KONSELOR

http://ejournal.unp.ac.id/index.php/konselor

Development an inventory of homosexuality and transgender exposure (IHTE): A rasch analysis

Yuda Syahputra[1], Stefanus Soejanto Sandjaja[2], Afdal Afdal[3], Zadrian Ardi[3]
[1]Medan Psychologist and Counseling Test Institute
[2]Universitas Kristen Krida Wacana
[3]Universitas Negeri Padang
*Corresponding author, e-mail: yuda@konselor.org

Abstract
The scientific interest in homosexual measurement has grown over the past 30 years, marked by new instruments and terms that have emerged. This condition is triggered by LGBT people who get justice, especially in westerly countries, so the instruments that emerge in westerly countries are more directed towards justice and development for LBGT people. For this reason, the existent instruments are not in accordance with the Indonesian State, because existent instruments have not been adjusted to godly and cultural values. The purpose of this study is to develop a valid and reliable Inventory of Homosexuality and Transgender Exposure (IHTE) in accordance with religious and cultural values in Indonesia. Research samples 304 people spread in 14 provinces in Indonesia. The sampling technique is done by purposive random sampling; the analysis technique used is Rasch model. The findings show that the IHTE instrument is valid and reliable, inventory development is discussed further.

Keywords: Homosexual, transgender, and inventory

How to Cite: Syahputra, Y., Sandjaja, S., Afdal, A., & Ardi, Z. (2019). Development an inventory of homosexuality and transgender exposure (IHTE): A rasch analysis. *KONSELOR*, 8(4), 120-134. DOI: 10.24036/0201984105894-0-00

Introduction

Homosexuals have developed since the time of Ancient Egypt, same-sex relationships have changed over time and differ geographically (Bullough, 2019). In fact, the development of same-sex relationships evolves as seen from many naming constructs related to homosexuality such as: lesbi, gay, bisexual, and transgender (Currier, 2011; Harley, 2016; Mullaney, 2016). During the decades, public attitudes toward homosexuality have become far more favorable in many westerly countries, especially in the United States (Hicks & Lee, 2006; Loftus, 2001). Homosexuality has become a trend that is marked by the large population living in westerly countries, such as: lesbian, gay, and bisexual (Seidman, 2013). After changing public attitudes toward homosexuals, lesbians, gays, and bisexuals, more rights are given in the current decade (Lax & Phillips, 2009). However, we know less about changing attitudes around the world that accept developing homosexuals in Asian countries, especially in Indonesia strongly opposed the existence of homosexuals, marked by government programs designed to prevent homosexuals from developing in their countries (Z. Ardi, Ardi, Meivilona, & Hariko, 2016; Z. Ardi, Yendi, & Ifdil, 2017). To intervene more quickly homosexuals need a measurement tool, for that the need for instruments that can measure homosexuals (Lingiardi, Baiocco, & Nardelli, 2012; Van Dam, 2015; Yu, Xiao, & Xiang, 2011).

Nungesser (1983) was the first researcher to develop an empirical instrument that was published and empirically validated homonegativity of gay men known as the Nungesser Homosexuality Attitudes Inventory. NHAI contains 34 items related to cultural and intrapsychic aspects of homonegativity and has internal consistency reliability (alpha coefficient) of 0.94 for the entire scale. Although its strength is clear, the issue of content validity also applies to NHAI, Shidlo (1994) suggesting that many instrument items measure antecedents or consequences of internal homonegativity. For example, the NHAI item "I don't

think I will be able to have a long-term relationship with another man" might be more related to difficulties with intimacy than internal homonegativity.

Alexander (1986) the second researcher which developed The Internalized Homophobia Inventory (IHI) with the number of items 25, inventory has an alpha coefficient of reliability of 0.85. Unfortunately, IHI does not appear to be published and, there is no research beyond the original dissertation that uses this scale for research. Ross & Rosser (1996) also published The Internalized Homophobia Scale (HIS) to measure internalized homonegativity in gay men; this scale consists of 26 items and has 4 sub scales: public identification as gay, perception of stigma associated with being gay, social comfort with gay men, moral and religious acceptability of being gay. This scale has internal consistency reliability (alpha coefficient) for each sub scale ranging from 0.62 to 0.85; the drawback of this scale is the validity of the same content as IHI, seen when measuring the construct of homonegativity

Grey, Robinson, Coleman, & Bockting (2013) developed homophobia instruments with an average of 21.6 items (range -6 to 61) for homophobic actions and 20.7 (range -9 to 34) for internalized homophobia actions. The instrument uses a scale of 5.7, or 9 points to measure the level of approval or disagreement using a 6-point scale. Contracting with research Ji & Fujimoto (2013) developed an instrument that measures the development of heterosexual LGBT identity based on a theoretical model by Ji, Du Bois, & Finnessy (2009). LGBT AID Instrument with 38 items has a reliability of 0.97 and reliability of items 0.99, meaning that it has high reliability. The main problem in using the LGBT AID Instrument is the statement that the instrument does not pay attention to the cultural diversity that can influence people's stigma about homosexuality and transgender in Indonesia, plus this instrument is made for scandal for LBGT, because Indonesia opposes the existence of homosexuals.

Based on the explanation above, the researcher developed the right instruments for homosexuals and transgender people by paying attention to religious values and cultural values. The development of homosexual and transgender instruments in Indonesia can help researchers, counselors, psychologists to intervene quickly in homosexual and transgender behavior with appropriate service strategies to increase public understanding of the dangers posed by homosexual and transgender behavior. The purpose of this study is to develop a valid and reliable inventory of Homosexuality and Transgender Exposure (IHTE) and adjust it to the religious and cultural values in Indonesia.

Method

This research method uses the development of the Oriondo and Antonio Model instruments, namely: (1) planning instruments, (2) trying out the instrument, (3) establishing instrument validity and reliability, and (4) interpreting the assessment scores (Oreondo, 1984). Research data were analyzed using the Rasch model using statistical analysis of conformity (Alagumalai, Curtis, & Hungi, 2005; Bond & Fox, 2015; Sumintono & Widhiarso, 2015). Statistical analysis of suitability using MNSQ outfit parameters with ideal range (+0.5 to +1.5), ZSTD outfit with ideal range (-2.0 to +2.0) to find the suitability of items and people, detect measurement biases, reting scales, strengths and item weaknesses, and item difficulty level from the person's ability to answer and the ability of items to reveal aggressive behavior (Sumintono & Widhiarso, 2015). Data can be accessed on the following page https://osf.io/y29en/.

The steps for developing the instrument are as follows.
1. The stage of planning instrument
    The stage of planning instrument includes:

    a. Determination of instrument objectives
        The aim is to make a valid and reliable instrument that can measure the tendency of homosexual and transgender behavior. The reason for making the instrument valid and reliable, because Indonesia is included in 10 countries where many people behave homosexually and transgenderly. Unfortunately, Indonesia does not yet have a measurement tool used to identify people who are likely to become homosexual and transgender people.

    b. Determination of competencies tested
        The instrument measures sexual orientation, media exposure, exposure to social interaction, exposure to ideology, perceptions of homosexuality, perceptions of transgender, protection of religious and spiritual values, protection of social values, and the role of counselors.

c. Determination of the material being tested

With regard to 9 indicators such as sexual orientation, media exposure, exposure to social interaction, exposure to ideology, perceptions of homosexuality, perceptions of transgender, protection of religious and spiritual values, protection of social values, and the role of counselors.

d. Blue print preparation

The instrument consists of 9 indicators presented in table 1 below.

Table 1 <Blue Print of Inventory of Homosexuality and Transgender Exposure (IHTE)>

No	Item	Statement
1	Sexual orientation	Based on sexual orientation, I assume i am a person: - Heterosexsual - Homosexsual - Transgender

2	Media Exposure	1. Widescreen Media Film
		  • I watched a widescreen movie that contained elements of homosexuality
		  • I watched a big screen film that contains transgender elements (men behave in women and vice versa)
		2. Television Cinema Media
		  • I watched a television series that contained elements of homosexuality
		  • I watched television series containing transgender elements (men behave in women and vice versa)
		  • Transgender elements can be watched freely by all ages
		3. Short Video Media / Music Video
		  • I watched a music video containing homosexuality
		  • I watched a music video containing transgender elements
		  • I found video clips that contain elements of homosexuality and transgender easily on various internet platforms
		4. Music Media
		  • I hear music with lyrics containing support for homosexuality and transgender
		5. Social Media
		  • I am following an account that campaigns for homosexuality and transgender people
		  • My social media feed contains an element of homosexuality
		  • My social media feed contains transgender content

3	Exposure to Social Interaction	1. Peer environment
		  • Peers assume that homosexuality is a human right
		  • Peers support homosexual and transgender campaigns
		  • I have peers with homosexual tendencies
		  • I have peers with transgender tendencies
		2. Family environment
		  • I have family members who behave homosexually
		  • I have family members who behave like transgender people
		  • The family teaches values that prohibit homosexuality
		  • The family prohibits family members from behaving like

No	Item	Statement
		transgenders
		3. Campus/school environment
		• I know a friend who has a homosexual orientation
		• I know a friend who has a transgender orientation
		• I was influenced to join the homosexual community
		• I join the homosexual and / or transgender community
		4. Community environment
		• The surrounding community does not take issue with the issue of transgender
4	Exposure from ideology	• I support the homosexual legalization campaign
		• I support the transgender legalization campaign
		• In my opinion, homosexuals and transgender people must be supported
5	Perception of Homosexuality	• In my opinion, homosexuality does not arise from birth
		• In my opinion, homosexuality is a social disease
6	Perception of Transgender	• In my opinion, transgender does not appear from birth
		• In my opinion, transgender is a social disease
7	Protection of Religious Values and Spirituality	1. Religious views about homosexuality
		• I believe that the religious prohibition on homosexuality is absolutely correct
		• Religion taught me to protect myself from homosexual behavior
		2. Religious views about transgender
		• I am convinced that transgender behavior is not justified by religion
		• Religion taught me to protect myself from transgender behavior
		3. Moral decisions related to religion
		• I was able to avoid myself from the influence of homosexual and transgender behavior, in accordance with my religious beliefs
		4. Moral beliefs about homosexuality
		• I am sure I will get a favor if I am able to avoid homosexual and transgender behavior
		5. Religious understanding of sexuality
		• I believe that my religion regulates sexual relations well
8	Protection of Community Social Values	1. The social view of society about homosexuality
		• The government needs to act decisively about handling homosexuality

No	Item	Statement
		2. The social view of society about transgender
		• The government needs to act decisively about handling transgender matters
		3. Social decisions about homosexuality
		• My community's environment helped protect the community from the influence of homosexuality
		• My society does not justify men behaving like women and vice versa
9	The Role of the Counselor	• I need a counselor if I encounter problems related to homosexuality and transgender issues
		• I am sure the counselor can help me with my problems
		• I need a counselor who understands the perspective of Religion in discussing my problems

    e. Writing items based on principles

        The instrument is based on lesbi, gay, bisexual, and transgender behavior (Grey, et al., 2013; Ji & Fujimoto, 2013; Jones, Brewster, & Jones, 2014; Riggle, Mohr, Rostosky, Fingerhut, & Balsam, 2014; Worthen, 2012).

    f. Compilation of scoring guidelines

        The data in this study were political data collected using homosexual and transgender instruments in the form of a Likert scale model with four alternative answers.

    g. Item validation

        The instrument was validated by 3 experts in the fields of education and social psychology related to the ability of the field in homosexuals and transgender people.

    h. Repair items.

        From the results of the inventory expert validation from 50 items to 40 items the statement was corrected for further testing.

  2. The stage of trying out the instrument

    After going through the instrument expert vilidation test to 40 items, those 40 items will be tested. In the previous research, a first-phase trial which produced 3 items which were not fit to represent homosexual and transgender instruments was discussed further.

    a. Determination of the test subject

    The first phase of the trial subjects were 74 people spread across 2 Provinces (West Sumatra and North Sumatra).

    b. Trial implementation

    Trials were conducted in 2 provinces (West Sumatra and Sumatra Uata) which were distributed online.

    c. Data analysis of trial results

    Data analysis of the results of the trial using the Rasch model shows the value of reliability items (0.87) and reliability person (0.80), Principal Component Analysis (PCA) of 0.40, detecting measurement bias> 0.05, and reting scale range 1.4 - 5.0. Next, to find out the mismatch statistical items using the outfit of the mean squared and the standard Z values are presented in table 2 below.

    Based on table 2 there are three misfit items, the three items do not fit the established criteria. The parameters used to show conformity are the outfits of the mean square with a middle square value of 1.0 or with an ideal range of 0.5> MNSQ <1.5 and Z-standardized values with a middle square value of 0.0 or with an ideal range of -2.0> ZSTD <+2.0 (Bond & Fox, 2015; Boone, Staver, & Yale, 2013; Sumintono & Widhiarso, 2015).

Table 2 <Item Misfit Statistic>

#Respondent	OUTFIT MNSQ	ZSTD
040	2.95	1.8
039	2.84	2.1
038	2.57	3.2

Furthermore Table 2 show 2 stage :
1. The stage of establishing instrument validity and reliability
    Before entering the final stage in the development of inventory, the items that have been tested for validity and reliability in the first stage will be conducted once again in the second stage. Based on the results of trial items that began from 40 items to 37 items that are ready for the second phase of the trial to produce a valid and reliable instrument that is in accordance with Indonesian culture. Thus, the second phase of the trial will be conducted in 14 provinces in Indonesia with 304 people as the research sample.
2. The stage of interpreting the assessment scores
    The results of the analysis in the second stage of the data are interpreted in accordance with the results of the scores obtained are further discussed in the research results.

Results and Discussion

Reliability

The reliability of an instrument refers to the stability of a measure and consistency in measurement. To get information about the reliability of the person and the reliability of items can be displayed in a statistical summary. The statistical summary results are explained further in the following Table 3.

Table 3 <Summary Statistics>

```
--------------------------------------------------------------------------
|          TOTAL                        MODEL       INFIT       OUTFIT     |
|          SCORE     COUNT    MEASURE    ERROR    MNSQ   ZSTD   MNSQ   ZSTD |
|-------------------------------------------------------------------------|
| MEAN      85.3      37.0      -.46      .27     1.01   -.3    1.14   -.2  |
| S.D.       9.1        .0       .68      .02      .78   2.0    1.54   1.9  |
| MAX.     123.0      37.0      2.12      .59     6.35   9.1    9.90   9.9  |
| MIN.      40.0      37.0     -4.90      .25      .22  -4.0     .21  -2.4  |
|-------------------------------------------------------------------------|
| REAL RMSE    .30 TRUE SD    .61  SEPARATION  2.01  Person RELIABILITY .80 |
|MODEL RMSE    .27 TRUE SD    .62  SEPARATION  2.31  Person RELIABILITY .84 |
| S.E. OF Person MEAN = .04                                                |
--------------------------------------------------------------------------

Person RAW SCORE-TO-MEASURE CORRELATION = 1.00
CRONBACH ALPHA (KR-20) Person RAW SCORE "TEST" RELIABILITY = .82


     SUMMARY OF 37 MEASURED Item
--------------------------------------------------------------------------
|          TOTAL                        MODEL       INFIT       OUTFIT     |
|          SCORE     COUNT    MEASURE    ERROR    MNSQ   ZSTD   MNSQ   ZSTD |
|-------------------------------------------------------------------------|
| MEAN     700.5     304.0       .00      .11     1.11    .2    1.28   1.2  |
| S.D.     324.2        .0      2.09      .05      .34   2.8     .82   2.3  |
| MAX.    1179.0     304.0      3.81      .30     1.88   5.4    5.85   9.2  |
| MIN.     315.0     304.0     -3.53      .07      .52  -7.7     .70  -2.8  |
|-------------------------------------------------------------------------|
| REAL RMSE    .15 TRUE SD   2.08  SEPARATION 14.26  Item   RELIABILITY 1.00|
|MODEL RMSE    .13 TRUE SD   2.08  SEPARATION 16.61  Item   RELIABILITY 1.00|
| S.E. OF Item MEAN = .35                                                  |
--------------------------------------------------------------------------
```

In Table 3, it can be seen that the reliability score of the person is 0.80, indicating that the quality of the answers given by the person is good. However, the center of attention is the item reliability score of 1.00, this rarely happens in testing the validity of an instrument where the reliability score is very perfect, or it can be stated that the quality of items is very good for revealing individual homosexual and transgender tendencies. Furthermore, the Cronbach alpha value (KR-20) is 0.82, which indicated that the interaction between person and item is good. In addition, it also discusses the grouping of people in answering and item groups, known from the separation value using the strata person formula, H = [(4*separation) + 1]/3 (Sumintono & Widhiarso, 2015). The separation person value is 2.01, then H = [(4*2.01) + 1]/3, H = 3.01 (rounded up to 3). This shows three groups of people (high, medium and low ability). The separation item value is known as 14.26, then the value of H = 19.3. The value of separation items shows the results of strata that are very perfect, where instruments can be grouped into 19 or the instrument can measure people with any ability. So, the value of item reliability is related to the value of separation, the two values support each other for instrument quality.

Construct Validity

The construct validity explains how well the measurements are in accordance with theoretical expectations (Sumintono & Widhiarso, 2015). The point is that there are various measures in various theoretical contexts, all of which must show relationships with other concepts that can be predicted and interpreted in that context. Homosexual and transgender instruments adapt from the Inventory of Homosexuality and Transgender Exposure (IHTE), the instruments are evaluated whether they are able to measure what should be measured. The construct validity analysis uses Principal Component Analysis (PCA) of the residual, which measures the extent to which the diversity of the IHTE instrument measures what should be measured. PCA analysis uses 2 parameters, first the value of total raw variance in observation (minimum 40%) and second value of total raw unexplained variance (minimum 15%) (Linacre, 2011; Sumintono & Widhiarso, 2015). Further information is presented in Table 2 below.

In Table 4, we can see that the total raw variance result is 76.6%, not much different from the expected value of 76.7%. This shows that the construct of the instrument is very good, meaning the items already represent measurements for homosexuals and transgender people, as well as the minimum unidimensional 40% requirement has been fulfilled(Linacre, 2011). While all unexplained variance results (1 st to 5 th) are below 15% which shows the level of independence of items in a good instrument. Thus this condition states that the instrument unidimensionality requirements are met, further it can be stated that 37 items used in homosexual and transgender instruments are valid.

Table 4 <Standardized Residual Variance>

		Empirical		Modeled
Total raw variance in observations	158.1	100.0 %		100.0 %
Raw variance explained by measures	121.1	76.6 %		76.7 %
Raw unexplained variance (total)	37.0	23.4 %	100.0 %	23.3 %
Unexplned variance in 1st contrast	6.8	4.3 %	18.4 %	
Unexplned variance in 2nd contrast	2.7	1.7 %	7.3 %	
Unexplned variance in 3rd contrast	2.1	1.3 %	5.6 %	
Unexplned variance in 4th contrast	1.8	1.1 %	4.9 %	

Based on the results of the standardized residual variance that homosexual and transgender instruments are very good and the items available on the instrument are already representative to measure homosexuality and transgender. Every measurement always produces information about the measurement results, meaning that the measurement results here are not information about the individual being measured, but the focus of measurement. Measurement information depends on the relationship between the test and the individual being measured (Sumintono & Widhiarso, 2015). For more details, conveyed through pictures about the function of measurement information as follows.

From Figure 1, there are two optimal peak information obtained by the test, namely in individuals who have low-ability and high-ability homosexual tendencies. In addition, the peak in the figure shows the optimal height, meaning that the higher the peak of the measurement information function that can be achieved the higher the reliability value of the measurements made. So that in line with the reliability value of item 1.00, this means that the reliability of the item is very perfect or it can be stated that the quality of the items is very good to reveal homosexual and transgender tendencies of individuals. Next, it is clarified by using pictures to test the validity of the instrument through the distribution of people and items as follows.
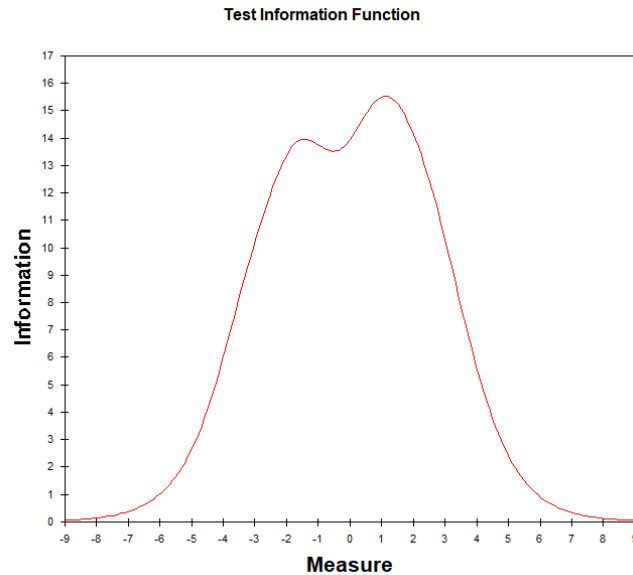

Figure 1 <Test information Function>

Validity Instrumen

Person and item validity uses variable maps that can show the distribution of students' abilities on the left and the level of difficulty items on the right(Sumintono & Widhiarso, 2015). Further it is conveyed in Figure 1 below.

First, the left Wright map shows one student circled in red (303L) meaning that the respondent has the highest homosexual and transgender tendencies than other respondents with a logit value of +2.34. Meanwhile, the red circle below (061L) shows the lowest ability of respondents compared to the others with a logit value of -0.59. Furthermore, variable maps reveal the grouping of respondents from high, medium, and low, in line with the results explained in the separation person values.

Second, the right Wright map explains the distribution of item logit values. The items circled in red P16 are the ones with the highest difficulty level (+3.81 logit), which means that the probability of all respondents to work on this problem correctly is very small. However, not only P16 was items that were difficult for respondents to work on but there were still 5 (P21, P17, P20, P10, and P23) other items. While the P30 question is a problem that almost all respondents can do correctly, with a low logit value (-3.53 logit). With the statement P30 is "I am convinced that transgender behavior is not justified by Religion." From the P30 statement, it can be revealed that all respondents know that homosexual and transgender behavior is behavior that violates religious values. The public views the condition of LGBTQ problems with a variety of points of view; most consider that deviations of sexual orientation are violations of generally accepted norms, religious values, and others consider this trend as a lifestyle (Rhomadona, 2018).

Third, comparing the distance between M-S-T (mean, 1SD and 2SD) on the variable maps above shows that on the left of the map, the distribution of respondent's ability is lower than the distribution of the item's level of ability of the right. In this context, a number of items indicate the number of groups that can be measured by the instrument. This means that the 37 items were able to reach any group of respondents. The analysis of variable maps also shows that valid homosexual and transgender instruments are seen from the ability of each item to be able to reach the respondent's group.
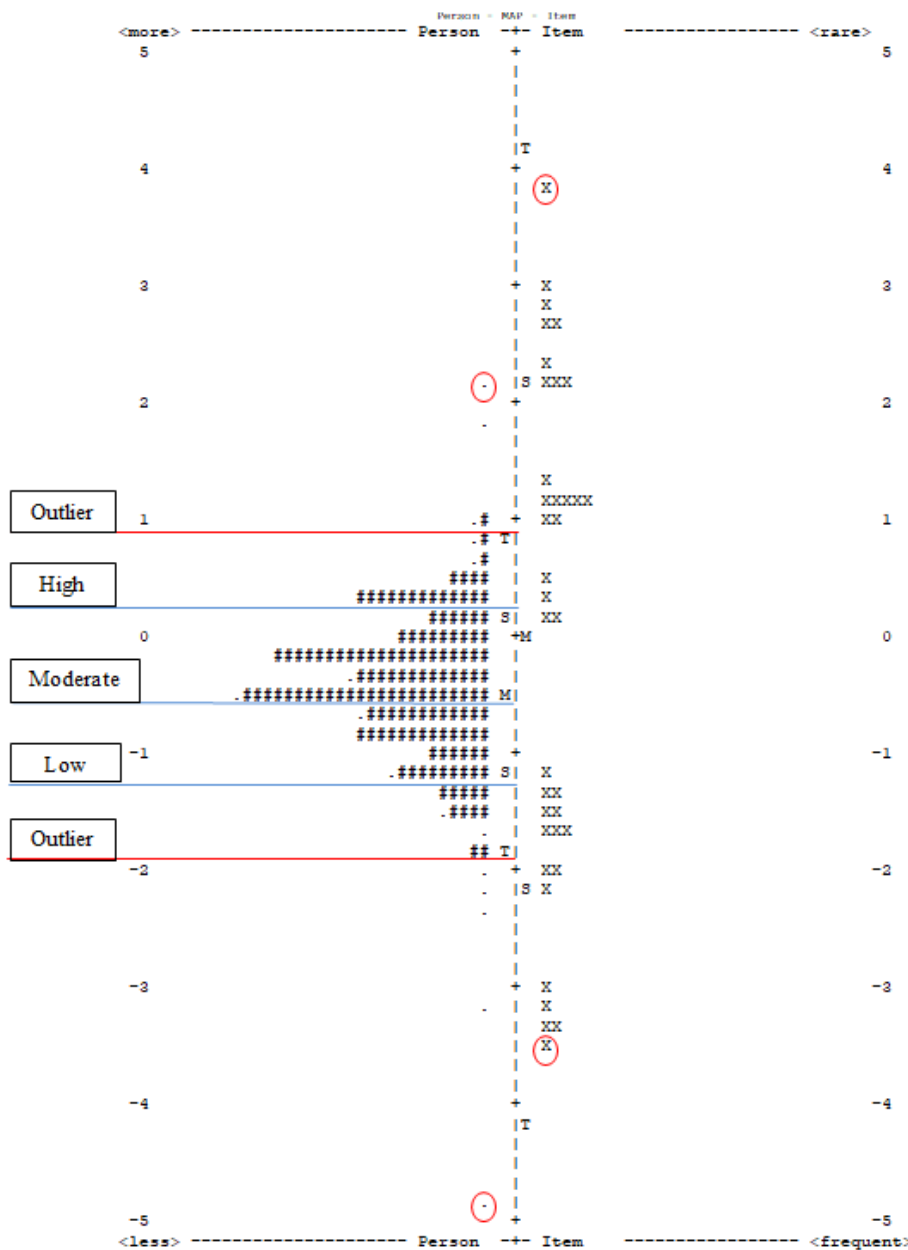
Figure 2 <Variable Maps (Person 304 and 37 Item)>

Item Validation

By analyzing item measures can reveal statistical fit. The parameters used to show conformity are the outfits of the mean square with a middle square value of 1.0 or with an ideal range of 0.5> MNSQ <1.5 and Z-standardized values with a middle square value of 0.0 or with an ideal range of -2.0> ZSTD <+2.0 (Bond & Fox, 2015; Boone, et al., 2013; Sumintono & Widhiarso, 2015). Further information is presented in Table 5 below.

In Table 5, shows the order of misfit order items. There are five misfit items that are marked with a red circle, P21, P22, P23, P10, and P18. Judging from the MNSQ outfit values and standardized values (ZSTD) it has passed the ideal range (-2.0> ZSTD <+2.0) so the items need to be changed to meet the suitability statement. For example item P21 "I join the homosexual and/or transgender community". P21's statement is too damaging for homosexuals, meaning that respondents are reluctant to give true answers because they still pay attention to the prevailing norms.

Table 5 <Item Misfit>

```
--------------------------------------------------------------------------------------------
|ENTRY   TOTAL  TOTAL           MODEL|   INFIT   |  OUTFIT  |PT-MEASURE |EXACT MATCH|       |
|NUMBER  SCORE  COUNT  MEASURE  S.E. |MNSQ  ZSTD|MNSQ  ZSTD|CORR.  EXP.| OBS%  EXP%| Item  |
|-------------------------------------+----------+----------+-----------+-----------+-------|
|   21    328    304     3.02    .21|1.87   3.2|5.85   9.2|A  .17   .18| 95.4  92.5| p21   |
|   22    361    304     2.13    .14|1.88   4.7|2.20   5.1|B  .19   .26| 88.2  83.1| p22   |
|   23    351    304     2.33    .15|1.47   2.6|2.17   4.6|C  .10   .24| 87.5  85.9| p23   |
|   16    315    304     3.81    .30|1.69   1.9|1.33    .9|D  .13   .12| 97.4  96.5| p16   |
|   10    336    304     2.73    .18|1.42   2.0|1.62   2.4|E  .25   .20| 92.4  90.3| p10   |
|   20    336    304     2.73    .18|1.60   2.7|1.09    .5|F  .29   .20| 93.1  90.3| p20   |
|   18   1024    304    -1.70    .08|1.56   5.4|1.59   5.0|G  .46   .44| 47.7  50.5| p18   |
|   33    985    304    -1.47    .07|1.32   3.6|1.49   4.7|H  .36   .45| 39.5  46.1| p33   |
|   19   1088    304    -2.18    .09|1.47   3.9|1.35   2.6|I  .49   .41| 72.0  65.0| p19   |
|   29   1170    304    -3.30    .15|1.39   2.1|1.03    .2|J  .45   .35| 90.1  87.0| p29   |
|   36    961    304    -1.35    .07|1.13   1.6|1.35   3.6|K  .23   .46| 47.7  43.8| p36   |
|   28   1164    304    -3.17    .14|1.32   1.8| .86   -.7|L  .46   .35| 87.2  85.5| p28   |
|   32   1152    304    -2.94    .13|1.06    .4|1.31   1.7|M  .35   .37| 83.2  82.1| p32   |
|   17    331    304     2.90    .19|1.28   1.3|1.22    .9|N  .22   .19| 92.8  91.6| p17   |
|   11    361    304     2.13    .14|1.25   1.6|1.17   1.0|O  .32   .26| 86.8  83.1| p11   |
|   34   1008    304    -1.61    .08|1.03    .3|1.21   2.1|P  .33   .44| 45.4  47.2| p34   |
|    1    440    304     1.20    .09| .83  -1.7|1.15   1.2|Q  .29   .35| 65.1  61.5| p1    |
|   24    930    304    -1.19    .07|1.09   1.2|1.14   1.6|R  .48   .46| 40.5  42.0| p24   |
|   14    471    304      .96    .08| .96   -.4|1.12   1.0|S  .31   .38| 56.6  54.7| p14   |
|   35    944    304    -1.26    .07|1.02    .3|1.11   1.3|r  .39   .46| 48.4  42.7| p35   |
|    2    543    304      .52    .07| .58  -6.3|1.11   1.2|q  .32   .41| 59.2  44.5| p2    |
|   13    470    304      .97    .08| .95   -.5|1.10    .9|p  .32   .37| 55.3  54.7| p13   |
|   37   1021    304    -1.69    .08|1.01    .2|1.10   1.0|o  .34   .44| 51.6  49.5| p37   |
|    5    607    304      .20    .07|1.05    .7|1.10   1.1|n  .45   .44| 41.4  41.8| p5    |
|   30   1179    304    -3.53    .17|1.07    .4| .90   -.4|m  .47   .34| 90.8  89.4| p30   |
|    9    443    304     1.17    .09| .82  -1.8|1.05    .4|l  .34   .36| 67.4  61.2| p9    |
|   12    362    304     2.12    .13|1.04    .3| .89   -.5|k  .37   .26| 85.5  82.9| p12   |
|   31   1173    304    -3.37    .16|1.03    .2| .80   -.9|j  .50   .34| 88.8  87.7| p31   |
|   25   1075    304    -2.07    .09| .92   -.7| .96   -.3|i  .47   .42| 68.1  62.5| p25   |
|   26    988    304    -1.49    .07| .95   -.6| .95   -.5|h  .50   .45| 51.6  46.1| p26   |
|    4    567    304      .40    .07| .52  -7.7| .94   -.7|g  .40   .42| 59.2  43.7| p4    |
|   27   1067    304    -2.00    .09| .89  -1.1| .93   -.5|f  .51   .42| 68.1  60.6| p27   |
|    6    435    304     1.24    .09| .71  -3.0| .93   -.5|e  .40   .35| 67.8  62.8| p6    |
|    3    432    304     1.26    .09| .74  -2.7| .92   -.6|d  .34   .35| 67.8  63.1| p3    |
|    8    605    304      .21    .07| .85  -2.2| .90  -1.2|c  .49   .44| 47.4  41.8| p8    |
|   15    443    304     1.17    .09| .74  -2.7| .90   -.8|b  .38   .36| 65.5  61.2| p15   |
|    7    452    304     1.10    .09| .63  -4.3| .70  -2.8|a  .48   .36| 69.1  58.5| p7    |
|-------------------------------------+----------+----------+-----------+-----------+-------|
| MEAN  700.5  304.0     .00    .11|1.11    .2|1.28   1.2|           | 69.2  65.8|       |
| S.D.  324.2    .0     2.09    .05| .34   2.8| .82   2.3|           | 18.3  18.5|       |
--------------------------------------------------------------------------------------------
```

So that the emergence of homosexuals causes various reactions, one of which is the social fabric of Indonesian society that teaches heteronormative values, which have the assumption that heterosexuality is the only norm that is said to be normal and appropriate, so that a relationship/value of sexuality is considered normal when complementary between men and women (Mariani, 2013). So that the presence of several individuals who deviate from the rules/normal of society that causes conflict, insults, stigma and negative prejudice both from the family and community environment (Mariani, 2013; Saputra, 2015).

Differential Item Functioning (DIF)
Measurement instruments and items can be biased due to differences where certain items will favor one particular type (eg gender, religion, occupation, education, family background, etc.). In Figure 1 the DIF analysis results are displayed as follows.

In figure 3 above, 37 items of analytical and transgenser instruments are seen. Red lines indicate men and blue lines indicate women, from the picture seen in lines 20 and 21 are considered to have a bias. This causes both the red and blue lines to move away from each other, meaning that determining the item contains a bias. For this reason, it is necessary to improve items 20 and item 21. In developing instruments, they must pay attention to demographic characteristics, so that they reflect statements that contain bias (Linacre, 2011).
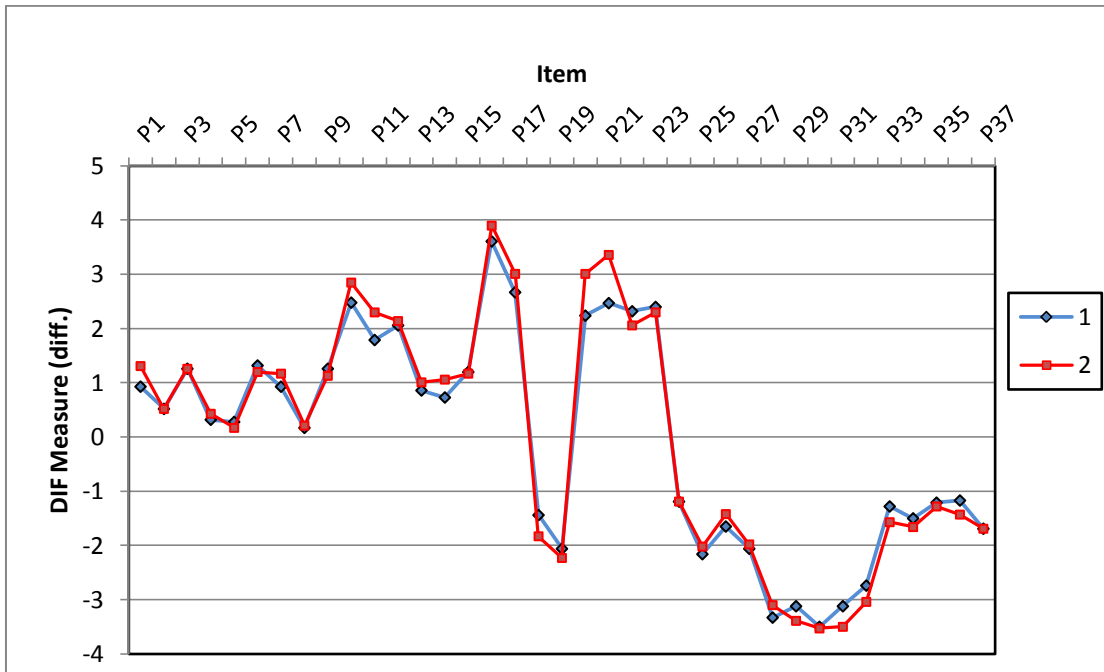
Figure 3 <Differential Item Functioning (DIF)>

Macedo, Kuspinar, Roberts, & Maher (2019) health researchers revealed that the basic characteristics of each trial participant were collected at the first meeting before the first treatment began, checking including demographic characteristics such as age, sex (Ifdil et al., 2018), duration of pain and use of analgesic drugs (yes/no).

Rating Scale Validation

A good instrument to use is an instrument that does not confuse respondents in choosing answers provided by the instrument itself. The rating scale given must be well understood by the respondent. The instrument uses a 4 point Likert scale presented in Figure 4 below.
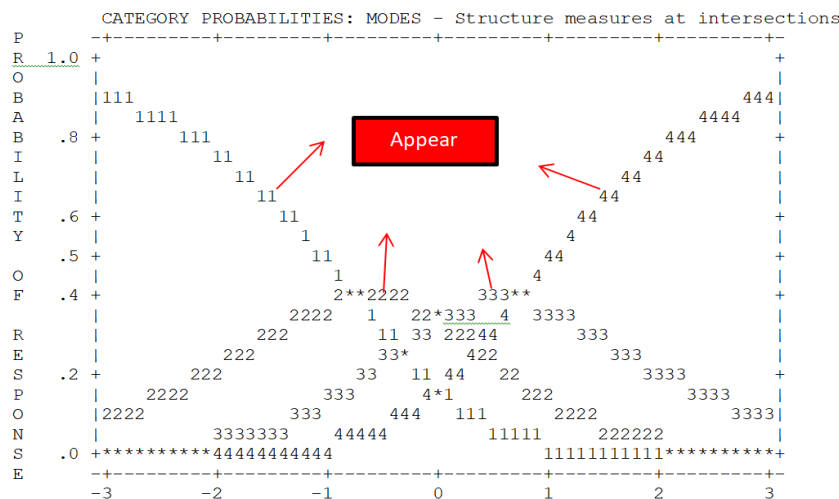

Figure 4 <Probability of Response>

In figure 4 above shows the number 1 = always, 2 = often, 3 = rarely, 4 = never. This means that the response points given by IHTE have been understood by respondents indicated by the appearance of these numbers and forming a curve. The findings show that the four choices given were valid in homosexual and transgender instruments. The findings are supported by previous research (Alizamar, 2019) response point 4 is easily understood by the Indonesian people related to the validation of the FoMO internet ratting scale. Furthermore, the integration of measurement by category is discussed in table 6 below.

Table 6. Coherence

Category Label	COHERENCE	
	M->C	C->M
1	84%	81%
2	47%	50%
3	42%	51%
4	81%	72%

Based on table 6 above shows the "Coherence" column reporting the empirical relationship between rank and size for IHTE data. The Coherence calculation is described in Table 6. M-> C (Measuring implies Category%) reports what percentage of the ranking, which is expected to be observed in a category (according to size), is actually observed to be in that category. Next, table 6 above shows the category labels provided by good measurements, marked with a range on M-> C (Measure implies Category%) to C-> M (Category implies Measure%), as in label 1 has a range of 3% , labels 2 = 3%, labels 3 = 9%, and labels 4 = 11%, meaning that the measurement is close to the desired model. From the above findings, it can be stated that the four response points are easily understood by the Indonesian people, meaning that the respondent is not confused by the choice of answers provided by the instrument and creates good results. Using IHTE can measure sexual orientation, media exposure, exposure to social interactions, exposure to ideology, perceptions of homosexuality, perceptions of transgender, protection of religious and spiritual values, protection of social values, and the role of counselors. After getting the results from the instrument, interventions for homosexual and transgender prevention are needed through good preventative measures and healing steps through counseling and psychotherapy (Z. Ardi, et al., 2017).

In addition, one step that can be done through the provision of counseling services on the basis of creating everyday life (Prayitno, 2009) which is carried out in the realm of developing individual life goals, increasing self-competence, and implementing moral values in self-reliance and self-control (Marjohan, 2012). The role of the family is another step to revive individuals' religious and moral values. This is important because if family conditions are not conducive, such as: poor communication, weak parental control, lack of instilling moral values, impact on the ease of individuals falling into LGBTQ conditions (Sumadi, 2015). Supported research Sterzing & Gartner (2018) developing the LGBTQ Microaggressions and Microaffirmations in Families Scale that aims to capture support from the family.

Conclusion

The findings show that the IHTE instrument is items valid and reliable (person reliability is 0.80 and item reliability is 1.00) to measure the tendency of homosexual and transgender behavior in accordance with religious and cultural values in Indonesia with a total of 37 valid items. The strength of the IHTE instrument is that it measures the tendency of individuals to behave homosexually and transgender from the highest group of respondents to the lowest group. This instrument has 9 indicators, namely: sexual orientation, media exposure, exposure to social interactions, exposure to ideology, perceptions of homosexuality, perceptions of transgender, protection of religious and spiritual values, protection of social values, and the role of counselors. This instrument is an alternative that can be used by counselors, psychologists, and researchers to uncover individuals who have a tendency to behave homosexually and transgenderally. Thus, the existence of this instrument can intervene in individuals who are likely to behave homosexually and transgenderly to be provided responsive services specifically in the function of understanding and prevention. The next researcher can combine the instrument with instruments from other variables to be analyzed more thoroughly the differences or the contingency of these other variables.

References

Alagumalai, S., Curtis, D. D., & Hungi, N. (2005). *Applied Rasch measurement: A book of exemplars*: Springer.

Alexander, R. A. (1986). *The relationship between internalized homophobia and depression and low self-esteem in gay men.* University of California, Santa Barbara.

Alizamar, A. (2019). Application of Rasch Rating Scale Model to Analyze the Fear of Missing Out a Smartphone. *ournal of Educational and Learning Studies, 2*(1), 50-55.

Ardi, Z., Ardi, Meivilona, Y. F., Meivilona Yendi, & Hariko, R. (2016). Fenomena LGBTQ dalam perspektif konseling dan psikoterapi: realitas dan tantangan konselor.

Ardi, Z., Yendi, F. M., & Ifdil, I. (2017). Students Attitude Towards LGBTQ; the Future Counselor Challenges. *Jurnal Konseling Dan Pendidikan, 5*(2), 74-79.

Bond, T., & Fox, C. (2015). Applying the Rasch model: fundamental measurement in the human sciences, 3 edn: Routledge.

Boone, W. J., Staver, J. R., & Yale, M. S. (2013). *Rasch analysis in the human sciences*: Springer.

Bullough, V. L. (2019). *Homosexuality: A History (From Ancient Greece to Gay Liberation)*: Routledge.

Currier, A. (2011). Decolonizing the law: LGBT organizing in Namibia and South Africa. *Special issue: Social movements/legal possibilities, studies in law, politics, and society, 54*, 17-44.

Grey, J. A., Robinson, B. B. E., Coleman, E., & Bockting, W. O. (2013). A systematic review of instruments that measure attitudes toward homosexual men. *Journal of sex research, 50*(3-4), 329-352.

Harley, D. A. (2016). LBGT Elders in Rural Settings, Small Towns, and Frontier Regions *Handbook of LGBT Elders* (pp. 493-511): Springer.

Hicks, G. R., & Lee, T.-T. (2006). Public attitudes toward gays and lesbians: Trends and predictors. *Journal of homosexuality, 51*(2), 57-77.

Ifdil, I., Fadli, R. P., Syahputra, Y., Erwinda, L., Zola, N., & Afdal, A. (2018). Rasch stacking analysis: differences in student resilience in terms of gender. *Konselor, 7*(3), 95-100.

Ji, P., & Fujimoto, K. (2013). Measuring heterosexual LGBT ally development: A Rasch analysis. *Journal of homosexuality, 60*(12), 1695-1725.

Jones, K. N., Brewster, M. E., & Jones, J. A. (2014). The creation and validation of the LGBT Ally Identity Measure. *Psychology of Sexual Orientation and Gender Diversity, 1*(2), 181.

Lax, J. R., & Phillips, J. H. (2009). Gay rights in the states: Public opinion and policy responsiveness. *American Political Science Review, 103*(3), 367-386.

Linacre, J. (2011). A user's guide to Winsteps® Ministep: Rasch-model computer programs (3.72. 3). *Abgerufen am, 24*, 2019.

Lingiardi, V., Baiocco, R., & Nardelli, N. (2012). Measure of internalized sexual stigma for lesbians and gay men: A new scale. *Journal of homosexuality, 59*(8), 1191-1210.

Loftus, J. (2001). America's liberalization in attitudes toward homosexuality, 1973 to 1998. *American sociological review*, 762-782.

Macedo, L. G., Kuspinar, A., Roduta Roberts, M., & Maher, C. G. (2019). A Rasch analysis of the lumbar spine instability questionnaire. *Physiotherapy theory and practice*, 1-8.

Mariani, O. (2013). Hubungan antara dukungan sosial dan komitmen beragama dengan internalized homophobia pada lesbian. *CALYPTRA, 2*(2), 1-10.

Marjohan. (2012). *Biografi Keilmuan Prayitno dalam Ranah Konseling dan Pendidikan*. Padang: UNP Press.

Mullaney, C. (2016). Reshaping Time: Recommendations for Suicide Prevention in LBGT Populations: Reflections on "Suicide and Suicide Risk in Lesbian, Gay, Bisexual, and Transgender Populations: Review and Recommendations" From Journal of Homosexuality 58 (1). *Journal of homosexuality, 63*(3), 461-465.

Nungesser, L. G. (1983). *Homosexual acts, actors, and identities*: Praeger Publishers.

Oreondo, L. L. (1984). *Evaluating educational outcomes*: Rex Bookstore, Inc.

Prayitno. (2009). *Wawasan Profesional Konseling*. Padang: Universitas Negeri Padang.

Riggle, E. D., Mohr, J. J., Rostosky, S. S., Fingerhut, A. W., & Balsam, K. F. (2014). A multifactor Lesbian, Gay, and Bisexual Positive Identity Measure (LGB-PIM). *Psychology of Sexual Orientation and Gender Diversity, 1*(4), 398.

Ross, M. W., & Rosser, B. S. (1996). Measurement and correlates of internalized homophobia: A factor analytic study. *Journal of clinical psychology, 52*(1), 15-21.

Saputra, M. (2015). Fenomena Komunikasi Mahasiswi Lesbian Label Butch di Kota Pekanbaru. *JOM FISIP, 1*(1), 1-11.

Seidman, S. (2013). *Beyond the closet: The transformation of gay and lesbian life*: Routledge.

Shidlo, A. (1994). *Internalized homophobia: Conceptual and empirical issues in measurement.* Paper presented at the Some of the information in this chapter was presented at the meeting of the American Psychological Assn, New York, 1987.

Sterzing, P. R., & Gartner, R. E. (2018). LGBTQ Microaggressions and Microaffirmations in Families: Scale development and validation study. *Journal of homosexuality*, 1-20.

Sumadi, N. (2015). Pengalaman Traumatik dan Komunikasi Keluarga Tidak Efektif dalam Pembentukan Pribadi Penyimpangan Seksual Lesbian. *Jurnal ProNers, 1*(1).

Sumintono, B., & Widhiarso, W. (2015). *Aplikasi pemodelan rasch pada assessment pendidikan*: Trim komunikata.

Van Dam, M. A. (2015). ALIDA-II: An improved disclosure scale. *Journal of homosexuality, 62*(10), 1313-1328.

Worthen, M. G. (2012). Understanding college student attitudes toward LGBT individuals. *Sociological Focus, 45*(4), 285-305.

Yu, Y., Xiao, S., & Xiang, Y. (2011). Application and testing the reliability and validity of a modified version of Herek's attitudes toward lesbians and gay men scale in China. *Journal of homosexuality, 58*(2), 263-274.