**Utrecht University** 

Master: Youth Studies

Master thesis

Religiosity and attitudes towards homosexuality among adolescents in the Netherlands:

An examination of the moderating effects of reported gender equality and educational level



Alexandra Caraman 6223923

Supervisor: Catrin Finkenauer

Second reader: Margot Peeters

June 2018

#### Abstract

The present cross – sectional study examined the relationship between religiosity and attitudes towards homosexuality among adolescents in the Netherlands and tested whether this relation was moderated by education level and reported gender equality. While most studies on attitudes towards homosexuality focused on adults, this study specifically focused on adolescents. Data from the large – scale Health Behaviour in School – aged Children (HBSC) study was used. Participants were 5,360 Dutch secondary school students, aged 10 to 18 years old. Consistent with the expectations, results of hierarchical regression analysis indicated that a higher religiosity was related to more negative attitudes towards homosexuality while controlled for participants' own sexual orientation and age. Interactions effects between religiosity and educational level and religiosity was found, while for reported gender equality and religiosity interactions were not. Implications of these specific findings are discussed.

*Keywords:* religiosity, attitudes towards homosexuality, gender equality, educational level

#### Introduction

Around the world public opinion about Lesbian, Gay and Bisexual (LGB) varies considerably (Smith, 2011). While there have been studies trying to explain what exactly shapes these attitudes, most of them are focusing on adults (Collier, Horn, Bos & Sandfort, 2015). Research that explores the adolescent phase is important because this is the age when attitudes and beliefs are formed based on their contacts with their family and peers (Santona & Tognasso, 2018). This study extends the literature on attitudes towards homosexuality and bisexuality among adolescents by examining which factors are shaping them in the Netherlands.

Even though attitudes towards LGB community are constantly changing through time, prejudice is still prevalent in society (van den Akker, van der Ploeg, & Scheepers, 2013). Herek (2004) argues that it is important to study the negative attitudes because they are closely related to behaviour. He mentions that "attitudes can influence behaviour both directly (when individuals deliberate about their intentions to act and consciously use their attitudes to inform their conduct) and indirectly (when attitudes unconsciously shape how an individual perceives and defines a situation)" (Herek, 2004, p.18). Thus, individuals with solid negative attitudes towards LGB people can be expected to react adversely towards LGB people (Herek, 2004). Such unfavourable behaviours can lead to both health risks and behaviours such as mental health problems, substance abuse, risky sexual behaviours or even suicidality among LGB people (Guarda, McCabe, Leblanc, De Santis & Vasquez, 2016; Sicard et al., 2016; Tsypes, Lane, Paul & Whitlock, 2016; Williams, 2017).

One of the factors known to influence negative attitudes towards LGB is religion (Brown & Henriquez, 2008; Hichy, Coen & Di Marco, 2015). Doebler (2015) depicts religion as being a complex phenomenon which can be described as having three dimensions: believing, belonging

and a practice dimension. Given the fact that religion is such an elaborate concept, in this paper, religion will be measured in terms of religiosity. Marsh and Brown (2011) define religiosity as "the degree of dedication to specific religious beliefs and the extent to which those beliefs are influential in one's life" (p. 576). Moreover, Whitley (2009) argued that religious involvement is more important when it comes to behaviour than the religious group people are part of.

Taking into consideration the relationship between religiosity and LGB attitudes, it is important to identify the factors that may buffer this link. In the present study, we are going to focus on two such factors, namely: adolescents' reported gender equality and educational level.

# Religiosity and attitudes towards LGB

Many studies have repeatedly shown the association between religiosity and negative attitudes towards LGB. One important paper is Whitley's (2009) meta-analysis. He showed that religiosity is robustly related to lower level of tolerance towards LGB. Whitley (2009) adds that the relation between religiosity and attitudes towards LGB is puzzling: even though many religions preach tolerance, most of them still condemn homosexuality. The mechanisms underlying prejudicial behaviours are still debatable, though (Whitley, 2009).

One way to define individual differences in religiosity was theorized by Allport and Ross (1967) who distinguished between extrinsic and intrinsic religious orientation (as cited in Hunsberger & Jackson, 2005, p. 809). The intrinsic orientation is seen as a committed, honest believing and is associated with increased tolerance. The extrinsic orientation is related to a more immature belief system and is associated with decreased tolerance. Allport and Ross (1967) described extrinsic orientation as a way "to provide security, comfort, status, or social support for himself—religion is not a value in its own right" (p. 441). Further, Batson (1976) argued that

there is a third way to define religiosity called quest. Batson and Burries (1994) described the quest perspective as a process that generates questions about people's existence not necessarily adjusted by formal religious institutions. From all the above religious orientations, the quest is linked with the highest level of tolerance (Batson & Burries, 1994).

Religiosity in adolescence has some specific characteristics which are important to be mentioned. From childhood until coming of age, one's religiosity is highly correlated with the religion in which one was raised (Pearce, 2015). However, at adolescence, Pearce (2015) argues that there is a disconnection between the belief in which one was raised and the adolescent own beliefs. Schweitzer (2000) explains that this may occur because of the typical separation of childhood beliefs and parental influences. Taking this into consideration, the link between religiosity and attitudes towards homosexuality may be particular at this age.

Taking these theoretical approaches into account, one common view is that the more religious a person is the more likely it is that he or she has a negative attitude towards LGB. Therefore, we hypothesised that religiosity is negatively correlated with attitudes towards homosexuality.

## Reported gender equality

As Whitley (2009) concluded, even if religiosity is linked to more negative attitudes towards homosexuality, other factors may also play a role. One of the possible factors is reported gender equality. Therefore, in this study, gender equality will be tested as a moderator between religiosity and the attitudes towards LGB.

Inglehart and Welzel (2005) describe gender equality as an important element in the development of humanity. They argue that it goes along with the development of democracy

itself. Gender equality it is defined as "the equal rights, responsibilities and opportunities of women and men and girls and boys" (UN Women, 2001). In the current research, gender equality is a two-way issue: the participation of women in the public sphere and the participation of men in the domestic work (Goldscheider, Goldscheider & Gonzalez, 2014).

Further, research provides indirect evidence on how reported gender equality can buffer the link between religiosity and attitudes towards LGB. For example, F. Inglehart, Ponarin and C. Inglehart (2017) demonstrated that people who tend to disagree with gender equality also tend to disagree with homosexuality. They explained this finding under the dichotomy of pro-fertility vs. individual-choice norms. While pro-fertility norms are described as "emphasizing traditional gender roles and stigmatizing any sexual behaviour not linked with reproduction", individual-choice norms are "supporting gender equality and tolerance of non-traditional behaviour such as homosexuality" (F. Inglehart, Ponarin & C. Inglehart, 2017, p.2). Further, F. Inglehart, Ponarin and C. Inglehart, (2017) argued that individual-choice norms are negatively linked to religiosity. Therefore, people who consider gender equality important are more likely to accept homosexuality than people who do not.

Other studies have found that people who reported higher levels of religiosity have a more traditional perspective on gender roles (Aosved & Long, 2006; Rowatt, Tsang, Kelly, LaMartina, McCullers, & McKinley, 2006). Lindsey (2015) defines gender roles as "the expected attitudes and behaviours a society associates with each sex" (p. 5). The gender roles that people with a high level of religiosity, independent of their religious background, believe in, illustrates the woman somehow inferior to a man (Lindsey, 2015). Therefore, the link between religiosity and attitudes towards homosexuality may be stronger at adolescents who reported low gender equality because they are also more traditional.

That is, it is assumed when individuals have a high level of religiosity and a low level of reported gender equality, they will have more negative attitudes towards LGB than individuals who have a low level of religiosity and a high level of reported gender equality. Hence, it was hypothesized that the relationship between religiosity and attitudes towards homosexuality is moderated by reported gender equality.

## **Educational level**

To our knowledge, research on education as a moderator between religiosity and attitudes towards homosexuality is scarce. Nevertheless, there are studies showing that education positively correlates with higher level of accepting sexual diversity (Feng et al., 2012; Gill, Morrow, Collins, Lucey & Schultz, 2006; Herek, 2002).

For instance, in a study on college students aged between 19 and 69 from a Midwestern University in the US, it has been shown that upper level students had more positive attitudes towards LGB than lower level students (Lambert, Ventura, Hall & Cluse-Tolar, 2006). The authors added that even if their results showed that indeed there is a difference on attitudes depending on educational level, there is still not a viable explanation on why education might be related to positive attitudes towards LGB. Nunn, Crokett and Williams (1978) argue that there is empirical support suggesting that higher education may be related to more tolerance for diversity (as cited in Lambert et al., 2006, p.3). Moreover, Farnworth, Longmire and West (1998) argue that "college is expected, not only to inform students, but also to cause changes in their views" (p. 40). Further, Herek (2002) found that one of the factors that negative attitudes towards LGB are associated with is the educational level.

Ohlander, Batalova and Treas (2005) argue that there are two possible explanations for why education level is one of the factors that are shaping the attitudes towards homosexuality. The first explanation is that education helps in increasing tolerance for non-conformism. Specifically, that students are exposed to all kinds of typologies in class and they learn to be more tolerant (Ohlander, Batalova & Treas, 2005). Part of the mechanism that lays under the increasing of tolerance is the link of education and civil liberties. Nunn (1973), stated that each finished year of college is linked to a higher acceptance of civil liberties (as cited in Ohlander, Batalova & Treas, 2005, p. 783).

Therefore, it is assumed that when individuals have a higher educational level, even if they are religious they will have more positive attitudes towards LGB. Hence, it was hypothesized that the relationship between religiosity and attitudes towards homosexuality is moderated by educational level.

#### **Current study**

The current study aims to test the link between religiosity and attitudes towards homosexuality among adolescents. The novelty of this study lies in examination of the two moderators: educational level and reported gender equality. Moreover, another important contribution to the literature is the fact that the relation between religiosity and LGB attitudes is tested at Dutch adolescents. Hence, the central research question is: Are educational level and reported gender equality moderators in the relationship between religiosity and attitudes towards homosexuality?

H1: Religiosity is negatively linked with attitudes towards homosexuality

H2: The relationship between religiosity and attitudes towards homosexuality is moderated by reported gender equality.

H3: The relationship between religiosity and attitudes towards homosexuality is moderated by educational level.

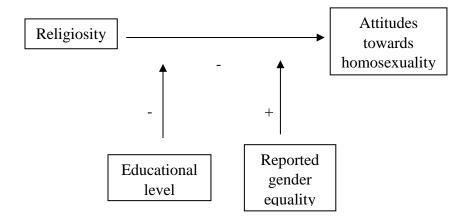


Figure 1. Theoretical model of the associations between religiosity and attitudes towards homosexuality and the moderation of educational level and reported gender equality.

#### Method

## **Research Design and Procedure**

Data from the present study were drawn from the Dutch Health Behaviour in School-aged Children (HBSC) survey. Data were collected during the school year of 2013/2014. The HBSC survey is performed as part of the World Health Organization (WHO) cross-sectional study focusing on social context of young people's health. First, sample randomization was performed on schools selected from an all-school list which provided both primary and secondary education in the Netherlands. This resulted in the participation of 78 primary schools and 67 secondary schools with a response rate of 61%, respectively 40% (Kuyper, de Roos, Iedema & Stevens, 2016). Kuyper et al. (2016) added that the reason for school nonresponses is generally associated with the fact that they were already involved in other studies (47%).

Self – report anonymous questionnaires were used for survey administration. Parents of the adolescents were informed by letter about the study. They were being asked to inform the

school in case they did not agree with the participation of their child in the study. This procedure was established on the decision of the Ethical Advisory Committee in accordance with the Dutch Law (Kuyper, de Roos, Iedema & Stevens, 2016).

## **Participants**

A total of 7,279 adolescents participated in the Dutch HBSC study. However, the focus of the study was attitudes towards LGB, so only adolescents that responded on this question (5360) were selected as a sample. The final sample of 5360 participants ranged from 9 to 18 years old (M = 13.83, SD = 1.63). Further, the gender was divided as follows: 78.3% girls and 21.7% boys.

#### **Measures**

Attitudes towards homosexuality. Attitudes towards homosexuality was assessed by a 4-item scale. The first item concerns the attitudes towards LGB people as part of one's social group. Participants were asked if 'Gay boys and lesbians can be my friends/part of my social group'. The second item was about how participants feel when they see two people kissing each other. Therefore, the participants were asked if 'I think it is gross when a boy and a girl kiss each other'. The third and fourth item concerned how participants feel regarding two boys, two girls, respectively kissing. They were asked to rate how they feel about two persons kissing each other: 'I think it its gross when two boys kiss each other' and 'I think it is gross when two girls kiss each other'. Items were rated on a 6-point Likert scale ranging from I ='strongly agree' to S ='strongly disagree' and S ='never thought about it'. The sixth possible answer was recorded as missing value. Higher scores indicated more positive attitudes towards homosexuality. The reliability of the scale of attitudes towards homosexuality was .74, as indicated by Cronbach's alpha.

**Religiosity.** Religiosity was measured with a 2-item scale. The first item measured if the respondent was raised in a certain religion: 'Are you raised in a certain faith?'. The item had 11 possible answers: 'Yes, Roman-Catholic, Christian, Protestant or reformed', 'Yes, Muslim', 'Yes, Jewish', 'Yes, Buddhist', 'Yes, Hindustani', 'Yes, Jehovah Witness', 'Yes, other', 'I do not know', "No, not raised in faith", "Not filled in", "Unclear which belief". The second item concerned the perspective of the respondent regarding the importance of religion: 'How important is religion to you?' The item was measured on a Likert scale: 0 = I was not raised in faith', I = N at all important', 2 = 'Not that important', 3 = 'Somewhat important' and 4 = 'Very important'. Because the study is not measuring the influence of different religions towards attitudes towards homosexuality, the first item was recorded as: 'Yes, Roman-Catholic, Christian, Protestant or Reformed', 'Yes, Muslim', 'Yes, Jewish', 'Yes, Buddhist', 'Yes, Hindustani', 'Yes, Jehovah Witness', I = Yes, other' and O = No, not raised in faith'. The remaining items 'I do not know', 'Not filled in' and 'Unclear which belief' were coded as missing values. To code the final religiosity variable, we took the mean of the two items. Higher scores indicated more religiosity. The reliability of the scale of religiosity was .63, as indicated by Cronbach's alpha.

Reported gender equality. Reported gender equality was assessed with three items: 'Men and women should do equal amounts of housework', 'Men and women should take equal care of the children' and 'Men and women should do equal amounts of paid work'. The three items were rated on 6-point Likert scale ranging from I ='strongly agree' to S ='strongly disagree' and S ='never thought about it'. The sixth possible answer was recorded as a missing value. Higher scores indicated that participants had more reported gender equality. The reliability of the scale of reported gender equality was .77, as indicated by Cronbach's alpha.

**Education level.** Education level was measured by asking the participants which school level they are following. The item had 4 possible answers: 1=VMBO-b/t, 2=VMBO-t/HAVO, 3=HAVO/VWO, 4=VWO. Higher scores indicated a higher educational level.

Covariates. The variables that the study controlled for are: sexual orientation, age and gender. Sexual orientation was measured asking 'What gender are you attracted to?'. The possible answers were: 1='I like boys', 2='I like girls', 3='I like girls and boys' and 4='I do not know yet'. The last answer was recorded as a missing value. To determine whether participants were straight, gay, lesbian, or bisexual, we took the following steps. We created a new variable where 1=straight and 2=gay, lesbian or bisexual where gender was taken into consideration under the condition "If".

## **Data Analysis**

Data analyses were conducted using SPSS Statistics version 25. After coding all the variables, the data set was checked for missing values. First, descriptive statistics for dependent variable (attitudes towards homosexuality), independent variable (religiosity) and moderators (education level and reported gender equality) were conducted. Relationships between the variables were investigated by using Spearman correlation coefficient. Spearman correlation was used as in the preliminary analyses, the assumption of normality was violated for all the variables.

Further, to test the hypothesis, hierarchical linear regression analyses were conducted. Sexual orientation and age were included as control variables. The analyses included terms for associations between religiosity and a) reported gender equality, b) education level. Because the variable sexual orientation was categorical, a dummy variable was created with straight as the reference category. The continuous predictor variables were centred to prevent multicollinearity

and then the interactions variables were created. Even though the variables deviated from a normal distribution, no correction has been made because of the large sample size.

#### **Results**

# **Descriptive Statistics**

Table 1 shows descriptive statistics for the main variables. The mean for attitudes towards homosexuality 3.76~(SD=.93) and reported gender equality 3.95~(SD=.82) were rather high as the maximum score is 5.00. This means that this sample tended to have higher positive attitudes towards LGB and high reported gender equality. Another important finding is that the mean for religiosity is .94~(SD=.89). Compared to the maximum religiosity score which is 4.00, this mean shows that this sample scored quite low at religiosity. Further, while the education level and sexual orientation are balanced in the present sample, gender is not.

Table 1.

Descriptive Statistics for Attitudes towards homosexuality, Religiosity, Reported gender equality, Age, Education level, Sexual orientation and Gender

Variable	N	M	SD	Minimum	Maximum
Attitudes towards homosexuality	6486	3.74	.93	1.00	5.00
Religiosity	6467	.86	.89	.00	4.00
Reported gender equality	4793	3.94	.82	1.00	5.00
Age	6486	13.76	1.64	9.91	18.74
Educational Level	4987	2.51	1.07	1.00	4.00
Variable	N	%		Minimum	Maximum
Sexual orientation	6269			1.00	2.00
Straight (%)		5	50 %		
Gender					
Boys (%)	5360	2	1.7%	1.00	2.00

To assess the strength and direction of the linear relationships between the key study variables, Spearmen correlation coefficient was used (Table 2). We found a significative correlation between attitudes towards homosexuality, religiosity ( $r_s = -.21$ , p < .001) and education ( $r_s = .12$ , p < .001). This correlation suggests that adolescents who were more religious tend to have more negative attitudes towards homosexuality, while higher educated students have more positive attitudes towards homosexuality. However, there is no statistically significant correlation between participants' sexual orientation and religiosity. Moreover, attitudes towards homosexuality are significantly positively correlated to reported gender equality ( $r_s = .16$ , p<.001). This means that adolescents who have more positive attitudes towards homosexuality also have more positive attitudes towards gender equality. However, it was found a positive correlation between attitudes towards LGB and straight sexual orientation ( $r_s = .16$ , p = .001), meaning that straight people have more positive attitudes towards LGB. It is important to mention though, that coefficients vary between 0.10 and 0.24, therefore the correlations are weak. Another important result is that the correlation between reported gender equality and religiosity is weak.

Table 2. Spearmen correlation for all variables

1. Attitudes towards Homosexuality       1         2. Religiosity      21** 1         3. Reported gender equality       .16**05** 1         4. Education level       .12**03**04** 1         5. Sexual orientation straight       .16** .00 .21**03* 1         6. Age       .08**04*03*14**00 1         7. Gender male      10* .04**0070** 1	Measure	1	2	3	4	5	6	7
	<ol> <li>Religiosity</li> <li>Reported gender equality</li> <li>Education level</li> <li>Sexual orientation<sup>straight</sup></li> <li>Age</li> </ol>	.16** .12** .16** .08**	05** 03** .00 04*	04** .21** 03*	03* 14**	00	1 70**	1

<sup>\*</sup>p < .05. \*\*p < .01.

Relationships between attitudes towards homosexuality and religiosity and moderation of reported gender equality and education level

To test the hypothesis a hierarchical linear regression was conducted to predict attitudes towards homosexuality based on age, gender, sexual orientation, educational level and reported gender equality. As can be seen in Table 3, the first step in the model was significant ( $R^2 = 0.48$ . p<0.001) where straight sexual orientation ( $\beta$ =.218, SE=.114, p<.001) significantly predicted attitudes more positive towards homosexuality. The second step was significant as well  $(R^2 =$ 0.133, p < 0.001). Religiosity ( $\beta = -.222$ , SE= .014, p < 001), educational level ( $\beta = .111$ , SE= .011, p<001) and reported gender equality ( $\beta$ = .120, SE= .015, p<001) significantly predicted attitudes towards homosexuality. Therefore, the first hypothesis of the study has been confirmed, religiosity was negatively linked with negative attitudes towards homosexuality. In the third step  $(R^2 = 0.134, p < 0.001)$  the interactions were added to test the moderation of reported gender equality and educational level. Thus, the interaction effect of reported gender equality ( $\beta$ = -.010, SE= .022, p=.608) was not significant, while the interaction between educational level and religiosity ( $\beta$ = .038, SE= .013, p<.05) was significant. Third hypothesis has been confirmed. For all the steps gender could not be tested as covariate since there were no valid cases for the variable LGB attitudes for male respondents.

Table3
Results of the linear regression analysis on the relationship between religiosity and attitudes towards homosexuality moderated by education level and reported gender equality

	Attitudes towards homosexuality						
		В	SE	β	$\mathbb{R}^2$	Sig. (p)	
Step 1					0.48		
•	Sexual orientation <sup>straight</sup>	.377	.025	.218		.000	
	Age	.015	.009	.022		.121	
					.133		
Step 2							
	Sexual orientation <sup>straight</sup>	.358	.024	.207		.000	
	Age	.024	.009	.037		.008	
	Religiosity	222	.014	222		.000	
	Educational Level	.111	.011	.138		.000	
	Reported Gender Equality	.120	.015	.114		.000	
					.134		
Step 3	Sexual orientantion <sup>straight</sup>	.356	.024	.206		.000	
	Age	.024	.009	.037		.008	
	Religiosity	223	.014	223		.000	
	Educational Level	.112	.011	.139		.000	
	Reported Gender Equality	.120	.015	.114		.000	
	R x Education level	.035	.013	.038		.005	
	R x Reported gender equality	.007	.016	.006		.662	

<sup>\*</sup>p < .05., R = religiosity

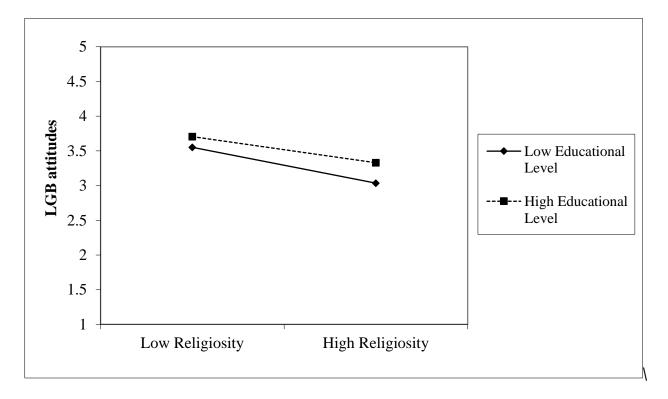


Figure 2. Interaction effect between religiosity and educational level

## **Discussion**

The aim of the present study was to examine the relation between religiosity and attitudes towards homosexuality and to test whether this relation is moderated by education level and reported gender equality in a Dutch adolescent sample. Findings indicated that higher religiosity was indeed related to more negative attitudes towards homosexuality. Additionally, no interaction effects have been found between religiosity and reported gender equality, while the interaction between religiosity and educational level was significant. In other words, the link between religiosity and LGB attitudes did not change neither when reported gender equality were low or high. However, main effects for both reported gender equality and educational level were found.

## Religiosity and attitudes towards homosexuality

A higher religiosity indicated more negative attitudes towards homosexuality. These findings are also consistent with results of prior research that suggested that religiosity is indeed linked to negative LGB attitudes (Barringer, Gay & Lynxwiler, 2013; Finlay & Walther, 2003; Jackle & Wenzelburger, 2015; Veenvliet, 2008). Additionally, the fact that the results are consistent with the hypothesis show that this link is also significant among adolescents in the Netherlands.

One way to explain these findings why higher religiosity means more negative LGB attitudes is through Crandall and Eshleman's (2003) justification-suppression model of the expression and experience of prejudice. The model takes all personality traits, attitudes that correlate with prejudice "not as causes but as beliefs that serve as justifiers of prejudice" (Crandall & Eshleman, 2003, p.416). Further, the main concepts of the model are genuine prejudice that can be influenced by justification factors or suppression factors and that can result in supressed or experienced prejudice. The genuine prejudice is defined as "an authentically negative reaction that is usually not directly accessible but that is primary and powerful" (Crandall & Eshleman, 2003, p.416). More specifically, the model argues that if genuine prejudice exists within one person, it can be supressed or justified by some factors. Later on, this can result in expression or prejudice respectively suppression of prejudice. In the context of this study, religiosity can be a justification factor for expressing prejudice towards LGB community. Specifically, when prejudice towards LGB is seen compatible with religious beliefs, conforming to Crandall and Eshleman's (2003) justification – suppression model, people will express the prejudice, respectively the negative attitudes towards homosexuality.

Thus, even though the link between religiosity and attitudes towards homosexuality is well-known, for future research it would be interesting to explore not only this link, but which

aspects of religiosity are responsible for negative attitudes towards homosexuality. Moreover, given the fact that religiosity at adolescents may change due to the typical separation of childhood beliefs and parental influences (Schweitzer, 2000) it is recommended for future research to test whether parents' negative attitudes towards homosexuality influence adolescents' attitudes towards homosexuality (Calzo & Ward, 2009).

## **Education level moderation**

In the present study education level was found to be a moderator in the relation between religiosity and attitudes towards homosexuality. As a result, the data from the present study strengthen the knowledge of the link between education and LGB attitudes. These findings are consistent with other studies that argues that education counts as a reason for why attitudes towards homosexuality are changing (Kozloski, 2010; Loftus, 2001).

One explanation lies in Kozloski (2010) study where he tested education in relation with moral acceptance and social tolerance of LGB. Moral acceptance refers to the level to which people believe it is wrong to be lesbian, gay or bisexual, and social tolerance refers to the level to which people acknowledge and respect lesbian, gay or bisexual individuals even though they might believe it is wrong (Kozloski, 2010). The results showed that while moral acceptance is related to religion and political views, social tolerance is related to the level of education. As a result, the higher educated people are, the more likely they are to tolerate LGB individuals even though it is against their moral beliefs.

Thus, the present paper shows that level of education is indeed important when it comes to attitudes towards homosexuality. However, future research directions should be taken into consideration. For example, as Ohlander, Batalova and Treas (2005) suggest, the higher educated

students may have other sources of information that exposes them to new ideas, information that might not be available in schools. Other variables therefore require further models to be tested.

## Reported gender equality - lack of moderation

The previously discussed relation between religiosity and attitudes towards homosexuality did not differ neither for adolescents who scored high on reported gender equality, neither for those who scored low. It was expected that reported gender equality to be a moderator for the link between religiosity and attitudes towards homosexuality as literature suggested that more religious people have a more traditional view on gender roles (Lottes & Kuriloff, 1992) and people with positive LGB attitudes a more modern view (Inglehart, Ponrain & Inglehart, 2017). However, the present study showed that there is a main effect of reported gender equality but no moderation.

One explanation for the lack of moderation result stays in the fact that the data are from the Netherlands which is known to have one of the highest levels of gender equality in the world (Tesch – Romer, Motel-Klingebiel & Tomasik, 2008; Wernet, 2016). Moreover, F. Inglehart, Ponarin and C. Inglehart (2017) concluded that high levels of religiosity play a bigger role in societies where pro-fertility values are a norm and where there are low levels of existential security, whereas in countries with an already obtained high levels of existential security religiosity is losing its power. The Netherlands is a one of the countries with high levels of existential security (F. Inglehart, Ponarin & C. Inglehart, 2017). Adding to that, Pollack (2015) argued that religion did not lose its meaning in countries of Western Europe, it just changed its shape.

Thus, for future research it would be important to do a country comparison of this model. Is the fact that the data are from the Netherlands the reason why reported gender equality is not a moderator?

## **Strengths and Limitations**

The present study has several strengths. Instead of focusing on adults, this study is one of the few that analysed the link between religiosity and attitudes towards homosexuality and the moderation of education level and reported gender equality. Moreover, a national representative sample from The Netherlands was used. Nonetheless, several limitations of this study need to be taken into consideration.

Firstly, although this large-scale sample is considered representative for the Dutch adolescents, the study is based on a cross-sectional design. Therefore, the study did examine the plausibility of the hypothesized relation, but it did not test causality. A longitudinal study would be more helpful in this direction. Moreover, in the relationship between attitudes towards homosexuality and religiosity reverse causality may play a role. Secondly, the religiosity was measured only with a two-item scale. The questions measured participants' perspective on how high their religiosity is and religiosity can mean something different for each of them. Adding to that, it would be recommended in the future studies measuring religiosity to be more objective so that construct validity can increase. Measuring how many times per month one is going to church can be an example. A third limitation is that the study measured attitudes and not behaviour. As Ajzen and Fishbein (2005) mention, it is only when the motivation to control the behaviour is low, the attitudes predict indeed a behaviour. Therefore, as they suggest, is the study of the attitudes towards an object and not the study of attitudes towards a behaviour or behavioural intentions a limitation. It is important to advance in research if we want to understand more

about LGB community discrimination. A forth limitation is the fact that the attitudes were measure towards homosexuality in general, and not towards lesbians, gays and bisexuals separately. Some members of the LGB community may face more negative attitudes than the others.

## **Implications**

To my knowledge, this is one of the first to explore the link between religiosity and attitudes towards homosexuality at adolescents in the Netherlands and the moderation of reported gender equality and level of education. It can be concluded that indeed there is a link between religiosity and attitudes towards homosexuality and that educational level is a moderator, while reported gender equality is not.

Based on the results of the study, both theoretical and practical implications should be considered. Further research should not only explore more variables that shape attitudes towards homosexuality, but they should explore what activates the negative behaviours towards LGB community. Moreover, transgender people should be included in the studies. Reported gender equality is not moderators in the relation between religiosity and attitudes towards homosexuality but it has a main effect, thing which should be explored further as well. The moderation of educational level should also be explored further. Achieving a bigger picture of how variables that are related to attitudes towards homosexuality are linked, we can enact educational efforts to reduce prejudice towards LGB community.

#### References

- Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. *The handbook of attitudes*, 173(221), 31. doi:
- Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and social psychology*, *5*(4), 432. doi: 10.1037/h0021212
- Aosved, A. C., & Long, P. J. (2006). Co-occurrence of rape myth acceptance, sexism, racism, homophobia, ageism, classism, and religious intolerance. *Sex roles*, *55*(7-8), 481-492. doi: 10.1007/s11199-006-9101-4
- Barringer, M. N., Gay, D. A., & Lynxwiler, J. P. (2013). Gender, religiosity, spirituality, and attitudes toward homosexuality. *Sociological Spectrum*, *33*(3), 240-257. doi: 10.1080/02732173.2013.732903
- Batson, C. D. (1976). Religion as prosocial: Agent or double agent?. *Journal for the Scientific* study of Religion, 15, 29-45. doi: 10.2307/1384312
- Batson, C. D., & Burris, C. T. (1994). Personal religion: Depressant or stimulant of prejudice and discrimination. In The psychology of prejudice: *The Ontario symposium* (Vol. 7, pp. 149-169). Hillsdale, NJ: Erlbaum.
- Brown, M. J., & Henriquez, E. (2008). Socio-demographic predictors of attitudes towards gays and lesbians. *Individual Differences Research*, *6*(3), 193-202.
- Calzo, J. P., & Ward, L. M. (2009). Contributions of parents, peers, and media to attitudes toward homosexuality: Investigating sex and ethnic differences. *Journal of Homosexuality*, 56(8), 1101-1116. doi: 10.1080/00918360903279338
- Collier, K. L., Horn, S. S., Bos, H. M., & Sandfort, T. G. (2015). Attitudes toward lesbians and

- gays among American and Dutch adolescents. *The Journal of Sex Research*, 52(2), 140-150. doi: 10.1080/00224499.2013.858306
- Crandall, C. S., & Eshleman, A. (2003). A justification-suppression model of the expression and experience of prejudice. *Psychological bulletin*, *129*(3), 414.
- Doebler, S. (2015). Relationships between religion and two forms of homonegativity in Europe—A multilevel analysis of effects of believing, belonging and religious practice.

  PloS one, 10(8), e0133538. doi: 10.1371/journal.pone.0133538
- Ellison, C. G., Acevedo, G. A., & Ramos-Wada, A. I. (2011). Religion and attitudes toward same-sex marriage among US Latinos. *Social Science Quarterly*, 92(1), 35-56. doi: 10.1111/j.1540-6237.2011.00756.x
- Farnworth, M., Longmire, D. R., & West, V. M. (1998). College students' views on criminal justice. *Journal of Criminal Justice Education*, *9*(1), 39-57. doi: 10.1080/10511259800084171
- Feng, Y., Lou, C., Gao, E., Tu, X., Cheng, Y., Emerson, M. R., & Zabin, L. S. (2012).

  Adolescents' and young adults' perception of homosexuality and related factors in three Asian cities. *Journal of Adolescent Health*, 50(3), S52-S60. doi: 10.1016/j.jadohealth.2011.12.008
- Finlay, B., & Walther, C. S. (2003). The relation of religious affiliation, service attendance, and other factors to homophobic attitudes among university students. *Review of Religious Research*, 44(4), 370-393. doi:10.2307/3512216
- Gill, D. L., Morrow, R. G., Collins, K. E., Lucey, A. B., & Schultz, A. M. (2006). Attitudes and sexual prejudice in sport and physical activity. *Journal of Sport Management*, 20(4), 554-564. doi:10.1123/jsm.20.4.554

- Goldscheider, F., Goldscheider, C., & Rico-Gonzalez, A. (2014). Gender equality in Sweden:

  Are the religious more patriarchal?. *Journal of Family Issues*, *35*(7), 892-908. doi:

  10.1177/0192513X14522236
- González-Guarda, R. M., McCabe, B. E., Leblanc, N., De Santis, J. P., & Provencio-Vasquez, E. (2016). The contribution of stress, cultural factors, and sexual identity on the substance abuse, violence, HIV, and depression syndemic among Hispanic men. *Cultural Diversity and Ethnic Minority Psychology*, 22(4), 563-571.
- Harbaugh, E., & Lindsey, E. W. (2015). Attitudes toward homosexuality among young adults:

  Connections to gender role identity, gender-typed activities, and religiosity. *Journal of homosexuality*, 62(8), 1098-1125. doi: 10.1080/00918369.2015.1021635
- Herek, G. M. (2002). Heterosexuals' attitudes toward bisexual men and women in the United States. *Journal of sex research*, 39(4), 264-274. doi: 10.1080/00224490209552150
- Herek, G. M. (2004). Beyond "homophobia": Thinking about sexual prejudice and stigma in the twenty-first century. *Sexuality Research & Social Policy*, 1(2), 6-24. doi: 10.1525/srsp.2004.1.2.6
- Hichy, Z., Coen, S., & Di Marco, G. (2015). The interplay between religious orientations, state secularism, and gay rights issues. *Journal of GLBT Family Studies*, 11(1), 82-101. doi: 10.1080/1550428X.2014.914005
- Hooghe, M., Claes, E., Harell, A., Quintelier, E., & Dejaeghere, Y. (2010). Anti-gay sentiment among adolescents in Belgium and Canada: A comparative investigation into the role of gender and religion. *Journal of homosexuality*, *57*(*3*), 384-400. doi: 10.1080/00918360903543071
- Hunsberger, B., & Jackson, L. M. (2005). Religion, meaning, and prejudice. *Journal of social*

- issues, 61(4), 807-826. doi: 10.1111/j.1540-4560.2005.00433.x
- Inglehart, R. F., Ponarin, E., & Inglehart, R. C. (2017). Cultural change, slow and fast: The distinctive trajectory of norms governing gender equality and sexual orientation. *Social Forces*, 95(4), 1313-1340. doi: 10.1093/sf/sox008
- Inglehart, R., & Welzel, C. (2005). *Modernization, cultural change, and democracy: The human development sequence*. Cambridge University Press.
- Jäckle, S., & Wenzelburger, G. (2015). Religion, religiosity, and the attitudes toward homosexuality—A multilevel analysis of 79 countries. *Journal of homosexuality*, 62(2), 207-241. doi: 10.1080/00918369.2014.969071
- Kozloski, M. J. (2010). Homosexual moral acceptance and social tolerance: are the effects of education changing?. *Journal of homosexuality*, *57*(10), 1370-1383. doi: 10.1080/00918369.2010.517083
- Kuyper, L., de Roos, S., Iedema, J., & Stevens, G. (2016). Growing up with the right to marry: sexual attraction, substance use, and well-being of Dutch adolescents. *Journal of Adolescent Health*, *59*(3), 276-282. doi: 10.1016/j.jadohealth.2016.05.010
- Lambert, E. G., Ventura, L. A., Hall, D. E., & Cluse-Tolar, T. (2006). College students' views on gay and lesbian issues: Does education make a difference?. *Journal of homosexuality*, 50(4), 1-30. doi: 10.1300/J082v50n04\_01
- Lindsey, L. L. (2015). Gender roles: A sociological perspective. Routledge.
- Loftus, J. (2001). America's liberalization in attitudes toward homosexuality, 1973 to 1998. American Sociological Review, 66(5), 762-782.
- Lottes, I. L., & Kuriloff, P. J. (1992). The effects of gender, race, religion, and political orientation on the sex role attitudes of college freshmen. *Adolescence*, 27(107), 675.

- Marsh, T., & Brown, J. (2011). Homonegativity and its relationship to religiosity, nationalism and attachment style. *Journal of Religion and Health*, *50*(*3*), 575-591. doi: 10.1007/s10943-009-9286-2
- Nunn, C. Z. (1973). Support of civil liberties among college students. *Social Problems*, 20(3), 300-310. doi: 10.2307/799594
- Nunn, C. Z., Crockett, H. J., & Williams, J. A. (1978). Tolerance for nonconformity. Jossey-Bass Incorporated Pub.
- Ohlander, J., Batalova, J., & Treas, J. (2005). Explaining educational influences on attitudes toward homosexual relations. *Social Science Research*, *34*(4), 781-799. doi: 10.1016/j.ssresearch.2004.12.004
- Pollack, D. (2015). Varieties of secularization theories and their indispensable core. The Germanic Review: *Literature, Culture, Theory, 90*, 60-79. doi: 10.1080/00168890.2015.1002361
- Pearce, L.D., (2015). Religion and Youth. In *International Encyclopedia of the*Social & Behavioral Sciences: Second Edition (pp. 298 306). Elsevier.

  doi:10.1016/B978-0-08-097086-8.84031-3
- Rowatt, W. C., Tsang, J. A., Kelly, J., LaMartina, B., McCullers, M., & McKinley, A. (2006).

  Associations between religious personality dimensions and implicit homosexual prejudice. *Journal for the Scientific Study of Religion*, 45(3), 397-406. doi: 10.1111/j.1468-5906.2006.00314.x
- Santona, A., & Tognasso, G. (2018). Attitudes toward homosexuality in adolescence: An Italian study. *Journal of homosexuality*, *65*(*3*), 361-378. doi: 10.1080/00918369.2017.1320165

  Schweitzer, F. (2000). Religious affiliation and disaffiliation in late adolescence and early

- adulthood: the impact of a neglected period of life. *Joining and leaving religion:*Research perspectives, 87-101.
- Sicard, S., Mayet, A., Duron, S., Richard, J. B., Beck, F., Meynard, J. B., ... & Marimoutou, C. (2016). Factor associated with risky sexual behaviors among the French general population. *Journal of Public Health*, *39*(3), 523-529. doi: 10.1093/pubmed/fdw049
- Smith, T. W. (2011). Cross-national differences in attitudes towards homosexuality.
- Tesch-Römer, C., Motel-Klingebiel, A., & Tomasik, M. J. (2008). Gender differences in subjective well-being: Comparing societies with respect to gender equality. *Social Indicators Research*, 85(2), 329-349. doi: 10.1007/s11205-007-9133-3
- Tsypes, A., Lane, R., Paul, E., & Whitlock, J. (2016). Non-suicidal self-injury and suicidal thoughts and behaviors in heterosexual and sexual minority young adults. *Comprehensive psychiatry*, 65, 32-43. doi: 10.1016/j.comppsych.2015.09.012
- United Nations Entity for Gender Equality and the Empowerment of Women. (2001). *Concepts and definitions*. Retrieved from: http://www.un.org/womenwatch/osagi/pdf/factsheet1.pdf
- Van den Akker, H., Van der Ploeg, R., & Scheepers, P. (2013). Disapproval of homosexuality:

  Comparative research on individual and national determinants of disapproval of homosexuality in 20 European countries. *International Journal of Public Opinion*Research, 25(1), 64-86. doi: 10.1093/ijpor/edr058
- Veenvliet, S. G. (2008). Intrinsic religious orientation and religious teaching: Differential judgments toward same-gender sexual behavior and gay men and lesbians. *The International Journal for the Psychology of Religion, 18(1)*, 53-65. doi: 10.1080/10508610701719348
- Wernet, C. A. (2016). The Impact of Secularity on Attitudes of Gender Equality: A Multi-Level

Analysis of 49 Nations. *Comparative Sociology*, *15*(4), 508-530. doi: 10.1163/15691330-12341397

- Whitley Jr, B. E. (2009). Religiosity and attitudes toward lesbians and gay men: A meta-analysis.

  \*International Journal for the Psychology of Religion, 19(1), 21-38. doi: 10.1080/10508610802471104
- Williams, S. G. (2017). Mental Health Issues Related to Sexual Orientation in a High School Setting. *The Journal of School Nursing*, *33*(5), 383-392. doi: 10.1177/1059840516686841