dimension. Secondly, the items in some of these measures are not direct indicators of attitudes,
such as the items regarding the stereotypes of and behavioral intentions toward bisexual people. In the current study, I developed an alternative attitudinal measure that include more content-valid items. Using this newly developed measure, I examined 1) how attitudes toward bisexuals relate to other relevant constructs, such as stereotypes of and behavioral intentions toward bisexual people and 2) how attitudes toward bisexuals differ across different gender groups of the perceivers and the bisexual targets.

**Stereotypes about Bisexual People**

**Definition**

How do stereotypes differ from attitudes conceptually? While attitudes refer to the general evaluations of a target as being positive or negative, stereotypes refer to specific and oversimplified preconceptions about the attributes of people from a social group (Hilton & Hippel, 1996; “Stereotype”, n.d.).

**Themes of Bisexual Stereotypes**

The most common method of measuring stereotypes is to assess the degree to which people endorse stereotypical beliefs about a group. Previous studies have identified several common stereotypes about bisexual people. For example, one of these stereotypes is that bisexual people do not have a valid or stable sexual orientation (Burke & LaFrance, 2016; McLean, 2008; Mohr, Chopp, & Wong, 2013; Mohr & Rochlen, 1999). People who endorse this stereotype tend to believe that there is no such thing as bisexuality, and that those who self-identified as bisexuals are just going through an experimenting or transitioning phase: they will eventually grow out of this stage and end up sexually attracted to one sex only. Another common bisexual stereotype is that bisexual people are sexually promiscuous (Burke & LaFrance, 2016; Spalding & Peplau, 1997; Zivony & Lobel, 2014). People who adopt this
stereotype tend to believe that bisexual people like to have sex with multiple partners and are unselective of sexual partners.

In addition to the two stereotypes described above, other bisexual stereotypes include bisexual people being unfaithful lovers (Burke & LaFrance, 2016; Spalding & Peplau, 1997), carriers of sexually transmitted diseases (McLean, 2008; Spalding & Peplau, 1997), and over-interested in sexually related activities (Brewster & Moradi, 2010; Burke & LaFrance, 2016).

The Measure of Stereotype Endorsement

There is no established measure of stereotypes about bisexual people. However, the existing measures for attitudes toward bisexual people contain some items assessing the endorsement of bisexual stereotypes. For example, the Attitude Regarding Bisexuality Scale (Mohr & Rochlen, 1999) contains a subscale assessing the degree to which people believe that bisexuality is stable and valid (reversely worded), and the Biphobia Scale (Mulick & Wright, 2002) contains items assessing the degree to which people believe that bisexual people are promiscuous and carry sexually transmitted infection.

For the current study, I compiled a questionnaire assessing people’s level of stereotypes about bisexual people, due to the lack of an established measure. In this measure, I included some items, about bisexual stereotypes, that are borrowed directly from existing measures of attitudes toward bisexual people and literature examining bisexual stereotypes, with certain modifications for easier comprehensions; I also included some self-created items into this measure to assess the types of bisexual stereotypes that are not fully covered by items from existing attitudinal measures and literature on bisexual stereotypes. The included items describe various types of stereotypical beliefs about the characteristics and qualities of bisexual people.
Summary

One way to assess the level of stereotype about bisexual people was to determine the degree to which people endorse bisexual stereotypes. Due to the lack of this measure, I compiled one for this study. This measure included a series of commonly studied stereotypes about bisexual people, such as invalid sexual orientation, sexual promiscuity, and relationship infidelity. Using this stereotype measure, I examined the following questions. Firstly, how does the endorsement of bisexual stereotypes relate to other relevant constructs, such as attitudes about and behavioral intention toward bisexual people? Secondly, how does the endorsement of bisexual stereotypes differ across different gender groups of the perceivers and the bisexual targets?

Behavioral Intentions toward Bisexual People

Definition and Introduction

Social psychology research has found that one’s attitudes and stereotypes about a group predict one’s behavioral intentions toward members from that group (Ajzen & Cote, 2008; Glasman & Albarracin, 2006; Wheel & Petty, 2006). Behavioral intentions refer to the tendency and willingness to engage in given behaviors. According to the theory of planned behavior (Ajzen, 1991), behavioral intentions are the proximal predictors of actual behaviors. To examine the public’s treatment of bisexual people, behavioral intentions may be a better variable to examine than the actual behaviors themselves, for two reasons. Firstly, people may have limited opportunity to interact with bisexual people due to them being members of a sexual minority. Secondly, people may not be aware of the bisexual individuals around them because not all bisexuals disclose their sexual orientations. Given these possibilities, people are likely to report limited interactions with bisexual people, which do not allow enough variance of the behavioral
variables for statistical analyses. Because the measure of behavioral intentions is relatively free of the constraints mentioned above, I decided to assess people’s behavioral intentions, rather than their actual behaviors, toward bisexual people.

The Measure and Studies of Daily Behavioral Intentions

So far, there are only scarce and narrow examinations of people’s behavioral intentions to bisexual people. To illustrate, two studies have examined non-bisexual people’s willingness to date, have casual sex with, and engage in a committed relationship with bisexuals (Armstrong & Reissing, 2014; Feinstein et al., 2016). These studies found out that people who showed a higher level of tolerance and perceived validity of bisexuality reported stronger willingness to engage in sexual or romantic relationships with bisexual people.

There has not been any study investigating people’s intentions to engage in different types of day-to-day behaviors with bisexual people. Nevertheless, existing measures of attitudes toward bisexual people do contain items assessing the intentions of various daily behaviors toward bisexual individuals. For example, the Biphobia Scale (Mulick, 2002) contains items such as “I would be friends with a person who is bisexual” and “I avoid bisexual people”. Although this scale has been used in lots of studies, most researchers treat the behavioral intention items, along with other items in the scale, simply as indicators of attitudes. In other words, intentions of daily behaviors towards bisexual people were barely examined as a standalone topic of interest.

To bridge this gap in research, I compiled a measure for assessing people’s intentions to engage in the three kinds of day-to-day behaviors toward bisexual people: friendly, avoidant, and relationally hostile behaviors. It was assumed that these three types of behaviors are common and typical in daily interactions. I then examined how behavioral intentions toward bisexual
people relate to other similar constructs, such as attitudes and stereotypes about bisexual people. In addition, I explored how behavioral intentions toward bisexual people differ across the perceiver gender and the target gender.

**Measurement Structure**

I have decided to create different measures for assessing people’s attitudes about, stereotypes of, and behavioral intentions toward bisexual people. As a result, it is important to examine the factor structure of the measures. The factor structure of a measure identifies groups of strongly intercorrelated items within that measure. For example, if a measure has a two-factor structure, then this measure contains two groups of items such that the items in one group tend to correlate more strongly than they do with items in the other group. The factor structure of a measure is important to examine because it provides guidelines as to how the measure can best be scored and analyzed. For instance, when a measure reveals a two-factor structure, then two composite variables should be created from this measure and analyzed separately. To examine the factor structure of our measures, I ran several exploratory factor analyses separately on the items of measures designed to assess attitudes about, stereotypes of, and behavioral intentions toward bisexual people.

**The Current Study**

In the current study, I designed three different measures to assess people’s attitudes toward, stereotypes about, and behavioral intentions toward bisexual individuals. My rationale for creating such a new attitudinal measure is that existing measures of attitudes toward bisexual people do not evaluate the full domains (cognitive, affective, & behavioral) of attitudes on every possible dimension (positive & negative); in addition, these measures often include items that are not direct indicators of attitudes, which are supposed to be general evaluations. To address these
limitations, I created an alternative measure of attitudes toward bisexual people. This measure assessed the full domains of attitudes on both dimensions, using items that reflect one’s general evaluations of bisexual people. In addition to the attitudinal measure, I created measures for stereotypes about and behavioral intentions toward bisexual people because, as far as I am aware, there are no established measures of these constructs. The stereotype measure assessed the degree to which one endorses various types of bisexual stereotypes (e.g., identity invalidity & sexual promiscuity); and the behavioral intention measure assessed one’s tendency to engage in three types of daily behaviors (friendly, avoidant, & relationally hostile) toward bisexual people. I then examined the factor structure of these measures to determine how they should be scored and analyzed.

Moreover, I investigated the relationships among and group differences in people’s attitudes toward, stereotypes of, and behavioral intentions toward bisexual people. Regarding the intercorrelations among these constructs, there are not many studies examining this research question, possibly because there have not been any established measures for people’s stereotypes about and behavioral intentions toward bisexual people. To explore this research question, I checked the bivariate correlations between these three constructs; in addition, I also examined whether one’s attitudes and stereotypes about bisexual people predict one’s behavioral intentions toward people from this sexual minority. In terms of the group differences among these constructs, previous studies have revealed gender differences on people’s attitudes toward bisexual people, using existing measures for this construct. In the current study, I investigated the potential gender differences on the measures that I compiled. Specifically, I explored whether the attitudes about, stereotypes about, and behavioral intentions toward bisexual
individuals differ across the gender groups of the perceivers and those of the bisexual targets being rated.

**Methods**

**Participants**

**Recruitment.** The participants of this study were workers from the Amazon Mechanical Turk (MTurk), an online crowdsourcing platform. To recruit them, a web task titled “Questions about social groups” was posted on the MTurk website. The task description indicated that the task entailed a 20-minute survey assessing public opinions on some social groups, and that participants would be paid US $2.50 for completing the survey.

To qualify for participation, participants had to come from the United States. In addition, before participating in the study, they had to have undertaken at least about 100 other tasks on MTurk, with an overall task approval rate above 97%.

Before the large-scale collection of data, I posted a preliminary survey that allowed only 14 respondents to complete the questionnaire sets. The purpose of this preliminary survey was to examine whether there were any problems regarding survey administration and data collection. After ensuring that everything worked normally, I went on for the large-scale data collection. The responses from the preliminary survey and those from the actual survey were combined into a single dataset. In total, 437 people participated in our study. To identify any possible cases of repeated participation, I examined the records of MTurk workers who undertook the survey. I did not discover any repeated participation.
Exclusion. To start with, I decided to exclude participants who showed a large proportion of missing responses. For identifying this group of respondents, an index\(^3\) was created to indicate the proportion of missing values for each participant, across the main measures of interest (i.e., attitudes, stereotypes, and behavioral intention measures). The possible value of this index ranged from 0 to 1: Participants received a value of zero on this index if they showed no missing data on the main variables; participants received a value up to one if they showed missing data on all the main variables. A descriptive analysis of this index showed that most participants (411 out of 437) provided complete responses to the main measures. I excluded 16 people whose index scores were equal to or larger than 0.14. Most of these people were excluded because they missed more than half of the main measures; a few of these people were excluded because they skipped a large proportion of a specific type of measures (e.g., behavioral intentions). After these exclusions, 421 cases were remained in the dataset.

I then decided to exclude participants who provided large amounts of inconsistent responses. I decided to exclude these inconsistent respondents under the assumption that they responded to my surveys in a careless way (e.g., by clicking the same option on the scale across all the survey items without even reading the item content). For this study, inconsistent responses were defined as a large discrepancy between responses to the pairs of oppositely keyed items that 1) are supposed to measure the same construct and 2) have a strong negative correlation with each other. I calculated an index\(^4\) (0.00 = *no response inconsistency*; 1.00 =

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\(^3\) This index was calculated by dividing the number of missing items by the total number of items in the main measures of interest.

\(^4\) This index was calculated through the following four steps. Firstly, I scored all pairs of items measuring the same constructs into the same direction. Secondly, for the pairs of items assessing the same construct, I identified the pairs within which the items showed moderate to strong
high level of response inconsistency) that represented the level of response inconsistency for each participant. The measures that I choose to calculate the index scores were the attitudinal and stereotype measures since they contain oppositely keyed items assessing the same constructs. A descriptive analysis showed a positively skewed distribution of the index scores (see Figure 1), implying that most of the participants responded to the survey in a meaningfully consistent way. Nevertheless, this analysis also identified 44 (out of 421) respondents as having extremely high values\(^5\) (equal or above .38) in the index. This meant that they responded to the survey much less consistently than did most other respondents. I then examined the bivariate correlations among several variables that are not supposed to be theoretically correlated, among the inconsistent respondents only. For example, I calculated the correlations between participants’ beliefs about bisexual people’s level of sexual attraction to men/women and participants’ levels of religiosity, social political orientation, and economic political orientation. It was anticipated that the sexual attraction variables should not be correlated with the later three demographic variables. However, among the inconsistent respondents, the perceived levels of sexual attraction showed moderate and positive correlations with religiosity, social political orientation, and economic political orientation. This result suggested that most of these inconsistent respondents may have completed my surveys irresponsibly by choosing the same option on the scale across the items, thus justifying my exclusion of these respondents. These 44 correlations. Thirdly, for the identified pairs of items, I divided the difference between the items within each pair by the largest possible difference between the two items. Lastly, I averaged the resulting quotients across identified pairs of items. The resulting score is an index representing the level of response inconsistency for each participant, with a possible range from 0 to 1.

\(^5\)The threshold of extreme values was specified in the box-whisker plot created by the SPSS program.
people were thus excluded from subsequent statistical analyses. As a result, 377 cases remained in the dataset.

**Demographics.** All the questions assessing participant characteristics were included in a demographic questionnaire administered at the beginning of the survey. A “prefer not to say” option was available for each question. However, statistics regarding this option were not reported because, on average, fewer than 1% of the people chose this option for each of the demographic questions.

![Distribution of the Response Inconsistency Index](image)

*Figure.* The distribution of the response inconsistency index. The possible value of this index ranges from 0 to 1. A higher value represents a higher level of inconsistency of a participant’s responses to the main questions of interest.

**Gender.** Participants reported their gender using one of the following labels: man, woman, transman, transwoman, gender queer, and other. In this sample, there were 214 (56.76%) men and 157 (41.64%) women. Fewer than 1.1% of the participants chose gender labels other than men or women.
**Age.** Participants indicated their age by selecting a number from 18 to 99 in a drop-down menu. The mean and median of age were 35.54 and 32 ($SD = 10.81; Q_1 = 28; Q_3 = 39$). In addition, age showed a positively skewed distribution. These statistics showed that the sample contained more young and middle-aged adults than older adults.

**Sexual orientation.** Participants reported their sexual orientation by choosing one of the following categories: heterosexual, bisexual, homosexual, asexual, and other. In this sample, 333 (88.33%) respondents self-identified as heterosexual, 23 (6.10%) as bisexual, and 13 (3.45%) as homosexual. Fewer than 1.3% of participants self-identified as asexual or other.

**Race.** Participants indicated their race by selecting one or more of the following racial categories that apply to them: American Indian/Alaska Native, Asian, Black/African American, Native Hawaiian/other Pacific Islanders, White, and others. Most participants identified as White (283; 75.07%). In addition, a few dozens of participants identified as Black (30; 7.96%), Asian (26; 6.90%), or bi- or multi-racial (25; 6.63%). Fewer than 3.5% of the respondents identified with racial categories other than those mentioned above.

**Education level.** Participants indicated the highest level of education they had achieved by choosing one of the following options: elementary education, secondary education, post-secondary education, and professional/graduate degree. A small proportion (72; 19.10%) of participants reported having obtained as far as a professional/graduate degree; slightly more than half (210; 55.70%) claimed having received up to a post-secondary education; and about a quarter (91; 24.14%) indicated having received up to a secondary education. Fewer than 1.0% of the respondents indicated elementary schooling as the highest level of education they had ever achieved.
**Income level.** Participants selected one of the following categories to describe their income level in relation to their compatriots: poverty level, low income, middle class, and high income. Most participants reported coming from the middle class (222; 58.89%) or receiving a low income (113; 29.97%). In contrast, there were far fewer participants considered themselves at the poverty level (23; 6.10%) or earning a high income (12; 3.18%).

**Economic political orientation.** Economic political orientation was measured on a 101-point sliding scale (0.0 = preferring an economy run by the government; 10.0 = preferring an economy run by private organizations). The mean and median for this measure were 4.80 and 5.00 ($SD = 2.51; Q_1 = 3.00; Q_3 = 6.20$). Moreover, the distribution for the measures showed that about a quarter of the scores was clustered at the midpoint, whereas the remaining scores were distributed evenly across the entire scale. These statistics suggested a weak tendency for this sample to prefer an economy equally influenced by the government and the private organizations.

**Social political orientation.** Social political orientation was measured on a 101-point sliding scale (0.0 = preferring order, laws, and structures; 10.0 = preferring personal freedom). The mean and median for this measure were 5.70 and 5.20 ($SD = 2.54; Q_1 = 4.30; Q_3 = 7.80$). The distribution of social political orientation revealed that about a quarter of the respondents scored at the midpoint of the scale. For the remaining participants, there were slightly more people scoring high (as opposed to low) on this measure. Therefore, this sample showed a modest preference for personal freedom over order, laws, and structure.

**Religiosity.** Religiosity was measured on a 101-point sliding scale (0.0 = not religious at all; 10.0 = very religious). The mean and median of religiosity level were 2.96 and 1.00 ($SD = 3.51; Q_1 = 0.00; Q_3 = 6.18$). About 40% of the participants indicated no religiosity at all,
whereas the rest of the participants were evenly distributed throughout the scale in terms of their religiosity level. These statistics showed that our sample was not very religious.

**Main Measures**

The questionnaires were compiled and delivered using the Qualtrics Research Core, an online survey software. The instruction and content of each questionnaire were attached as appendices.

**Target’s gender (random assignment).** Participants were randomly assigned to complete the measures about either bisexual men or bisexual women. While being almost identical, the two conditions only differed slightly in wordings of questionnaire instructions and items. For example, if participants were assigned to complete measures about bisexual women, then the instruction for the stereotype measure was “…To what extent do you agree or disagree with the following statements about **bisexual women** in general?”. If participants were assigned to complete measures about bisexual men, then the instruction for the same measure was “…To what extent do you agree or disagree with the following statements about **bisexual men** in general?”.

**Attitudes toward bisexuals.** This questionnaire measured attitudes toward bisexual people in general. This questionnaire was designed to contain items assessing the three attitudinal components (cognitive, affective, and behavioral) on both positive and negative dimensions. Specifically, these items examined the level of the general tendency to hold positive and negative beliefs about, experience positive and negative feelings about, and have positive and negative behavioral intentions toward bisexual people (see Appendix B). Respondents indicated their level of a given attitude on a 101-point sliding scale (0.0 = not at all; 10.0 = very much).
Stereotypes about bisexuals. A questionnaire was compiled to measure the degree to which respondents endorsed stereotypes about bisexuals. This measure contained equal numbers of stereotypical and counter-stereotypical statements about bisexual peoples. For each stereotypical statement, there was a corresponding version of the counter-stereotypical statement. For example, for the stereotypical statement “Bisexual people are more likely to carry HIV/AIDS”, the corresponding version of the counter-stereotypical statement was “Bisexual people have lower likelihood to acquire HIV/AIDS”. Respondents reported how much they agreed with each statement on a 6-point Likert scale (1 = strongly disagree; 6 = strongly agree).

This questionnaire was designed to include seven subsets, each of which tapped into a specific theme of stereotype/counter-stereotype about bisexual people (see Appendix C):

- **Identity denial** — the level of perception that bisexuality is an unstable and invalid sexual orientation (as opposed to stable and valid sexual orientation).
- **Sexually acquired infection** — the degree of beliefs that bisexual people are more likely (as opposed to less likely) to carry sexually transmitted diseases.
- **Social difference** — the degree to which bisexual people are considered as socially different from (as opposed to similar to) the majority.
- **Sexual proclivity** — the level of beliefs that bisexual people are incapable (as opposed to capable) of regulating their sexual impulses.
- **Sexual promiscuity** — the perceived level of sexual promiscuity (as opposed to sexual prudence) among bisexuals.
- **Relationship unreliability** — the degree to which bisexual people are considered as unreliable (as opposed to reliable) partners in a romantic relationship.
- Risky sex — how much bisexual individuals are considered more likely to engage in risky sex (as opposed to safe sex).

**Behavioral intentions toward bisexuals.** This questionnaire was assembled to assess participants’ willingness to engage in different types of daily behaviors toward bisexual people. It contained statements that described various daily behaviors, and participants indicated how much they would be likely to engage in each behavior on a 6-point Likert scale (0 = not likely at all; 5 = very likely). This questionnaire was designed to include several subsets that measure the following three types of behavioral intentions (see Appendix D).

- **Friendly behaviors.** This subset of 5 items assessed how much participants would like to engage in friendly “approaching” behaviors toward bisexual persons, such as chatting or hanging out.

- **Avoidant behaviors.** This subset of 3 items measured the tendency to avoid bisexual persons, such as staying away from or limiting the times of interacting with them.

- **Relationally hostile behaviors.** This subset of 3 items measured the level of intention to undermine bisexual people’s social relationships and status. This behavior is formally known as relational aggression. Examples of this behavior include social exclusion and denigration.

**Procedure**

Participants read the task description of the study on the MTurk HIT Group webpage. Once participants accepted the task, they were directed to the task webpage, which contained a letter of invitation to the study, a link to the Qualtrics online survey, and a code entry box for redeeming the honorarium. Before formally starting the survey, participants read the consent form. If they agreed to participate, they were directed to complete the demographics questionnaire. Then, participants were randomly assigned to complete measures about either
bisexual men or bisexual women. Next, participants completed questionnaires assessing their attitudes toward, stereotypes of, and behavioral intentions toward bisexual people. The order of these questionnaires was randomized.

**Results**

**Factor Structure and Questionnaire Scoring**

Principal axis factoring and reliability analyses were conducted on the main measures to 1) examine their factor structure and 2) determine how they should be scored. I used the scree method to decide the number of factors to be extracted by examining the pattern of the initial eigenvalues associated with different factors. The initial eigenvalue represents the estimated amount of variable-worth of variance in the items that are explained by the extracted factor. To use the scree method, I firstly arrange the initial eigenvalues of the factors from the largest to the lowest, and then observe their amount of change in size. If the initial eigenvalue associated with a factor is followed by a sudden decrease and leveling-off in size, then the factor extraction stops at that factor. When more than one factor was extracted in a factor analysis, they were then rotated to a Promax solution (\(K = 4\)) for clearer interpretation of the meaning associated with each factor. Missing cases were deleted list-wise.

**Attitudinal measures.** I factor analyzed the six items assessing attitudes towards bisexual people (Valid N = 368). Please see Table 1\(^6\) for the correlations among these items. In brief, these items were strongly correlated without showing apparent clusters.

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\(^6\) Because all items showed skewed distribution, I calculated Spearman’s ranked-order correlations for the attitudinal items. The matrix for Spearman’s rank-order correlations did not differ substantially from the one attached here. This same situation applies to stereotype and behavioral intention measures.
According to the factor analysis, the initial eigenvalues associated with the first four factors were 3.67, 0.86, 0.70, and 0.36. Based on the scree method, this pattern of eigenvalues suggested a one-factor solution. Thus, one factor was extracted, which explained 54.39% of the total variance. The items for positive attitudes loaded positively on the factor; and the items for negative attitudes loaded negatively. The absolute values of the factor loadings ranged from 0.48 to 0.83, with an average loading of 0.73. Inspections of the factor structure and item loadings separately for the two perceiver gender groups and target gender groups did not reveal any substantial differences. Together, these results indicated that the scores on the six items reflected a common factor.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td>2.29</td>
</tr>
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<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.18</td>
<td>2.77</td>
</tr>
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<td>.62</td>
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<td></td>
<td></td>
<td>8.59</td>
<td>2.01</td>
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<td>-.39</td>
<td>-.30</td>
<td>—</td>
<td></td>
<td></td>
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<tr>
<td>5. NegAff</td>
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<td>-.73</td>
<td>-.58</td>
<td>.50</td>
<td>—</td>
<td></td>
<td>2.42</td>
<td>2.77</td>
</tr>
<tr>
<td>6. NegBeh</td>
<td>-.42</td>
<td>-.38</td>
<td>-.72</td>
<td>.29</td>
<td>.51</td>
<td>—</td>
<td>1.19</td>
<td>2.10</td>
</tr>
</tbody>
</table>

Note. Pos- = Positive; Neg- = Negative; -Cog = Cognitions; -Aff = Affects; -Beh = Behaviors. The possible range of each item was 0 to 10. A higher score represents a higher level of the measured construct. For the specific content associated with each item, please see Appendix B. Missing cases were deleted list-wise (Valid N = 368). All p s < .001.

I decided to create a scale using the six attitudinal items after reverse-coding the three items for negative attitudes. The Cronbach’s α for the six items was .86.

The scores for the six attitudinal items were averaged to create a composite attitudinal index, representing an overall level of (positive) attitudes toward bisexual people. Only respondents with responses to five or more items were assigned an attitudinal index score; other respondents were treated as missing on this variable. The mean and median for this index were
7.60 and 8.12 (SD = 1.91; IQR = 2.62). In addition, the index scores showed a negatively skewed distribution. These results suggested that, overall, the samples showed a high level of positive attitudes toward bisexual people.

**Stereotype measures.** Originally, I planned to factor analyze all the stereotype and counter-stereotype items. However, I found some weak relationships between several stereotype items and their corresponding counter-stereotype items. These weak correlations led me to examine the counter-stereotype items, and I found that most of them were not worded in an ideal way. For example, for the stereotype item “Bisexual people are more likely to carry HIV/AIDS”, its counter-stereotype version was “Bisexual people have a lower likelihood to acquire HIV/AIDS”. Because these two items were supposed to be opposite in their meanings, I expected them to be strongly and negatively correlated. However, the two items were weakly and negatively correlated with each other. I suspected that the reason behind this weak negative correlation was that these items were not mutually exclusive and exhaustive; as a result, they were not completely opposite in their meanings. To correct this problem, I should phrase the counter-stereotype item as “Bisexual people are no more likely to carry HIV/AIDS”. In this case, the counter-stereotype not only captures the belief that bisexual people are equally likely as other people to carry HIV/AIDS, but also captures the belief that bisexual people are less likely to carry HIV/AIDS, thus making the stereotype item and counter-stereotype item mutually exclusive and exhaustive. Therefore, If the counter-stereotype item had been phrased in a correct way, the observed negative relationship between these two items might have been stronger.

Most of the counter-stereotype items had similar problems with their wording, such that that they and their counterpart stereotype items were not mutually exclusive and exhaustive. Therefore, I decided to exclude all the counter-stereotype items from further analyses.
Table 2

Correlations and Descriptive Statistics for Stereotype Items

|   | 1     | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | M    | SD   |
|---|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | ID_IDConfuse | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.55 | 1.49 |
| 2 | ID_TempAttract | 0.69 | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.51 | 1.32 |
| 3 | ID_Transition | 0.66 | 0.67 | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.45 | 1.39 |
| 4 | SAI_HIV      | 0.56 | 0.50 | 0.48 | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.82 | 1.42 |
| 5 | SAI_STDs     | 0.52 | 0.47 | 0.47 | 0.81 | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.99 | 1.43 |
| 6 | SD_NotMoral  | 0.69 | 0.62 | 0.62 | 0.60 | 0.55 | -    |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.42 | 1.50 |
| 7 | SD_SociNorm  | 0.38 | 0.32 | 0.35 | 0.27 | 0.29 | 0.34 | -    |      |      |      |      |      |      |      |      |      |      |      |      | 3.45 | 1.41 |
| 8 | SPC_SexArousal | 0.40 | 0.42 | 0.41 | 0.43 | 0.41 | 0.45 | 0.33 | -    |      |      |      |      |      |      |      |      |      |      |      | 3.45 | 1.22 |
| 9 | SPC_SexDesire | 0.53 | 0.56 | 0.49 | 0.51 | 0.48 | 0.62 | 0.31 | 0.51 | -    |      |      |      |      |      |      |      |      |      |      | 2.37 | 1.34 |
|10 | SPC_SexOccupy | 0.58 | 0.58 | 0.59 | 0.63 | 0.64 | 0.66 | 0.34 | 0.58 | 0.63 | -    |      |      |      |      |      |      |      |      |      | 2.82 | 1.41 |
|11 | SPM_CasualSex | 0.30 | 0.27 | 0.27 | 0.39 | 0.39 | 0.33 | 0.22 | 0.49 | 0.37 | 0.45 | -    |      |      |      |      |      |      |      |      | 4.10 | 1.16 |
|12 | SPM_LotSexPartner | 0.42 | 0.43 | 0.38 | 0.54 | 0.50 | 0.46 | 0.28 | 0.59 | 0.48 | 0.59 | 0.52 | -    |      |      |      |      |      |      |      | 3.58 | 1.28 |
|13 | SPM_Unselect  | 0.53 | 0.54 | 0.54 | 0.55 | 0.56 | 0.59 | 0.26 | 0.49 | 0.59 | 0.69 | 0.42 | 0.54 | -    |      |      |      |      |      |      | 2.72 | 1.33 |
|14 | RS_CarelessSex | 0.58 | 0.56 | 0.54 | 0.62 | 0.61 | 0.70 | 0.23 | 0.44 | 0.65 | 0.68 | 0.34 | 0.51 | 0.63 | -    |      |      |      |      |      | 2.22 | 1.19 |
|15 | RS_RiskySex   | 0.61 | 0.49 | 0.49 | 0.67 | 0.67 | 0.62 | 0.36 | 0.53 | 0.58 | 0.67 | 0.44 | 0.57 | 0.63 | 0.61 | -    |      |      |      |      | 2.98 | 1.44 |
|16 | RU_Cheat      | 0.64 | 0.59 | 0.55 | 0.62 | 0.61 | 0.68 | 0.33 | 0.53 | 0.65 | 0.65 | 0.42 | 0.57 | 0.59 | 0.65 | 0.74 | -    |      |      |      | 2.68 | 1.39 |
|17 | RU_OpenRelation | 0.47 | 0.47 | 0.45 | 0.50 | 0.52 | 0.52 | 0.35 | 0.47 | 0.54 | 0.61 | 0.50 | 0.56 | 0.53 | 0.52 | 0.56 | 0.54 | -    |      | 3.45 | 1.27 |
|18 | RU_Uncommit   | 0.61 | 0.63 | 0.61 | 0.61 | 0.58 | 0.70 | 0.32 | 0.46 | 0.64 | 0.71 | 0.46 | 0.54 | 0.71 | 0.65 | 0.63 | 0.72 | 0.56 | -    | 2.73 | 1.36 |

Note. ID = Identity Denial; SAI = Sexually Acquired Infection; SD = Social Difference; SPC = Sexual Proclivity; SPM = Sexual Promiscuity; RS = Risky Sex; RU = Romantic Unreliability. The possible value of each item ranges from 1 to 6. For each stereotype item, a higher value represents a higher level of endorsement of that particular stereotype. For the specific content associated with each item, please see Appendix C. Cases with missing values were deleted list-wise (Valid N = 358). All p s < .001.
Please see Table 2 for the correlations and descriptive statistics for the stereotype items. According to the factor analysis, the initial eigenvalues for the first four factors were 10.05, 1.22, 0.95, and 0.78. Based on the scree method, this pattern of eigenvalues implied a one-factor structure. Thus, one factor was extracted, which explained 53.41% of the total variance. All the items had positive loadings on this single factor, ranging from .42 to .84, with an average loading of .72. In addition, the factor structure and factor loading in each gender condition of the perceivers and the targets were mostly comparable with these in the entire samples. The Cronbach’s α of these 18 items was .95. Together, these findings suggested a common factor underlying participants’ endorsement of various themes of stereotypes about bisexual people. This common factor can thus be interpreted as the overall level of endorsement for bisexual stereotypes.

Thus, I decided to create a composite index, representing the level of endorsement for bisexual stereotypes, by averaging the scores across the 18 items. The composite index was created only for participants who provided responses to at least 15 items; participants who provided less than 15 responses were treated missing on this composite variable. Possible values of this index ranged from 1 to 6. A higher index score indicated a stronger endorsement of stereotypes about bisexuals. The mean and median of the score were 2.92 and 2.83 (SD = 1.02; IQR = 1.56). The histogram of the index scores showed a slightly and positively skewed distribution. These statistics showed that, overall, the sample had a modestly low tendency to hold stereotypical beliefs about bisexual people.

**Measures of behavioral intentions.** Please see Table 3 for the correlations among and descriptive statistics of the behavior items. To summarize, items assessing the same type of behavioral intentions showed strong positive inter-correlations. In addition, items for friendly
behaviors showed stronger negative relationships with items for avoidant behaviors than with those for relationally hostile behaviors.

Table 3

Correlations and Descriptive Statistics for Measures of Behavioral Intentions

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fr_Chat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.01</td>
<td>1.29</td>
</tr>
<tr>
<td>2. Fr_Friend</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.49</td>
<td>1.55</td>
</tr>
<tr>
<td>3. Fr_HangOut</td>
<td>.72</td>
<td>.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
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<td>4. Fr_Project</td>
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<td>.67</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>3.96</td>
<td>1.32</td>
</tr>
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<td>.60</td>
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<td></td>
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<td></td>
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<td></td>
<td>2.98</td>
<td>1.78</td>
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<td>-.61</td>
<td>-.56</td>
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<td></td>
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<td></td>
<td></td>
<td>1.03</td>
<td>1.54</td>
</tr>
<tr>
<td>7. Av_SameEnviro</td>
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<td>-.68</td>
<td>-.62</td>
<td>-.57</td>
<td>.83</td>
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<td></td>
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<td>0.94</td>
<td>1.43</td>
</tr>
<tr>
<td>8. Av_StayAway</td>
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<td>-.57</td>
<td>-.68</td>
<td>-.65</td>
<td>-.57</td>
<td>.83</td>
<td>.84</td>
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<td>9. Rh_Degrade</td>
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<td>-.39</td>
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<td>.56</td>
<td>.52</td>
<td>.78</td>
<td>.68</td>
<td></td>
<td>0.55</td>
<td>1.10</td>
</tr>
</tbody>
</table>

Note. Fr = Friendly; Av = Avoidant; Rh = Relational Hostility. The possible score of these measures ranges from 0 to 5. A higher score indicates a higher level of the measured construct. For the specific content associated with each item, please see Appendix D. Missing cases were deleted list-wise (Valid N = 368). All ps < .001.

I then factor analyzed these items. The initial eigenvalues for the first five factors were 6.76, 1.69, 0.54, 0.40, and 0.34. According to the scree method, this pattern of eigenvalues suggested a two-factor solution. Thus, two factors were extracted. Together, they explained 71.77% of the total variance, and the inter-factor correlation was -.61. In the overall samples, the friendly items had strong positive loadings on the first rotated factor; the relational hostility items had strong positive loadings on the second rotated factor; moreover, the avoidant items had moderate negative loadings on the first rotated factor but moderate positive loadings on the second rotated factor. Based on the item loadings, the first factor can be labelled as “friendly behaviors”, and the second factor can be labelled as “unfriendly behaviors”. Nevertheless, the factor structure of these items differed between the two perceiver gender groups (see Table 4).
For male participants, the avoidant items have medium negative loadings on the friendly factor and medium positive loadings on the unfriendly factor; but for female participants, the avoidant items had a stronger negative loading primarily on the friendly factor and weaker positive loadings on the unfriendly factor. Despite this structure difference between the perceiver gender groups, the factor structure did not differ substantially between the two target gender groups.

The inter-factor correlation between friendly and unfriendly factor was -.61 for the entire sample, -.62 for men in the sample, and -.57 for women in the sample.

Table 4  
**Factor Loadings of Behavioral Measures Across the Gender Groups**

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Friendly</td>
<td>Unfriendly</td>
<td>Friendly</td>
</tr>
<tr>
<td>Fr_HangOut</td>
<td>1.01</td>
<td>.17</td>
<td>.96</td>
</tr>
<tr>
<td>Fr_Roommate</td>
<td>.91</td>
<td>.20</td>
<td>.90</td>
</tr>
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<td>Fr__Friend</td>
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<td>.16</td>
<td>.88</td>
</tr>
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<td>Fr_Chat</td>
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<td>Fr_Project</td>
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<td>.74</td>
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<tr>
<td>Av_StayAway</td>
<td>-.56</td>
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<td>-.45</td>
</tr>
<tr>
<td>Av_SameEnviro</td>
<td>-.54</td>
<td>.42</td>
<td>-.44</td>
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<tr>
<td>Av_LimitInteract</td>
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<td>.48</td>
<td>-.38</td>
</tr>
<tr>
<td>Rh_Degrade</td>
<td>.17</td>
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<td>.16</td>
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<td>Rh_MakeFun</td>
<td>.18</td>
<td>.93</td>
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<td>Rh_Isolation</td>
<td>-.03</td>
<td>.83</td>
<td>-.01</td>
</tr>
<tr>
<td><strong>Total Variance</strong></td>
<td>71.77%</td>
<td>72.45%</td>
<td>71.47%</td>
</tr>
</tbody>
</table>

*Note*. Fr_ = Friendly; Av_ = Avoidant; Rh = Relational Hostility; Factor loadings above .40 were bolded. The order of the items was sorted based on the size their factor loadings in the entire samples. For each item, a higher score represents a higher level of the construct being measured. Cases with missing values were deleted list-wise (Valid N = 368).

Because of the differential loadings of avoidant items between the gender groups, I decided to create three separate subscales despite the two-factor solution suggested by the factor analysis in the overall sample. These three subscales contained items assessing friendly,
avoidant, and relationally hostile behaviors, respectively. The Cronbach’s α of these three subscales were .91, .94, and .90.

The items of each subscale were then averaged to create composite indices. For the friendly behavioral intentions, the composite index was created only for participants who provided responses to at least 4 items assessing friendly behaviors. In addition, for avoidant behavioral intentions, the composite index was created only for participants who provided responses to all the relevant items, and the same applied to relationally hostile behavioral intentions. Participants who were not assigned behavioral intention indices were treated missing on these variables. A higher index score indicated a higher level of intention to engage in the given behavior. For descriptive statistics of these indices, please see Table 5. These descriptive statistics indicated that the samples were more willing to interact with bisexual people in a friendly manner rather than being avoidant or mean to them.

Table 5

Descriptive Statistics of Indices for Behavioral Intentions

<table>
<thead>
<tr>
<th>Index</th>
<th>Mean (SD)</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly</td>
<td>3.61 (1.28)</td>
<td>Negatively skewed</td>
</tr>
<tr>
<td>Avoidant</td>
<td>0.97 (1.40)</td>
<td>Positively skewed</td>
</tr>
<tr>
<td>Relational Hostility</td>
<td>0.59 (1.05)</td>
<td>Positively skewed</td>
</tr>
</tbody>
</table>

*Note.* The possible value of each index ranges from 0 to 5. A higher score represents a higher intention to engage in the given behavior. Cases with missing values were deleted list-wise (Valid N = 372).

Bivariate Correlations Between Attitudes, Stereotypes, and Behavioral Intentions

Bivariate correlation analyses were performed on the composite variables to examine the pattern of their relationships (see Table 6). In brief, there were positive correlations among attitudes and friendly behaviors; those were the set of variables indicating favorability for bisexuals. There were also positive correlations among avoidant behaviors, relational hostility,
and stereotype; those were the set of variables indicating unfavorability for bisexuals. In addition, these two sets of variables, representing the favorability and unfavorability for bisexual people, were negatively correlated.

Table 6

Descriptive Statistics and Correlations for the Main Composite Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean (SD)</th>
<th>Scale Range</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Positive) Attitude</td>
<td>—</td>
<td>7.59</td>
<td>(1.91)</td>
<td>0-10</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Stereotype</td>
<td>-.72</td>
<td>—</td>
<td>2.93</td>
<td>(1.01)</td>
<td>1-6</td>
<td>.95</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Friendly Behavior</td>
<td>.78</td>
<td>-.70</td>
<td>—</td>
<td>3.62</td>
<td>(1.28)</td>
<td>0-5</td>
<td>.91</td>
</tr>
<tr>
<td>4</td>
<td>Avoidant Behavior</td>
<td>-.79</td>
<td>.72</td>
<td>-.75</td>
<td>—</td>
<td>0.97</td>
<td>(1.40)</td>
<td>0-5</td>
</tr>
<tr>
<td>5</td>
<td>Relational Hostility</td>
<td>-.61</td>
<td>.50</td>
<td>-.44</td>
<td>.69</td>
<td>—</td>
<td>0.59</td>
<td>(1.05)</td>
</tr>
</tbody>
</table>

Note. α = Cronbach's Alpha; Scale range = The largest possible range of the scale. Cases with missing values were deleted list-wise. Valid N = 372. For all measures, a higher score indicates a higher level of the given construct.

Given that the attitude measure, stereotype measure, and the three behavioral intention measures were strongly correlated, it could be argued these measures might be assessing the same construct. If these scales were assessing the same construct, it would be meaningless to use them as separate variables due to lack of meaningful differentiations among them. Nevertheless, based on the internal consistency reliability of each measure, these measures did not completely overlap with each other. To clarify this point, the internal consistency reliabilities of any two measures determine the upper limit of correlation strength that can be achieved between them, assuming that the measurement error of one measure does not correlate with that of the other measure. Specifically, if the internal consistency reliability of one measure is $\alpha_A$, and that of the other measure is $\alpha_B$, then the largest possible strength of correlation between these two measures is $\sqrt{\alpha_A} \times \sqrt{\alpha_B}$; in addition, two measures can only achieve the maximal possible size of correlation when they measure the same construct. Therefore, the two measures will have an observed correlation size equal to $\sqrt{\alpha_A} \times \sqrt{\alpha_B}$ when they measure the same construct and an
observed correlation size noticeably lower than $\sqrt{\alpha_A \times \sqrt{\alpha_B}}$ when they measure different constructs. Based on the internal consistency reliability of the main measures, I calculated the upper limits of correlation that can be achieved between each pair of measures. A comparison between the observed correlations and maximal possible correlations (see Table 7) indicate that the former values were noticeably lower than the latter values, indicating that the measures were not completely overlapping and thus could be differentiated from each other. In conclusion, despite the strong correlations between the main measures of interest, they might not be assessing the same construct due to the apparent discrepancy between the observed correlations and the maximal possible correlations between these measures.

Table 7

*The Absolute Sizes of Observed Correlations and Maximal Correlations between the Main Composite Variables.*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (Positive) Attitude</td>
<td>-</td>
<td>.72 (.90)</td>
<td>-</td>
<td>.78 (.88)</td>
<td>.79 (.90)</td>
<td>.61 (.88)</td>
</tr>
<tr>
<td>2. Stereotype</td>
<td>.72 (.90)</td>
<td>-</td>
<td>.70 (.93)</td>
<td>-</td>
<td>.72 (.94)</td>
<td>.50 (.92)</td>
</tr>
<tr>
<td>3. Friendly Behavior</td>
<td>.78 (.88)</td>
<td>.70 (.93)</td>
<td>-</td>
<td>.75 (.92)</td>
<td>-</td>
<td>.74 (.92)</td>
</tr>
<tr>
<td>4. Avoidant Behavior</td>
<td>.79 (.90)</td>
<td>.72 (.94)</td>
<td>.75 (.92)</td>
<td>-</td>
<td>-</td>
<td>.94</td>
</tr>
<tr>
<td>5. Relational Hostility</td>
<td>.61 (.88)</td>
<td>.50 (.92)</td>
<td>.44 (.90)</td>
<td>.69 (.92)</td>
<td>-</td>
<td>.90</td>
</tr>
</tbody>
</table>

Note. $\alpha =$ Cronbach's alpha for each measure. The number outside of the bracket is the absolute value of the observed correlation between each pair of variables. The number inside the bracket is the absolute value of the upper limit of correlation between each pair of variables.

## Predicting Behavioral Intentions Using Attitudes and Stereotypes

Two series of hierarchical multiple regression analyses were performed to predict the three behavioral intentions using attitudes and stereotypes. The two series of analyses were identical except for the order of variables entered. In one series, (positive) attitudes was entered into the model in the first step, and stereotypes in the second; in the other series, the order of variable entrance was reversed. The purpose of this analysis setup was to allow comparison
between the ability of attitudes and that of stereotypes in predicting behavioral intentions, both when entered alone and when the other predictor was controlled.

Table 8

Hierarchical Regression Analysis Predicting Friendly Behaviors Using (Positive) Attitudes and Stereotypes, with Opposite Orders of Variable Entrance

<table>
<thead>
<tr>
<th>Friendly Behaviors</th>
<th>Order A</th>
<th>Order B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Step 1 (Positive) Attitude</td>
<td>0.78</td>
<td>0.603</td>
</tr>
<tr>
<td>Step 2 (Positive) Attitude</td>
<td>0.57</td>
<td>0.040</td>
</tr>
</tbody>
</table>

Note. Valid N = 377. Cases with missing values were deleted list-wise. For order A, attitudes was entered first, and stereotypes was entered second. For order B, stereotypes was entered first, and attitudes was entered second. For both the predictors and the outcome, a higher score indicates a higher level of the construct being measured.

Intenstions of friendly behaviors. Please see Table 8 for the standardized regression weights and significance of each variable as well as the additional variance explained by each step of the regression analysis. When (positive) attitudes was entered into the model first, it explained a significant 60.3% of variance in the intention to engage in friendly behaviors toward bisexual people; when stereotypes was entered into the model at the second step, it only explained a significant but modest 4.0% of additional variance in friendly behaviors, over and above attitudes. In contrast, when stereotypes was entered into the model first, it explained a significant 48.3% of the variance; but when (positive) attitudes was entered into the model second, it explained a significant and substantial 15.9% of additional variance, over and above stereotypes. To conclude, compared with stereotypes, attitudes not only explained more variance in friendly behavioral intentions when entered alone in the model but also explained more unique variance in this outcome when both predictors were entered simultaneously.

Intenstions of avoidant behaviors. Please see Table 9 for the standardized regression weights and significance of each variable as well as the additional variance explained by each
step of the regression analysis. When (positive) attitudes was entered into the model first, it explained a significant 61.7% of the variance in the tendency to avoid bisexual people; when stereotypes was entered into the model at the second step, it only explained a significant but modest 5.1% of the variance in avoidant behaviors, over and above attitudes. In contrast, when stereotypes was entered into the model first, it explained 52.0% of the variance; but when (positive) attitudes was entered into the model second, it explained a significant and substantial 14.8% of additional variance, over and above stereotypes. To conclude, compared with stereotypes, attitudes not only explained more variance in avoidant behavioral intentions when entered alone in the model but also explained more unique variance in this outcome when both predictors were entered simultaneously.

Table 9
Hierarchical Regression Analysis Predicting Avoidant Behaviors Using (Positive) Attitudes and Stereotypes, with Opposite Orders of Variable Entrance

<table>
<thead>
<tr>
<th>Avoidant Behaviors</th>
<th>Order A</th>
<th></th>
<th></th>
<th>Order B</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
<td>p</td>
<td></td>
<td>β</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Positive) Attitude</td>
<td>-0.79</td>
<td>0.617</td>
<td>&lt;.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stereotype</td>
<td>0.72</td>
<td>0.520</td>
<td>&lt;.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Positive) Attitude</td>
<td>-0.55</td>
<td>0.051</td>
<td>&lt;.001</td>
<td></td>
<td>0.32</td>
<td>0.148</td>
</tr>
<tr>
<td>Stereotype</td>
<td>0.32</td>
<td></td>
<td></td>
<td></td>
<td>(Positive) Attitude</td>
<td>-0.55</td>
</tr>
</tbody>
</table>

Note. Valid N = 376. Cases with missing values were deleted list-wise. For order A, attitudes was entered first, and stereotypes was entered second. For order B, stereotypes was entered first, and attitudes was entered second. For both the predictors and the outcome, a higher score indicates a higher level of the construct being measured.
### Table 10

*Hierarchical Regression Analysis Predicting Relational Hostility Using (Positive) Attitudes and Stereotypes, with Opposite Orders of Variable Entrance*

<table>
<thead>
<tr>
<th>Relational Hostility</th>
<th>Order A</th>
<th>Order B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Step 1</td>
<td>(Positive) Attitude</td>
<td>-0.61</td>
</tr>
<tr>
<td>Step 2</td>
<td>(Positive) Attitude</td>
<td>-0.52</td>
</tr>
<tr>
<td></td>
<td>Stereotype</td>
<td>0.12</td>
</tr>
</tbody>
</table>

*Note.* Valid N = 373. Cases with missing values were deleted list-wise. For order A, attitudes was entered first, and stereotypes was entered second. For order B, stereotypes was entered first, and attitudes was entered second. For both the predictors and the outcome, a higher score indicates a higher level of the construct being measured.

**Intentions of relationally hostile behaviors.** Please see Table 10 for the standardized regression weights and significance of each variable as well as the additional variance explained by each step of the regression analysis. When (positive) attitudes was entered into the model first, it explained a significant 36.9% of the variance in the intention to show relational hostility toward bisexual people; when stereotypes was entered into the model at the second step, it only explained a significant but minimal 0.7% additional variance in relational hostility, over and above attitudes. In contrast, when stereotypes was entered into the model first, it explained 24.4% of the total variance; but when (positive) attitudes was entered into the model second, it explained a significant and substantial 13.2% of additional variance, over and above stereotypes.

To conclude, compared with stereotypes, attitudes not only explained more variance in relationally hostile intentions when entered alone in the model but also explained more unique variance in this outcome when both predictors were entered simultaneously.

**Summary.** For each type of behavioral intentions, (positive) attitudes explained more variance than did stereotypes when either of these predictors was entered to the prediction model alone. In addition, for each type of behavioral intention, (positive) attitudes accounted for more
unique variance than did stereotypes when both predictors were entered into the prediction model.

**Gender Differences on Attitudes, Stereotypes, and Behavioral Intentions**

To study the group differences on the major variables of interest, a 2 X 2 factorial between-subject multivariate analysis of variance were performed on (positive) attitudes, stereotypes, and behavioral intentions regarding bisexual people, with target gender (bisexual men & bisexual women) and the perceiver gender (men & women) as the independent variables. Levene’s test of homogeneity indicated that the variances for avoidant behaviors, $W(3, 362) = 3.96, p = .008$, and relationally hostile behaviors, $W(3, 362) = 12.801, p < .001$, were not equal across the conditions. Thus, Pillai’s Trace was used for more statistical power and robustness of the analysis. Based on Pillai’s Trace estimation, there was a significant main effect of the target gender, $V = .045, F(5, 358) = 3.39, p = .005$, a significant main effect of the perceiver gender, $V = .042, F(5, 358) = 3.15, p = .009$, and a significant interaction effect, $V = .043, F(5, 358) = 3.19, p = .008$. Due to the statistical significance of these effects, I was justified to examine the effect of perceiver gender, target gender, and their interaction on each dependent variable via separate between-subject analyses of variance (ANOVA), without controlling for the family-wise error rate.

According to the ANOVA results for (positive) attitudes, there was a significant main effect of the perceiver gender, $F(1, 367) = 3.97, p = .047, \eta^2 = .010$, and a significant main effect of the target gender, $F(1, 367) = 12.22, p = .001, \eta^2 = .032$. The interaction effect, $F(1, 367) = 2.47, p = .117, \eta^2 = .006$, was not significant. The pairwise comparison between the two perceiver gender groups indicated that, overall, women ($M = 7.83, SD = 1.84$) showed a slightly higher level of positive attitudes toward bisexual people than did men ($M = 7.43, SD = 1.95$).
This difference was small ($M_{diff} = 0.39$, 95% CI [.01, .78], $d = 0.21$). In addition, the pairwise comparison between the target gender indicated that, overall, participants had a higher level of positive attitudes toward bisexual women ($M = 7.97$, $SD = 1.72$) than toward bisexual men ($M = 7.28$, $SD = 2.03$), although this difference ($M_{diff} = 0.69$; 95% CI [0.30, 1.08], $d = 0.38$) was small.

For stereotype endorsement, there was a significant main effect of the target gender, $F(1, 367) = 12.20$, $p = .001$, $\eta^2 = .032$. According to the post-hoc comparison between bisexual men and bisexual women, people endorsed higher levels of stereotypes for bisexual men ($M = 3.11$, $SD = 0.98$) than for bisexual women ($M = 2.74$, $SD = 1.03$). However, this difference was small in magnitude ($M_{diff} = 0.37$; 95% CI [0.16, 0.58], $d = 0.37$). The main effect of perceiver gender, $F(1, 367) = 0.121$, $p = .728$, $\eta^2 < .001$, and the interaction effect, $F(1, 367) = 0.110$, $p = 0.741$, $\eta^2 < .001$, were not significant.

For friendly behaviors, there was a significant main effect of target gender, $F(1, 367) = 5.84$, $p = .016$, $\eta^2 = .015$, and a significant interaction effect, $F(1, 367) = 4.89$, $p = .028$, $\eta^2 = .013$. The main effect of perceiver gender was not significant, $F(1, 367) = 2.21$, $p = .138$, $\eta^2 = .006$. These statistics indicate that, overall, participants indicated a greater tendency to engage in friendly behaviors toward bisexual women than toward bisexual men, although this effect of target gender is different across men and women in the sample. The simple main effect analysis of target gender showed that men in the sample reported slightly more intention ($M_{diff} = 0.616$; 95% CI [0.276, 0.957], $d = 0.39$) to behave in a friendly way toward female bisexuals ($M = 3.23$, $SD = 1.18$) than toward male bisexuals ($M = 3.85$, $SD = 1.18$); but women in the sample reported roughly equal level of intention ($M_{diff} = 0.03$; 95% CI [-0.37, 0.43], $d = 0.02$) to engage in friendly behaviors toward bisexual women ($M = 3.75$, $SD = 1.27$) and bisexual men ($M = 3.72$, $SD = 1.31$).
Regarding avoidant behaviors, there was a significant main effect of perceiver gender, $F (1, 366) = 3.87, p = .05, \eta^2 = .010$, and target gender, $F (1, 366) = 5.30, p = .022, \eta^2 = .014$. The interaction effect was not significant, $F (1, 366) = 1.54, p = .216, \eta^2 = .004$. Pairwise comparison between the perceiver gender groups indicated that men in the sample ($M = 1.10, SD = 1.43$) reported modestly more intention ($M_{diff} = 0.29, 95\% CI [0.01, 0.57], d = 0.21$) to avoid bisexual people in general than did women in the sample ($M = 0.81, SD = 1.36$). In addition, pairwise comparison between the two target gender conditions indicated that, overall, participants reported a slightly more tendency ($M_{diff} = 0.34; 95\% CI [0.05, 0.62], d = 0.24$) to avoid bisexual men ($M = 1.16, SD = 1.52$) than bisexual women ($M = 0.80, SD = 1.25$).

In terms of the relationally hostile behaviors, there was a significant main effect of perceiver gender, $F (1, 363) = 11.43, p = .001, \eta^2 = .030$, and the interaction effect, $F (1, 363) = 5.10, p = .025, \eta^2 = .013$. The main effect of target gender, $F (1, 363) = 3.37, p = .067, \eta^2 = .009$, was not significant. The simple main effect analysis of perceiver gender indicated that, compared with women in the sample ($M = 0.36, SD = 0.85$), men in the sample ($M = 0.98, SD = 1.28$) indicated a higher level of intention to engage in relationally hostile behaviors toward bisexual men; this difference was medium ($M_{diff} = 0.62, 95\% CI [0.31, 0.92], d = 0.57$). In contrast, men ($M = 0.53, SD = 1.04$) and women in the sample ($M = 0.41, SD = 0.75$) indicated roughly equal level of intention to engage in relationally hostile behaviors toward bisexual women ($M_{diff} = 0.12, 95\% CI [-0.18, 0.43], d = 0.14$).

**Discussion**

**Measurement Structures**

In the current study, attitudes towards, stereotypes about, and behavioral intentions toward bisexual people were assessed separately via measures compiled by myself.
The attitudinal measure. The design of the attitudinal measure was based on the classic tripartite model of attitude (Fazio & Olson, 2007; Zanna & Rempel, 1988) and research on attitudinal ambivalence (Harreveld et al., 2015). This measure included items that assess the levels of positive and negative beliefs, positive and negative feelings, and positive and negative behavioral intentions that people embrace toward bisexual individuals. According to the common factor analysis, all the items in the attitudinal measure loaded heavily on a single factor, indicating an overall attitude toward bisexual people; in addition, items for positive attitudes showed strong positive loadings on this single factor, and items for negative attitudes showed strong negative loadings on this single factor.

The result of the factor analysis has two implications regarding the structure of overall attitudes toward bisexual people. The first implication is that, in the context of evaluating people’s overall attitudes toward bisexual individuals, there is a close negative relationship between the levels of positive and negative attitudes toward the members from this sexual minority. In other words, people with a higher level of positive attitudes toward bisexual individuals often have a lower level of negative attitudes toward them accordingly, and vice versa. Although previous research on attitudinal ambivalence has occasionally discovered inconsistency between the positive attitudes and negative attitudes toward same targets, this phenomenon was not observed in the current study as items for positive attitudes loaded on the same factor as did items for negative attitudes. The second implication is that, overall, there is a high level of correspondence between the cognitive, affective, and behavioral components of attitudes regarding bisexual people. For instance, people with positive beliefs about bisexual people would also embrace positive feelings and behavioral intentions toward members from this sexual minority. Although previous research on attitudinal ambivalence has sometimes
uncovered inconsistency between these attitudinal components, this phenomenon was not observed in the current study because the cognitive, affective, and behavioral components showed strong loadings on a single factor.

Given 1) the close negative relationship between the positive and negative attitudes and 2) the high level of consistency between the cognitive, affective, and behavioral components of attitudes, some people may argue that it is redundant to measure all the attitudinal components and valences when assessing people’s attitudes toward bisexual individuals. After all, if we only have a measure of, for example, people’s level of positive feelings toward bisexual people, we can get a fairly accurate estimate of people’s level overall attitudes toward members from this sexual minority. However, I still believe that it is beneficial for the attitudinal measure to capture the full range of attitudinal components and valences, for the following two reasons. Firstly, each item in the attitudinal measure captures a specific domain of attitudes (e.g., positive cognition, negative cognition, positive affect etc.); Although these items were highly correlated, the average absolute size of the factor loading was 0.73, suggesting that these items were not redundant. If the calculation of the attitude index is based on all six items, it can prevent the final index from being unduly influenced by any one domain of attitudes, which ensures complete and “unbiased” measurements of attitudes. Secondly, although the current study did not uncover an inconsistency between the two attitudinal valences (positive & negative) nor a differentiation between the three attitudinal components (cognitive, affective, & behavioral), it does not mean that this type of inconsistency and differentiation will not be observed in a sample with different demographic characteristics, such as that composed mostly of LGBTQ members. Therefore, it is still informative to have separate measures for different domains of attitudes, just in case of potential inconsistencies and differentiations between these domains.
To sum up, the current study uncovered a large single common factor underlying the six attitudinal items designed to measure different valences and components of overall attitudes toward bisexual people. These findings indicated that, regarding overall attitudes toward bisexual individuals, a higher level of positive attitudes is closely associated with a lower level of negative attitudes. Moreover, a higher level of positive beliefs about bisexual people is also commensurate with a higher level of positive feelings and behavioral intentions toward these people. Although it seems redundant to have a measure that assess the six strongly correlated domains of attitudes, I still recommend using such a measure for ensuring a higher content validity and embracing the potentials of observing inconsistencies among the attitudinal domains in different samples and contexts.

**The stereotype measure.** This measure was designed to evaluate the degree to which people endorse different types of common stereotypes about bisexual people. Originally, I developed stereotype items and counter-stereotype items to assess individuals’ endorsement of bisexual stereotypes. However, because the counter-stereotype items were not worded in an ideal way, they were excluded from subsequent analyses. The factor analysis of the stereotype items indicated that the items showed moderate to strong loadings on a single factor. This finding suggests that, if people adopt one type of bisexual stereotype, then they also endorse other types of bisexual stereotype to a similar extent.

There are several reasons why only one factor emerged from the measures assessing various types of bisexual stereotypes. The first possible explanation is that there is a common theme underlying different types of bisexual stereotypes. To illustrate, among the seven types of bisexual stereotypes measured, four of them are about an unrestricted attitude toward sex (e.g.,

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7 This tendency may not apply to stereotypes that are not examined in the current study.
sexually acquired infection, sexual proclivity, sexual promiscuity, and romantic unreliability to some extent), so it is possible that the single factor underlying the stereotype items represents people’s beliefs about bisexual people’s attitudes toward sex and sexuality. However, this explanation should be treated with caution because not all types of stereotypes examined in this study, such as identity invalidity and perceived social difference, are about people’s view on bisexual individuals’ attitudes toward sex. The second possible explanation is that this single factor represents a general tendency to hold stereotypes about bisexual people, regardless of the content of bisexual stereotypes. I think this may be the most reasonable explanation for the single factor of the stereotype measure, considering that the items designed to measure the same type of bisexual stereotypes correlated with each other to the same degree as they did with items designed to assess other types of bisexual stereotypes.

To sum up, the current study revealed a single factor underlying the items assessing different types of stereotypes about bisexual people. This single factor may represent an overall tendency to hold conventional stereotypes about bisexual people, regardless of the stereotype content. This claim can be supported by the finding that items assessing the same type of bisexual stereotype correlated with each other to the same degree as they did with items assessing other types of bisexual stereotypes.

**The measures for behavioral intentions.** I developed a measure to assess the tendency to engage in three types of daily behaviors toward bisexual people. The three types of behaviors assessed in the measure were friendly, avoidant, and relationally hostile behaviors. The factor analysis of the measure uncovered two major factors that were negatively correlated. The items for friendly behaviors showed strong positive loadings on one factor (labelled as “friendly behaviors”); the relationally hostile items showed strong positive loadings on the other factor.
(labelled as “unfriendly behaviors”); and the avoidant items showed moderate negative loading on the factor for friendly behaviors but moderate positive loadings on the factor for unfriendly behaviors.

An examination of the measurement structure for women and men revealed differences in the factor loadings of avoidant items. Specifically, for women, avoidant items showed strong negative loadings on the factor for friendly behaviors, but only small positive loadings on the factor for relationally hostile behaviors. However, for men, avoidant items loaded negatively on the factor for friendly behaviors and positively on the factor for unfriendly behaviors, both to a moderate extent. This finding has the following implication regarding the gender differences in the pattern of intended behaviors toward bisexual people: For women, those who want to avoid bisexual people may only have a low intention to be friendly to them; in contrast, for men, those who want to avoid bisexual people may not only have a low intention to be friendly to them but also have a high intention to be relationally hostile to them. Because of the differential loadings of the avoidant items, I decided to treat the behavioral intention measure as three-dimensional, despite it being two-dimensional, so that I can come up with a single scoring method that embrace the factor structure of behavioral intention items for both genders: Specifically, when scoring the measure, I created three indices representing people’s levels of intentions to engage in friendly behaviors, avoidant behaviors, and relationally hostile behaviors toward bisexual people.

To sum up, I decided to treat the measure of behavioral intentions as a three-dimensional measure despite it revealing two common factors. The rationale behind my decision was that the items for avoidant behaviors showed differential loadings across men and women. In order to come up with a single scoring method that satisfy the factor structure of behavioral intention
items for both genders, I decided to create a composite variable for each of the three types of behavioral intentions.

**Relationships Between Attitudes, Stereotypes, and Behavioral Intentions Regarding Bisexual individuals**

In the previous literature, the relationships between attitudes, stereotypes, and behavioral intentions regarding bisexual people had not been examined because items assessing these constructs had been indiscriminately treated as indicators of attitudes. In the current study, separate measures were created for assessing these constructs individually, which provides the opportunity to examine their relationships with each other.

**Scale correlations and scale differentiation.** The bivariate correlations between these scales ranged from .40s to .80s, with an average bivariate correlation around .65. Given these strong correlations, it was reasonable to assume that these scales may measure a single construct (e.g., attitudes only) rather than separate constructs. However, it was found that the observed strengths of correlations between these scales were noticeably lower than the maximal possible strengths of correlations that these scales could achieve, indicating some statistical differentiations between these scales after measurement unreliability had been taken into account. This result implies that, despite the strong bivariate correlations between these scales, these scales still measure different constructs and can thus be used as separate variables for statistical analyses.

**Attitudes and stereotypes predicting behavioral intentions.** Besides examining the bivariate correlations between these constructs, the current study used hierarchical multiple regression analyses to examine the how attitudes about and stereotypes of bisexual individuals predict people’s attitudes toward members from this sexual minority. According to the result of
the analysis, attitudes accounted for more variance, than did stereotypes, in the tendency to engage in friendly, avoidant, and relationally hostile behaviors toward bisexual people. This finding suggested that compared to stereotypes, ones’ attitudes toward bisexual people may tell us more about how members from this sexual minority will be treated.

Based on the findings, it may be tempting to make the statement: if actions need to be taken to improve people’s behaviors toward bisexual people, it will be more effective to focus on improving their attitudes about, rather than reducing their stereotypes of, members from this sexual minority. However, one cannot be confident in the accuracy of this statement due to three reasons. Firstly, the design of the current study was correlational rather than experimental. Therefore, we should not be totally certain that improving attitudes or stereotypes lead to improvement of behavioral intentions. Secondly, the dependent variables in these analyses were behavioral intentions, rather than actual behaviors. Without further examining the relationships between behavioral intentions and actual behaviors toward bisexual people, we should not make the claim that the improvement of behavioral intention can lead to a better treatment of members of this sexual minority. Lastly, because attitudes are relatively resistant to change, improving attitudes to improve the treatment of bisexual people may not be effective. In this case, other methods, such as challenging stereotypes or changing policies, may be more cost-effective in improving the treatment of bisexual people. To conclude, just based on the result of the current study, we should not be confident in making the claim that, compared with challenging bisexual stereotypes, improving attitudes toward bisexual people is a more effective way of improving how they will be treated.
Gender Differences on Attitudes, Stereotypes, and Behavioral Intentions

Previous studies examined gender differences in attitudes toward bisexual people (Helms & Waters, 2016; Herek, 2002; Yost & Thomas, 2012). They have found a main effect of perceiver’s gender: in general, men show fewer positive attitudes toward bisexual people than did women. They have also identified a main effect of target gender: overall, bisexual men receive less positive attitude than do bisexual women. Furthermore, previous studies uncovered an interaction between the perceiver gender and the target gender: in general, women show a similar level of positive attitude toward bisexual women and bisexual men; in contrast, men show a higher level of positive attitude toward bisexual women than toward bisexual men.

However, the results of the aforementioned studies were based on attitudinal measures that intermingled indicators of attitudes, stereotypes, and behavioral intentions regarding bisexual people. Will similar pattern of gender differences emerge if these constructs are measured and examined separately?

The answer to this question is mixed. Regarding the main effect of the perceiver gender, women in general showed more favorable predispositions toward bisexual people than did men. However, these effects were small and significant on three of the five outcomes examined. In addition, in terms of the main effect of the target gender, bisexual men faced more unfavorable predispositions than did bisexual women. Although these effects were also small, they were significant on four of the five outcomes examined. Furthermore, in terms of the interaction effect, the effect of perceiver gender tended to differ across the target’s gender: specifically, towards bisexual women, men and women showed equally favorable predispositions; however, towards bisexual men, women showed more favorable predispositions than did men.
Nevertheless, these interaction effects were small and significant on only two of the five constructs examined.

To conclude, the findings of the previous studies are not fully replicated in the current study, where attitudes, stereotypes, and behavioral intentions were measured individually and treated as distinct variables. Specifically, previous studies identified a main effect of the perceiver gender, the target gender, and their interaction on the attitudes toward bisexual people. However, although the main effect of the perceiver gender and target gender was mostly supported in the current study, the current study did not find strong evidence to support the interaction effect between perceiver gender and target gender on (positive) attitudes, stereotypes, and the behavioral intentions toward bisexual people.

**Strengths, Limitations, and Future Directions**

The current study has three strengths. Firstly, in this study, I borrowed knowledge from psychometrics and social psychology to improve the measurements of constructs that are constantly examined in the social justice studies, which may facilitate the synthesis of these fields. For example, by applying the knowledge of content validity and social psychology theory in attitudes, I was able to construct a more content-valid and efficient measure for assessing attitudes toward bisexual people. If the merits of this measure are acknowledged, this may encourage learnings and communications among researchers from psychometrics, the social justice studies, and social psychology. Secondly, this study provided relatively detailed guidelines about the process for constructing tests that evaluate attitudes, stereotypes, and behavioral intentions regarding bisexual people. If other researchers want to modify or improve these measures, or want to create new measures of similar sorts, this study can inform these researchers of the relevant literature they could read as well as the steps of test construction and
evaluation they may follow. Thirdly, the differentiation in the measurements of attitudes about, stereotypes of, and behavioral intentions toward bisexual people may encourage more future research on examining these constructs, which may be impeded previously due to this lack of differentiation. For example, future studies can compare interventions designed to improve positive attitudes and reduce negative stereotypes, and observe which intervention leads to more positive changes in people’s behavioral intentions toward bisexual people. In addition, future studies can also examine whether the pattern of relationships between attitudes, stereotypes and behavioral intentions regarding bisexual people would differ between heterosexual samples and LGBTQ samples. These studies will provide insights into how people view bisexual individuals and how to improve their treatment in the society.

One limitation of this study was that the way I excluded inconsistent respondents may filter out participants who demonstrated ambivalent attitudes toward bisexual people. In this study, careless respondents refer to those who provided the most inconsistent responses to pairs of oppositely worded items that are supposed to measure the same construct. To illustrate, if a person rated high on the positive feelings about bisexual people but also high on the negative feelings about bisexual people, then this participant was identified as an inconsistent respondent if they also demonstrated such inconsistency across a lot of other items. Inconsistent respondents were excluded under the assumption that they responded to the survey questions in a careless and meaningless way (e.g., by choosing the same options across the survey items). However, it can be argued that this method of exclusion could rule out people who experienced

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8 Please note that the results of the current study were not relevant enough to inform social and educational interventions that improve people’s positive tendencies toward bisexual people. Interested readers may resort to applied social psychology literature about interventions that enhance positive attitudes toward sexual minorities.
true ambivalence regarding bisexual people, namely, those who had strong positive and negative tendency toward individuals from this sexual minority. This exclusion may influence the factor structure of the measures by arbitrarily deflating the differentiation between the factor for positive predisposition and the factor for negative predisposition within each measure. I acknowledge that this is a potential weakness of the current study. To address this limitation, future research should come up with ways of excluding careless respondents without filtering out those who have ambivalent tendencies toward bisexual people.

A second limitation concerns with the generalizability of the results. The sample collected from MTurk differed from the general population in several major demographic factors, such as age, religiosity, racial composition, and education level. These demographic factors had previously been found to correlate with the main constructs of interest (Dodge et al., 2016; Herek, 2002; Maclnnis, & Hodson, 2012; Worthen et al., 2016). Therefore, the measurement structures of, descriptive statistics on, and patterns of correlations between attitudes, stereotypes, and behavioral intentions regarding bisexual people uncovered in the current study may not be completely generalizable to a different set of samples.

**Conclusion**

In the current study, I created three separate measures to assess people’s attitudes about, stereotypes of, and behavioral intentions toward bisexual people: The attitudinal measure was designed to assess the cognitive, affective, and behavioral components of attitudes on both positive and negative dimensions; The stereotype measure was designed to assess seven types of commonly studied stereotypes about bisexual people; And the behavioral intention measure was designed to assess the tendency to engage in friendly, avoidant, and relationally hostile behaviors toward bisexual people. The factor analyses revealed a one-factor structure for the attitudinal
measure, a one-factor structure for the stereotype measure, and a two-factor structure for the behavioral intention measure. The one-factor structure of the attitudinal measure suggested that, regarding attitudes toward bisexual people, the three attitudinal components are highly consistent with each other and that the positive and negative dimensions of attitudes are mostly undifferentiated. In addition, the one-factor structure of the stereotype measure suggested that if one endorses one type of bisexual stereotypes, one also tends to endorse other types of bisexual stereotypes. Moreover, the two factor-structure of the behavioral intentions suggested that the behavioral intentions examined in the current study can be classified into intentions of friendly and unfriendly behaviors. Although there were strong correlations between the measures of attitudes, stereotypes, and behavioral intentions regarding bisexual people, these correlations were not strong enough for these measures to be considered as measuring the same construct. Therefore, I was justified to treat these measures as indicators of distinct constructs and examine them as standalone variables of interest.

I performed several exploratory analyses on attitudes about, stereotypes of, and behavioral intentions toward bisexual people to examine the relationships between and group differences on these constructs. The first main finding from the analyses was that attitudes did a much better job in predicting each type of behavioral intention than did stereotypes; this finding implies that, compared with challenging bisexual stereotypes, improving people’s attitudes toward bisexual people may be a more effective way of improving how they are treated in the society. However, the stated implication should be treated with caution since the causality between the predictors (attitudes and stereotypes) and the outcomes (behavioral intentions) was not established in the current study. The second main finding from the analyses was that people tended to express more unfavorable dispositions (e.g., a lower level positive attitudes & a higher
level of stereotypes) toward bisexual men than toward bisexual women. However, this difference was small across different outcomes examined.

The current study contributed to the literature examining bisexual issues in three ways. Firstly, in the current study, knowledge from psychometrics and social psychology was utilized to improve the quality of the measures on constructs that have been frequently examined in social justice studies. This could potentially facilitate the communication and syntheses between these fields. Secondly, this study outlined a thorough process for constructing tests for assessing attitudes, stereotypes, and behavioral intentions toward bisexual people. Other researchers can use this study as a reference if they want to modify or create measures of these sorts. Finally, the current study encourages separate measures of attitudes, stereotypes, and behavioral intentions regarding bisexual people, which may facilitate more future research on these constructs. Despite these strengths, it was possible that the current study arbitrarily excluded people who experienced ambivalent attitudes toward bisexual people due to the way in which inconsistent respondents were excluded. Future research should come up with a better way of filtering out inconsistent respondents without running the aforementioned risk.
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Appendix A

Demographic Questionnaire

Instruction: You will be providing some information about yourself. If you feel uncomfortable answering a question, you can choose the "prefer not to say" option.

How old are you?
- Options range from 18 to 99; with a “Prefer not to say” option.

What is your gender?
- Man
- Woman
- Trans man
- Trans woman
- Gender queer
- Other (please specify)
- Prefer not to say

What is your sexual orientation?
- Heterosexual
- Bisexual
- Homosexual
- Asexual
- Others (please specify)
- Not sure yet
- Prefer not to say

What is your race?
- American Indian or Alaska Native (having origins in any of the original peoples of North, Central and South America, irrespective of whether you maintain tribal affiliation or community attachment)
- Asian (having origins in any of the original peoples of the Far East, North Asia, Southeast Asia, and the Indian subcontinent)
- Black or African American (having origins in any of the native peoples of Sub-Saharan Africa)
- Native Hawaiian or Other Pacific Islander (having origins in any of the original peoples of Polynesia, Melanesia, or Micronesia)
- White (having origins in any of the original peoples of Europe, the Middle East, or North Africa)
- Others (Please specify)
- Not sure
- Prefer not to say
Do you have a Hispanic/Latino origin?
- Yes
- No
- Not sure
- Prefer not to say

What is your highest education level?
- Elementary education
- Secondary education
- Post-secondary education (college or university)
- Professional or graduate degree
- Prefer not to say

How would you describe your income level?
- Poverty level
- Low income
- Middle class
- High income
- Prefer not to say

In brief, what best summarizes your economic political orientation?
- A continuous sliding scale ranging from 0 (Preferring an economy run by the government) to 10 (Preferring an economy run by private organizations), with a “Prefer not to say” option. The smallest unit of the response scale is 0.1.

In brief, what best summarizes your social political orientation?
- A continuous sliding scale ranging from 0 (Preferring order, laws and structures) to 10 (Preferring personal freedom), with a “Prefer not to say” option. The smallest unit of the response scale is 0.1.

How religious are you?
- A continuous sliding scale ranging from 0 (Not religious at all) to 10 (Very religious), with a “Prefer not to say” option. The smallest unit of the response scale is 0.1.
Appendix B

The Measure of Attitudes toward Bisexual People

Instruction: Below is a list of questions that ask for your feelings (non-sexual) toward, and opinions about, [bisexual men/bisexual women] in general. In order for your response to be recorded, you have to click the bar on the slider and move it to the intended point. Please respond to each question based on the initial answer that comes to your mind.9

<table>
<thead>
<tr>
<th>Item and Anchoring</th>
<th>Construct Examined and Variable Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, to what extent do you believe [bisexual men/bisexual women] have positive qualities and characteristics?</td>
<td>Positive Cognition (PosCog)</td>
</tr>
<tr>
<td>(0 = not at all; 10 = very much)</td>
<td></td>
</tr>
<tr>
<td>Overall, to what extent do you believe [bisexual men/bisexual women] have negative qualities and characteristics?</td>
<td>Negative Cognition (NegCog)</td>
</tr>
<tr>
<td>(0 = not at all; 10 = very much)</td>
<td></td>
</tr>
<tr>
<td>In general, to what degree do you have positive feelings (non-sexual) toward [bisexual men/bisexual women]?</td>
<td>Positive Affect (PosAff)</td>
</tr>
<tr>
<td>(0 = not at all; 10 = very much)</td>
<td></td>
</tr>
<tr>
<td>In general, to what degree do you have negative feelings (non-sexual) toward [bisexual men/bisexual women]?</td>
<td>Negative Affect (NegAff)</td>
</tr>
<tr>
<td>(0 = not at all; 10 = very much)</td>
<td></td>
</tr>
</tbody>
</table>

---

9 The response scale of these questions is continuous. The smallest unit of each scale is 0.1.
On average, how likely are you to **act nicely** to **[bisexual men/bisexual women]** if you encounter them in your daily life?

(0 = not at all; 10 = very likely)

<table>
<thead>
<tr>
<th>Positive Behavior (PosBeh)</th>
</tr>
</thead>
</table>

On average, how likely are you to **act in a mean way** to **[bisexual men/bisexual women]** if you encounter them in your daily life?

(0 = not at all; 10 = very much)

<table>
<thead>
<tr>
<th>Negative Behavior (NegBeh)</th>
</tr>
</thead>
</table>

To sum up, how much **positive attitudes** do you have toward **[bisexual men/bisexual women]**?

(0 = not at all; 10 = very much)

<table>
<thead>
<tr>
<th>Single-Item Positive Attitude (not included in the analysis)</th>
</tr>
</thead>
</table>

To sum up, how much **negative attitudes** do you have toward **[bisexual men/bisexual women]**?

(0 = not at all; 10 = very much)

<table>
<thead>
<tr>
<th>Single-Item Negative Attitude (not included in the analysis)</th>
</tr>
</thead>
</table>
Appendix C

The Measure of Stereotypes about Bisexual People

Instruction: To what extent do you agree or disagree with the following statements about [bisexual men/bisexual women] in general? Please respond to each question based on the initial answer that comes to your mind.

Rating Scale: 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = somewhat agree; 5 = agree; 6 = strongly agree.

<table>
<thead>
<tr>
<th>Item</th>
<th>Type of Stereotype and Variable Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Bisexual men/Bisexual women] are confused about their sexual identity.</td>
<td>Identity Denial (ID_IDConfuse)</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] have lower likelihood to acquire HIV/AIDS.</td>
<td>Sexually Acquired Infection [R]</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] tend to cheat in a relationship.</td>
<td>Romantic Unreliability (RU_Cheat)</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] follow the same set of social norms that most people do.</td>
<td>Social Difference [R]</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] like to engage in risky sexual behaviors (condom-less sex, group sex etc.).</td>
<td>Risky Sex (RS_RiskySex)</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] have few sexual partners.</td>
<td>Sexual Promiscuity [R]</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] can NOT hold back their sexual desire.</td>
<td>Sexual Proclivity (SPC_SexDesire)</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] have a clear sense about their own sexual identity.</td>
<td>Identity Denial [R]</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] are only temporarily attracted to both genders.</td>
<td>Identity Denial (ID_TempAttract)</td>
</tr>
<tr>
<td>[Bisexual men/Bisexual women] are faithful in a relationship.</td>
<td>Romantic Unreliability [R]</td>
</tr>
</tbody>
</table>


10 “R” represents reverse-worded items (i.e., items describing counter-stereotypes about bisexual people).
<table>
<thead>
<tr>
<th>Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisexual men/Bisexual women have multiple sex partners.</td>
<td>Sexual Promiscuity (SPM_LotSexPartner)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are capable of controlling and regulating their sexual desire.</td>
<td>Sexual Proclivity [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are more likely to carry HIV/AIDS.</td>
<td>Sexually Acquired Infection (SAI_HIV)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are willing to dedicate to a relationship.</td>
<td>Romantic Unreliability [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women conform to group norms that are different from those followed by most people.</td>
<td>Social Difference (SD_SociNorm)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women refrain from participating to risky sexual activities.</td>
<td>Risky Sex [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women tend NOT to be selective with their sexual partners.</td>
<td>Sexual Promiscuity (SPM_Unselect)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women avoid letting sex-related activities interfere with their daily routine.</td>
<td>Sexual Proclivity [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women avoid committing to a relationship.</td>
<td>Romantic Unreliability (RU_Uncommit)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women tend to be consistently attracted to both genders.</td>
<td>Identity Denial [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women have higher tendency to be infected with STDs (sexually transmitted diseases).</td>
<td>Sexually Acquired Infection (SAI_STDs)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are capable of a monogamous relationship.</td>
<td>Romantic Unreliability [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are less moral than other people.</td>
<td>Social Difference (SD_NotMoral)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women adopt risk-reduction strategies before sex (e.g., wearing condom, taking HIV-prevention drugs, etc.).</td>
<td>Risky Sex [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women like to have casual sex.</td>
<td>Sexual Promiscuity (SPM_CasualSex)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women tend to have a lower level of sexual arousal than do most people.</td>
<td>Sexual Proclivity [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are in a transition phase between heterosexuality and homosexuality.</td>
<td>Identity Denial (ID_Transition)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are NOT prone to STDs (sexually transmitted diseases).</td>
<td>Sexually Acquired Infection [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women</td>
<td>Romantic Unreliability (RU_OpenRelation)</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women have the same level of moral standards as most citizens do.</td>
<td>Social Difference [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women do NOT care about safe sex.</td>
<td>Risky Sex (RS_CarelessSex)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are selective about their sexual partners.</td>
<td>Sexual Promiscuity [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women get sexually aroused very easily.</td>
<td>Sexual Proclivity (SPC_SexArousal)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women have a valid and stable sexual orientation.</td>
<td>Identity Denial [R]</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women are preoccupied with sex-related activities (e.g., sexual fantasy, masturbation, sex, etc.).</td>
<td>Sexual Proclivity (SPC_SexOccupy)</td>
</tr>
<tr>
<td>Bisexual men/Bisexual women avoid engaging in sex without love.</td>
<td>Sexual Promiscuity [R]</td>
</tr>
</tbody>
</table>
The Measure of Behavioral Intentions toward Bisexual People

Instruction: How willing are you to engage in each of the following behaviors toward [bisexual men/bisexual women] **in general**, if you became acquainted with some of them (0 = not likely at all, 5 = very likely)? It is true that your likelihood of engaging in each behavior depends on the specific individual, but for the purpose of this survey, please provide a general estimate.

<table>
<thead>
<tr>
<th>Items</th>
<th>Type of Behavior and Variable Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chatting with them.</td>
<td>Friendly (Fr_Chat)</td>
</tr>
<tr>
<td>Avoiding staying in the same environment with them.</td>
<td>Avoidant (Av_SameEnviro)</td>
</tr>
<tr>
<td>Making fun of their sexuality in front of others.</td>
<td>Relationally Hostile (Rh_MakeFun)</td>
</tr>
<tr>
<td>Befriending them.</td>
<td>Friendly (Fr_Friend)</td>
</tr>
<tr>
<td>Staying away from them.</td>
<td>Avoidant (Av_StayAway)</td>
</tr>
<tr>
<td>Making degrading comments on them.</td>
<td>Relationally Hostile (Rh_Degrade)</td>
</tr>
<tr>
<td>Living with them together as roommates.</td>
<td>Friendly (Fr_Roommate)</td>
</tr>
<tr>
<td>Collaborating with them on an academic or work project.</td>
<td>Friendly (Fr_Project)</td>
</tr>
<tr>
<td>Limiting the times of interaction with them.</td>
<td>Avoidant (Av_LimitInt)</td>
</tr>
<tr>
<td>Socially isolating them.</td>
<td>Relationally Hostile (Rh_Isolation)</td>
</tr>
<tr>
<td>Hanging out with them.</td>
<td>Friendly</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td>(Fr_HangOut)</td>
</tr>
</tbody>
</table>
Appendix E

REB Clearance

Brock University
Research Ethics Office
Tel: 905-688-5550 ext. 3035
Email: reb@brocku.ca
Social Science Research Ethics Board

Certificate of Ethics Clearance for Human Participant Research

DATE: 7/26/2018

PRINCIPAL INVESTIGATOR: ASHTON, Michael - Psychology

FILE: 17-410 - ASHTON

TYPE: Masters Thesis/Project

STUDENT: Xiaoyang Xia

SUPERVISOR: Michael Ashton

TITLE: Questions about social groups

ETHICS CLEARANCE GRANTED

Type of Clearance: NEW

Expiry Date: 7/1/2019

The Brock University Social Science Research Ethics Board has reviewed the above named research proposal and considers the procedures, as described by the applicant, to conform to the University’s ethical standards and the Tri-Council Policy Statement. Clearance granted from 7/26/2018 to 7/1/2019.

The Tri-Council Policy Statement requires that ongoing research be monitored by, at a minimum, an annual report. Should your project extend beyond the expiry date, you are required to submit a Renewal form before 7/1/2019. Continued clearance is contingent on timely submission of reports.

To comply with the Tri-Council Policy Statement, you must also submit a final report upon completion of your project. All report forms can be found on the Research Ethics web page at http://www.brocku.ca/research/policies-and-forms/research-forms.
In addition, throughout your research, you must report promptly to the REB:

A. Changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
B. All adverse and/or unanticipated experiences or events that may have real or potential unfavourable implications for participants;
C. New information that may adversely affect the safety of the participants or the conduct of the study;
D. Any changes in your source of funding or new funding to a previously unfunded project.

We wish you success with your research.

[Signatures]

Approved:

Lynn Dempsey, Chair                    Robert Steinbauer, Chair
Social Science Research Ethics Board    Social Science Research Ethics Board

**Note:** Brock University is accountable for the research carried out in its own jurisdiction or under its auspices and may refuse certain research even though the REB has found it ethically acceptable.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of research at that site.