



**Lower Contraceptive Use among Adolescents with a Non-Western Migration Background  
in the Netherlands: The Explanatory Role of Attitudes regarding Gender Equality**

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### Abstract

Adolescents with a non-Western migration background in the Netherlands are less likely to use contraceptives than their native Dutch peers. Based on the assumption that the attitudes regarding gender equality of non-Western immigrant adolescents are strongly in line with the sexual double standard, this study examines whether their traditional gender attitudes can explain their lower contraceptive use (i.e., condom only, pill only and the dual method use). Cross-sectional, nationally representative data from the 2017 Dutch Health Behaviour in School-aged Children (HBSC) study were used. The sample included 773 sexually active adolescents aged 12-18 ( $M = 16.17$ ,  $SD = 1.34$ ). A mediation analysis was conducted. Results showed that adolescents with a non-Western migration background were less likely to report both pill use ( $OR = 0.29$  [0.12, 0.71]) and dual method use ( $OR = 0.20$  [0.08, 0.47]) than their native Dutch peers at last sexual intercourse. No difference was found for condom use. Attitudes regarding gender equality did not explain the association between migration background and contraceptive use. Therefore, research into other potential explanatory factors (such as sexual communication and family affluence) is needed. Alternatively, a different measuring instrument for attitudes regarding gender equality may yield different results.

*Keywords:* Contraceptive use, gender equality, attitudes, non-Western immigrants, adolescents, sexual double standard

### Samenvatting

Adolescenten met een niet-westerse migratieachtergrond in Nederland gebruiken minder vaak anticonceptie dan hun autochtone leeftijdsgenoten. Uitgaande van de veronderstelling dat de gendergelijkheid opvattingen van adolescenten met een niet-westerse migratieachtergrond sterk in lijn zijn met de seksuele dubbele standaard, wordt in deze studie onderzocht of hun traditionele opvattingen over gendergelijkheid een verklaring kunnen zijn voor hun lagere anticonceptiegebruik (d.w.z., alleen condoomgebruik, alleen pilgebruik en Double Dutch). Cross-sectionele, nationaal representatieve data uit de Nederlandse Health Behaviour in School-aged Children (HBSC) studie van 2017 werden gebruikt. De steekproef omvatte 773 seksueel actieve adolescenten in de leeftijd van 12-18 jaar ( $M = 16.17$ ,  $SD = 1.34$ ). Een mediatie-analyse werd uitgevoerd. De resultaten lieten zien dat adolescenten met een niet-westerse migratieachtergrond minder vaak het gebruik van alleen de pil ( $OR = 0.29$  [0.12, 0.71]) en Double Dutch ( $OR = 0.20$  [0.08, 0.47]) rapporteerden dan hun autochtone leeftijdsgenoten bij de laatste geslachtsgemeenschap. Er werd geen verschil gevonden voor condoomgebruik. Gendergelijkheid opvattingen gaven geen verklaring voor het verband tussen migratieachtergrond en anticonceptiegebruik. Daarom is onderzoek naar andere mogelijke verklarende factoren (zoals seksuele communicatie en gezinswelvaart) nodig. Ook zou een ander meetinstrument voor gendergelijkheid opvattingen andere resultaten kunnen opleveren.

*Sleutelwoorden:* Anticonceptiegebruik, gendergelijkheid, opvattingen, niet-westerse immigranten, adolescenten, seksuele dubbele standaard

## Introduction

Good sexual health among young people is one of the greatest public health concerns (Rutgers & Soa Aids Nederland, 2017; World Health Organization, 2017). Contraceptive use has always been relatively high among adolescents aged 12 to 25 in the Netherlands, according to the most recent figures from 2017 (Rutgers & Soa Aids Nederland, 2017). Approximately 93% used contraceptives during the first sexual intercourse and 80% with their most recent sex partner. Nevertheless, there are inequalities in contraceptive use between native Dutch adolescents and adolescents with a non-Western migration background. Pill use among non-Western immigrant adolescents is approximately two times lower during first sexual intercourse compared to native Dutch adolescents (Rutgers & Soa Aids Nederland, 2017; Stevens et al., 2018). Moreover, young women with a non-Western migration background use contraceptives less consistently with their most recent sex partner (Rutgers & Soa Aids Nederland, 2017). This results in an increased risk of sexually transmitted infections (STIs) and unwanted pregnancies when having sexual intercourse. In order to increase contraceptive use among non-Western immigrant adolescents in the Netherlands, it is essential to understand why they are less likely to use contraceptives. Surprisingly, evidence about why they have lower contraceptive use than their native peers is scarce. One potential explanation for the lower prevalence of contraceptive use among non-Western immigrant adolescents is that they hold more traditional attitudes when it comes to gender equality (Sánchez Guerrero & Schober, 2021; Stevens et al., 2018). Specifically, non-Western immigrant adolescents are more likely to believe that men should have more rights and opportunities in educational attainment, work and decision making than women (Galambos et al., 1985). Therefore, this study examines whether traditional attitudes regarding gender equality can explain why adolescents with a non-Western migration background in the Netherlands have lower contraceptive use.

The relationship between gender equality and contraceptive use can be explained by the “doing gender” perspective (West & Zimmerman, 1987), which approaches the choice to use contraceptives as a gendered decision. The doing gender perspective states that men and women “do” gender in everyday activities, according to socially constructed gender roles that assign how men and women are expected to behave (Bertotti, 2013; Fennell, 2011; Lachance-Grzela & Bouchard, 2010). Typically, women are expected to be sexually reactive, submissive, and passive, whereas men are expected to be sexually active, dominant, and to take sexual initiative. This is also referred to as the sexual double standard (Emmerink et al., 2015; Sanchez et al., 2012).

Young women who adhere to the sexual double standard, and thus hold more traditional attitudes regarding gender equality, can be expected to use contraceptives less often. In addition, young men who adhere to the sexual double standard, and thus hold more traditional gender attitudes, can be expected to use contraceptives less often. These young women do not dare to take the initiative in this respect: they do not dare to bring up contraceptives, carry a condom or use the pill (Bell, 2009; Fennell, 2011; Hillier et al., 1998). Moreover, these young men do not take the responsibility to discuss contraceptive use while they (may believe they) are in charge. In contrast, young women who have more egalitarian attitudes regarding gender equality are more likely to take a proactive role and to take responsibility themselves, so to use the pill or carry a condom. Additionally, young men who think more egalitarian about gender equality may be more willing to discuss contraceptive use and make it a joint decision. They may also be more aware of the fact if the pill is used.

Existing research indeed shows that adolescents with more traditional attitudes regarding gender equality were less likely to use contraceptives, in contrast to adolescents with more egalitarian gender attitudes (de Meyer et al., 2014; Pleck et al., 1993; Pulerwitz & Barker, 2007). The difference between condom, pill and dual use in relation to attitudes regarding gender equality has not been examined before. In addition, young women who regarded gender equality more traditionally had less condom use self-efficacy (i.e., beliefs in own ability to purchase and use condoms) (Curtin et al., 2011). Furthermore, there is research that focused on adolescents' contraceptive beliefs, which is defined in terms of relationship communication, birth control access, and birth control responsibility (Grose et al., 2013). This study showed that more traditional attitudes regarding gender equality were related to riskier contraceptive beliefs. This relationship was stronger for pill use than condom use. The above mentioned studies have been conducted in non-Western countries (de Meyer et al., 2014; Pulerwitz & Barker, 2007) or the United States (Curtin et al., 2011; Grose et al., 2013; Pleck et al., 1993), and not yet in Western European countries.

The three commonly used ways to protect one's sexual health among adolescents aged 12 to 25 in the Netherlands are condom only, pill only, and dual method use, also known as Double Dutch (Rutgers & Soa Aids Nederland, 2017). Double Dutch is the most effective way to protect yourself against both STIs and pregnancies (Willard & Steiner, 2002). Research showed that other contraceptive methods, such as intrauterine devices and implants, were barely used by this relatively young age group of 15-year-old females (Abma & Martinez, 2017; Rutgers & Soa Aids Nederland, 2017). The relationship between attitudes regarding gender equality and contraceptive use may be especially strong for pill use, since

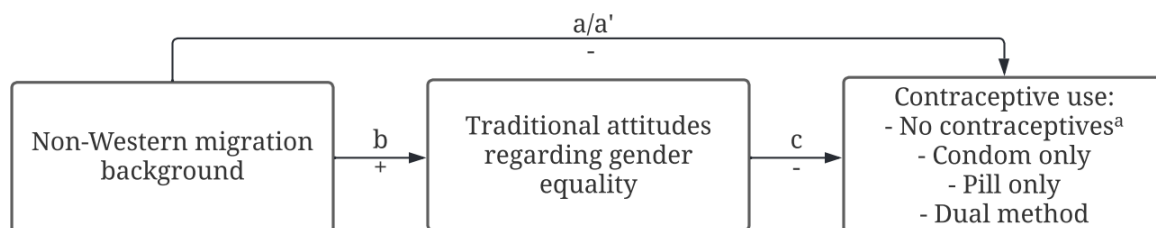
pill use is under the control of young women and they may feel more empowered when they hold more egalitarian attitudes regarding gender equality. Moreover, the pill can be arranged before sexual intercourse takes place. Hence, there is no need to negotiate about contraceptives with one's sex partner, which tends to be a sensitive and difficult topic, especially among adolescents (Abel & Fitzgerald, 2006). Therefore, it is expected that the relationship between attitudes regarding gender equality and contraceptive use is less strong for condom and dual use; despite a more gender-equal attitude, it can remain difficult to broach the subject at the time.

### Current Study

Contraceptive use among adolescents with a non-Western migration background is relatively low and, remarkably, there is no explanation for this yet. Based on the idea that traditional attitudes regarding gender equality are associated with lower contraceptive use (de Meyer et al., 2014; Pleck et al., 1993; Pulerwitz & Barker, 2007), the current study will investigate to what extent attitudes regarding gender equality explain lower contraceptive use among non-Western immigrant adolescents in the Netherlands compared to their native peers. The first hypothesis is that adolescents with a non-Western migration background are less likely to use contraceptives (Figure 1, path a). The second hypothesis is that non-Western immigrant adolescents hold more traditional attitudes regarding gender equality than their native Dutch peers (path b). The third hypothesis is that traditional gender attitudes are associated with lower contraceptive use compared to egalitarian attitudes (path c). The fourth hypothesis is that the low contraceptive use among non-Western immigrant adolescents can be explained by the fact they regard gender equality more traditionally than their native Dutch peers - thus that path a became weaker after adding attitudes regarding equality to the model (path a'). Moreover, especially strong effects are expected for the pill, as compared to condom and dual method use.

### Figure 1

*Conceptual Model of the Current Study*



*Note.* <sup>a</sup> No condom and pill use.

## Methods

### Data

Data were analysed from the 2017 Health Behaviour in School-aged Children (HBSC) study. The HBSC study is an international, cross-sectional study on the health and health-related behaviours of young people (Stevens et al., 2018). In the Netherlands, the HBSC study is carried out by Utrecht University, the Dutch Institute for Mental Health and Addiction (Trimbos institute) and the Dutch Institute for Social Research (SCP). The research has been approved by the Faculty Ethics Review Committee of the Faculty of Social and Behavioural Sciences at Utrecht University.

### Procedure

The HBSC study used a step-by-step sampling approach. The first step involved the random sampling of schools, taking into account the division of schools into urban and rural areas. In total, 232 secondary schools were approached and 85 schools finally participated. The non-response rates at the school level were 63% with the main reason being participation in other research. The non-response rate was slightly higher in schools in (large) cities compared to rural schools. Within each participating school, three to five classes (depending on school size) were randomly selected to participate. There was no difference in other school characteristics, such as pupil numbers and percentage of pupils with a migration background. Participant non-response rates were low (8%) and mainly because of illness.

Data were collected through school-based, anonymous online surveys in October and November 2017 (Inchley et al., 2018). Trained research-assistants attended each data collection to ensure sufficient support and assistance where required. Prior to the study, active consent was sought from participants and if participants were minors, passive parental consent was sought. Participants were assured of the anonymity and confidentiality of their responses.

The total Dutch HBSC sample included primary and secondary school pupils aged between 11 and 20. Participants from primary school were excluded from this study, since they were not asked about sexuality and their attitudes regarding gender equality. In the Netherlands, adolescents start secondary education when they are around 12 years old. Depending on the level of education, secondary school takes four (VMBO), five (HAVO) or six (VWO) years. Therefore, participants aged 11, 19 and 20 were considered as outliers and excluded from the data, as this study investigated a representative group of secondary school pupils aged 12-18. Moreover, the participants aged 17 and 18 are mainly doing HAVO and VWO, because HAVO is standard up to 17 years of age and VWO up to 18 years of age. This

means that these higher education levels are overrepresented in the current sample compared to the national average. The present analysis is limited to participants who indicated they had ever had sexual intercourse and who did not have a missing value on migration background.

### Sample Characteristics

The total Dutch HBSC sample consisted of  $N = 8980$  participants, of which  $N = 7392$  participants (82.3%) attended secondary school. 819 participants aged 12 to 18 years indicated that they had ever had sexual intercourse. Participants who had missing data on any analysis covariates were excluded from the analyses. The final sample consisted of 773 participants between 12 and 18 years old ( $M = 16.17$ ,  $SD = 1.34$ ) in secondary school that indicated that they had ever had sexual intercourse, of which 348 girls (45.0%). Most participants had a native Dutch background (84.5%) and were not religious (75.8%). Moreover, most participants reported medium (46.8%) or high (43.1%) family affluence. Table 1 shows the sample characteristics and the percentages of missing data, which were generally low.

**Table 1.**

#### *Sociodemographic Sample Characteristics*

	Total sample ( $N = 773$ )	Native Dutch adolescents ( $N = 653$ )	Non-Western immigrant adolescents ( $N = 120$ )
	%	%	%
Gender			
Female	45.0	46.2	38.3
Male	55.0	53.8	61.7
Age			
12	2.2	1.8	4.2
13	4.4	4.1	5.8
14	10.7	10.3	13.3
15	25.5	25.7	24.2
16	29.8	28.8	35.0
17	20.4	22.5	9.2
18	7.0	6.7	8.3



Educational level			
VMBO-b/k	21.0	20.4	24.2
VMBO-t/gl	22.6	21.6	28.3
HAVO	31.2	32.6	23.3
VWO	25.2	25.4	24.2
Family affluence			
Low	10.0	8.4	18.3
Medium	46.8	47.0	45.8
High	43.1	44.4	35.8
Missing	0.1	0.2	0.0
Family structure			
Living with both parents	64.3	65.1	60.0
Not living with both parents	35.3	34.5	40.0
Missing	0.4	0.5	0.0
Religion			
Not religious	75.8	81.9	42.5
Roman Catholic	6.5	5.8	10.0
Christian (Protestant, Reformed)	11.9	10.9	17.5
Islamic	4.8	0.8	26.7
Missing	1.0	0.6	3.3

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*Note.* Percentages may not total 100.0 because of rounding.

## Measurements

### *Contraceptive use*

Participants who indicated that they had ever had sexual intercourse, were asked two separate questions on whether the last time they had sexual intercourse they or their partner did use a condom and/or birth control pills. Response options were “yes”, “no”, and “don’t know”. The “don’t know” option was interpreted as missing. Participants who reported using both a condom and pill were classified as having used dual methods. This resulted in four different categories: no contraceptive use, condom only, pill only, and dual method use.

### *Attitudes regarding Gender Equality*

Attitudes regarding gender equality were measured with five items from the Attitudes toward Women Scale for Adolescents (AWSA; Galambos et al., 1985). The selection of these five items was based on a validation study that was conducted in four countries, including the Netherlands, in 2015 (Tel et al., submitted). The items were scored on a 5-point Likert scale (1 = not at all true to 5 = completely true). An example of an item was “Girls should be more concerned with becoming good wives and mothers than with building a career.” The scale score was conducted by adding up the answers and dividing by five and had an excellent reliability (Cronbach’s alpha = .93). A high score on this scale indicates a more egalitarian attitude regarding gender equality. Due to lack of normality in the current study, a new dichotomous variable was computed of the following groups: “traditional attitudes regarding gender equality” (< 4) and “egalitarian attitudes regarding gender equality” (≥ 4).

### *Migration Background*

The participants’ migration background was measured by asking in which country the participant, his/her father, and his/her mother were born. The response options were “Netherlands”, “Morocco”, “Turkey”, “Suriname”, “Germany”, “Aruba, Bonaire, Curaçao, Saba, St Eustatius or St Maarten (“former Netherlands Antilles”)", and “In another country, namely: ...”. A participant has a migration background when at least one of both parents was not born in the Netherlands. Next, a distinction is made between participants from the Netherlands and participants with a non-Western migration background, according to the Central Bureau of Statistics classification in 2017.

### *Control Variables*

**Gender.** The participants were asked to indicate whether they were a boy or a girl.

**Age.** Participants were asked to indicate their month and year of birth, after which their age was calculated.

**Educational level.** The Dutch educational system has four educational tracks, ranging from vocational training (VMBO-b/k) to higher academic education (VWO). Participants were asked to indicate their educational track in the questionnaire.

**Family affluence.** The participants’ socioeconomic status was measured via the Family Affluence Scale version 3 (FAS-III; Currie et al., 2008) which asks about possessions, home characteristics, and holidays. After this, participants were classified into families with low, medium, or high affluence.

**Family structure.** Based on the question of who resides in their primary household, the family structure of adolescents was determined. Answers were recoded in a dichotomous

variable, distinguishing between participants who lived with both biological parents and those who did not.

**Religion.** Participants were asked if they were raised with a certain religion. The four largest categories in the sample were then distinguished: not religious, Roman Catholic, Christian (Protestant or Reformed), and Islamic.

### **Data Analysis**

Analyses were conducted using IBM SPSS Statistics. First, the descriptive statistics of the sample were examined. The second step entailed assessing whether the variation in contraceptive use of participants with a native Dutch background and participants with a non-Western migration background can be explained by attitudes regarding gender equality. Thus, a mediation effect was tested by the Baron and Kenny method (Baron & Kenny, 1986). This method consists of three steps of regression analyses to test different pathways of the mediation model. Condom use, pill use, and dual method use were compared with no contraceptive use (i.e., no condom and pill use) in the regression analyses. First, a multinomial logistic regression was used to examine whether having a non-Western migration background is associated with young peoples' contraceptive use. Next, it was examined whether a non-Western migration background is related to attitudes regarding gender equality with a binary logistic regression. Then the relationship between attitudes regarding gender equality and contraceptive use was examined with a multinomial logistic regression. Subsequently, if all regression analyses show a significant association, attitudes regarding gender equality would be added to the main model (the association between migration background and contraceptive use) to see if this association became weaker when the mediator was added. When (partial) mediation was found, the Sobel test was used to establish whether the mediation effect was significant (Sobel, 1982). Assumption testing conducted prior to all analyses did not indicate any violations.

## **Results**

### **Descriptive Statistics**

The descriptive statistics of the variables of interest are shown in Table 2. Overall, 8.7% had used no contraceptives at last sexual intercourse; 16.4% had used a condom only, 24.1% the pill only, 27.0% dual methods. Moreover, 1.3% did not know if they used a condom and 10.7% did not know if they used the pill at last sexual intercourse. In addition, 11.8% of the participants did not answer these questions. Thus, the number of missing data regarding contraceptive use is rather high, especially among non-Western immigrant participants (17.5%). This may be due to the sensitive nature of these questions, especially

for younger participants who may not have felt comfortable providing information about this topic. The percentage of participants who say they have ever had sexual intercourse naturally increases with age. Of the 12-year-olds, less than 1.5% have ever been sexually active; this percentage rises to 24.1% among 16-year-olds and 45.4% among 18-year-olds. Furthermore, boys (13.4%) are more likely to report they have had sexual intercourse than girls (10.3%). Additionally, most participants held egalitarian attitudes regarding gender equality (65.6%).

**Table 2.**

*Descriptive statistics*

	Total sample ( <i>N</i> = 773)	Native Dutch adolescents ( <i>N</i> = 653)	Non-Western immigrant adolescents ( <i>N</i> = 120)
	%	%	%
<b>Contraceptive use at last sexual intercourse</b>			
No contraceptive use	8.7	7.4	15.8
Condom only	16.4	16.5	15.8
Pill only	24.1	25.6	15.8
Dual methods	27.0	29.1	15.8
Don't know condom use	1.3	0.9	3.3
Don't know pill use	10.7	9.8	15.8
Missing	11.8	10.7	17.5
<b>Attitudes regarding gender equality</b>			
Traditional	34.3	32.0	46.7
Egalitarian	65.6	67.8	53.3
Missing	0.1	0.2	0.0

Note. Percentages may not total 100.0 because of rounding.

***Relationship between Migration Background and Contraceptive Use***

Table 3 shows the results of the multinomial logistic regression analysis regarding the association between migration background and the different contraceptive methods. First, there is no difference in condom use between adolescents with a native Dutch and a non-

Western migration background ( $p = .050$ ). Second, adolescents with a non-Western migration background were less likely than native Dutch adolescents to use a pill ( $OR = 0.29$  [0.12, 0.71]) or dual methods ( $OR = 0.20$  [0.08, 0.47]) at last sexual intercourse.

Overall, young women were more likely to report the use of contraceptives compared to young men. Moreover, the likelihood of contraceptive use increased with adolescents' age and family affluence. In addition, adolescents at VMBO-t/gl and VWO reported higher condom use as compared to adolescents at VMBO-b/k.

**Table 3.***Results of Multinomial Logistic Regression Predicting Contraceptive Use (N = 773)*

	Condom only <sup>a</sup>		Pill only <sup>a</sup>		Dual methods <sup>a</sup>	
	<i>b</i> (SE)	OR [95% CI]	<i>b</i> (SE)	OR [95% CI]	<i>b</i> (SE)	OR [95% CI]
Migration background (native Dutch is ref.)	-7.55 (2.01)	0.42 [0.17, 1.00]	-1.24 (0.46)	0.29 [0.12, 0.71]**	-1.62 (0.44)	0.20 [0.08, 0.47]***
Female (male is ref.)	0.96 (0.35)	2.61 [1.32, 5.16]**	1.28 (0.35)	3.59 [1.82, 7.07]***	0.97 (0.33)	2.63 [1.37, 5.02]*
Age	0.41 (0.13)	1.51 [1.17, 1.95]**	0.95 (0.14)	2.59 [1.96, 3.43]***	0.64 (0.13)	1.89 [1.47, 2.44]***
Educational level						
VMBO-b/k (ref.)	1.00		1.00		1.00	
VMBO-t/gl	1.42 (0.49)	4.14 [1.58, 10.81]**	0.50 (0.49)	1.64 [0.63, 4.29]	0.10 (0.43)	1.10 [0.47, 2.58]
HAVO	0.90 (0.51)	2.46 [0.91, 6.65]	0.70 (0.48)	2.00 [0.79, 5.09]	-0.02 (0.44)	0.98 [0.42, 2.31]
VWO	1.43 (0.54)	4.19 [1.46, 11.98]**	0.50 (0.53)	1.64 [0.58, 4.64]	-0.023 (0.49)	0.80 [0.30, 2.09]
Family affluence						
Low (ref.)	1.00		1.00		1.00	
Medium	0.80 (0.51)	2.23 [0.82, 6.08]	1.02 (0.52)	2.78 [1.00, 7.65]*	0.89 (0.46)	2.44 [0.99, 6.01]
High	1.17 (0.54)	3.22 [1.13, 9.20]*	1.52 (0.55)	4.55 [1.56, 13.27]**	1.25 (0.49)	3.48 [1.33, 9.11]*
Living with both parents (not living with both parents is ref.)	-0.19 (0.36)	0.83 [0.41, 1.69]	-0.29 (0.36)	0.75 [0.37, 1.51]	-0.31 (0.34)	0.73 [0.38, 1.42]
Religion						
Not religious (ref.)	1.00		1.00		1.00	
Roman Catholic	-0.19 (0.63)	0.83 [0.24, 2.85]	-0.44 (0.66)	0.65 [0.18, 2.33]	0.43 (0.59)	1.54 [0.48, 4.87]
Christian (Protestant, Reformed)	0.13 (0.52)	1.14 [0.42, 3.14]	-0.37 (0.54)	0.69 [0.24, 1.98]	0.41 (0.49)	1.15 [0.58, 3.92]
Islamic	0.20 (0.85)	1.22 [0.23, 6.43]	0.19 (0.93)	1.21 [0.20, 7.57]	0.85 (0.82)	2.33 [0.47, 11.66]

Notes. CI = confidence interval, OR = odds ratio, ref. = reference group. <sup>a</sup>No contraceptives is reference category. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

***Relationship between Migration Background and Attitudes regarding Gender Equality***

In order to investigate if there is a difference in the attitudes regarding gender equality depending on migration background, a binary logistic regression analysis was conducted. As demonstrated in Table 4, there was no difference in attitudes regarding gender equality between native Dutch adolescents and their non-Western immigrant peers ( $p = .071$ ). However, some control variables significantly improved the model's predictive capability. Young women showed increased likelihood to hold egalitarian attitudes regarding gender equality in comparison to young men. Additionally, adolescents at HAVO and VWO reported egalitarian gender attitudes more often than adolescents at VMBO-b/k. Lastly, Islamic adolescents were more likely to hold traditional attitudes regarding gender equality compared to non-religious adolescents.

**Table 4.**

*Results of Binary Logistic Regression Predicting Attitudes regarding Gender Equality (N = 773)*

Variable	<i>b</i> (SE)	<i>p</i>	OR [95% CI]
Constant	-1.00		
Migration background (native Dutch is ref.)	0.11 (0.30)	.071	1.12 [0.62, 2.00]
Female (male is ref.)	2.03 (0.21)	< .001	7.59 [5.06, 11.39]
Age	-0.02 (0.08)	.747	0.98 [0.84, 1.31]
Educational level			
VMBO-b/k (ref.)	1.00		
VMBO-t/gl	0.50 (0.26)	.056	1.64 [0.99, 2.72]
HAVO	1.45 (0.28)	< .001	4.25 [2.48, 7.28]
VWO	2.24 (0.32)	< .001	9.38 [5.00, 18.00]
Family affluence			
Low (ref.)	1.00		
Medium	0.46 (0.31)	.142	1.58 [0.86, 2.92]
High	0.27 (0.32)	.392	1.32 [0.70, 2.46]
Living with both parents (not living with both parents is ref.)	0.09 (0.20)	.658	1.09 [0.74, 1.61]
Religion			

Not religious (ref.)	1.00		
Roman Catholic	-0.57 (0.37)	.119	0.57 [0.28, 1.16]
Christian (Protestant, Reformed)	-0.25 (0.29)	.385	0.78 [0.44, 1.37]
Islamic	-1.67 (0.51)	.001	0.19 [0.07, 0.51]

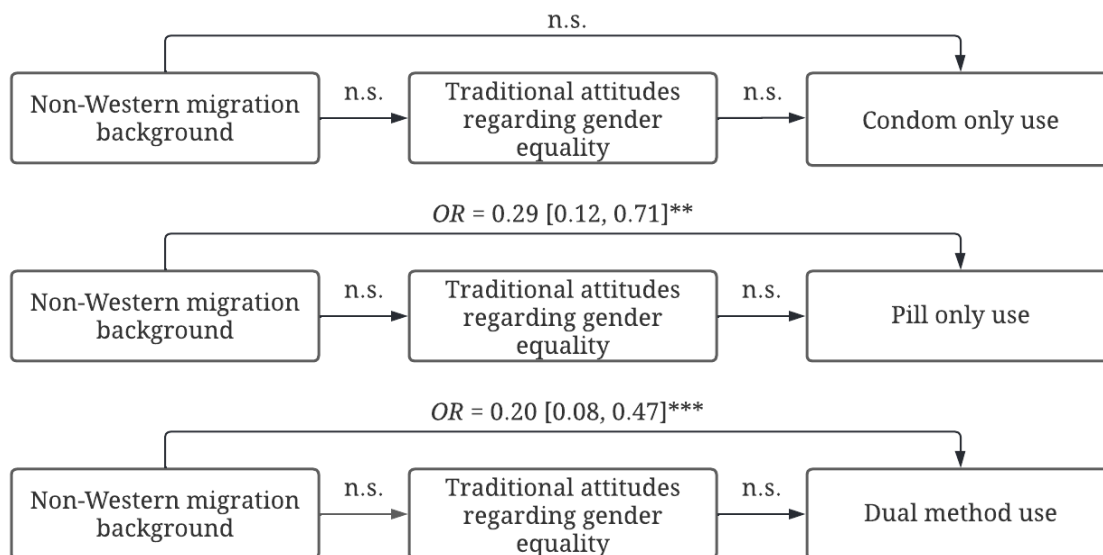
*Notes.* CI = confidence interval, *OR* = odds ratio, ref. = reference group, *SE* = standard error.

The omnibus model for the logistic regression analysis was statistically significant,  $\chi^2$  ( $df = 12$ ,  $N = 773$ ) = 238.75,  $p < .001$ , Cox and Snell  $R^2 = .27$ , Nagelkerke  $R^2 = .37$ . The model was 76.3% accurate in its predictions of attitudes regarding gender equality. Hosmer and Lemeshow test results confirmed that the model was a good fit for the data,  $\chi^2$  ( $df = 8$ ,  $N = 773$ ) = 3.89,  $p = .867$ .

### ***Relationship between Attitudes regarding Gender Equality and Contraceptive Use***

A second multinomial logistic regression analysis was conducted to investigate whether adolescents with traditional attitudes regarding gender equality used contraceptives less often. The results showed that there was no difference in the condom only ( $p = .928$ ), pill only ( $p = .360$ ) nor the dual method use ( $p = .859$ ) between adolescents with a traditional and egalitarian attitude regarding gender equality. Because the association between migration background and attitudes regarding gender equality and the association between these attitudes and contraceptive use were not significant, there could be no mediation and hence no Sobel test was performed. Thus, attitudes regarding gender equality did not explain the lower contraceptive use of non-Western immigrant adolescents compared to native Dutch adolescents. Figure 2 shows the models per contraceptive method.



**Figure 2***Final Model of the Results*

Note. \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Sensitivity Analyses**

Sensitivity analyses were conducted to check the robustness of the findings regarding pill and dual method use. The analyses were repeated including one extra category for contraceptive use, namely adolescents who did not know whether they used the pill. It can be expected that the “don’t know” option is more common among adolescents who hold more traditional gender attitudes, for example because these traditional gender attitudes may be linked to less openness in sexual communication (Holter, 2014). Pill use is under women's control, and the “don’t know” option could imply that young men may not have been aware of their sex partner's pill use, because of a lack of communication. Inclusion of the “don’t know” option however did not change the results for pill and dual use. This suggests that including adolescents who did not know if they used the pill in the model did not affect the results.

Sensitivity analyses were also conducted to check the robustness of the findings in relation to attitudes regarding gender equality. The analyses were repeated using the scale variable of the attitudes regarding gender equality, instead of the dichotomous variable. The scale variable would reflect the distribution of the attitudes of the adolescents better. In the case of the dichotomous variable, small differences between participants are lost, as participants are categorised as egalitarian or traditional using a selected cut-off point. The use

of the scale variable did however not change the results, which confirmed that dividing the adolescents into two groups (traditional gender attitudes and egalitarian gender attitudes) did not affect the results.

### **Discussion**

It is unknown why adolescents with a non-Western migration background have lower contraceptive use than native Dutch adolescents (Rutgers & Soa Aids Nederland, 2017; Stevens et al., 2018). It was assumed that traditional attitudes regarding gender equality are strongly in line with the sexual double standard (e.g., Emmerink et al., 2015; Fennell, 2011; Sanchez et al., 2012) and associated with lower contraceptive use (de Meyer et al., 2014; Pleck et al., 1993; Pulerwitz & Barker, 2007). Therefore, the current study aimed to examine whether these traditional attitudes regarding gender equality can explain why non-Western immigrant adolescents in the Netherlands have lower contraceptive use compared to native Dutch adolescents. The results demonstrate that adolescents with a non-Western migration background were less likely than native Dutch adolescents to report pill use and dual method use at last sexual intercourse. This difference was not found for condom use. However, attitudes regarding gender equality did not differ between native Dutch adolescents and their non-Western immigrant peers and contraceptive use did not differ between adolescents with egalitarian and traditional gender attitudes. Concluding, attitudes regarding gender equality did not explain the association between migration background and contraceptive use.

In line with previous studies (Rutgers & Soa Aids Nederland, 2017; Stevens et al., 2018), the findings of the current study show that adolescents with a non-Western migration background were less likely to report pill and dual method use compared to their native Dutch peers. As expected, the association was strongest for pill use. In addition, no difference was found for condom use, also as per previous research (Rutgers & Soa Aids Nederland, 2017; Stevens et al., 2018).

Contrary to expectations, the results of the current study show that there was no difference in attitudes regarding gender equality between native Dutch adolescents and adolescents with a non-Western migration background. However, previous studies on adult (e.g., Diehl et al., 2009; Pessin & Arpino, 2018) and young immigrants (Sánchez Guerrero & Schober, 2021; Stevens et al., 2018) show that they are more likely to regard gender equality traditionally. One potential explanation for the findings of the current study is inter- and intra-generational acculturation (Röder & Mühlau, 2014). The traditional gender attitudes of non-Western immigrants do not necessarily persist to the next generation (Röder & Mühlau, 2014). In line with assimilation theory, attitudes regarding gender equality of non-Western

immigrants appear to become more similar to those of Dutch natives over time. Thus, the fact that there is no difference in gender equality attitudes can be explained by the fact that almost half of non-Western immigrant adolescents in the Netherlands are second-generation immigrants (Centraal Bureau voor de Statistiek, 2022b).

Another possible explanation for the fact there is no difference in attitudes regarding gender equality between native Dutch adolescents and their non-Western immigrant peers is the measuring instrument for attitudes regarding gender equality. The gender equality scale is developed for countries with more traditional gender attitudes, such as Poland, and for international comparison (Tel et al., submitted). Consequently, the measuring instrument for attitudes regarding gender equality may not quite fit the Dutch context, because it does not have its differentiating function between adolescents in the Netherlands. Therefore, it might be necessary to measure attitudes regarding gender equality differently in the Netherlands, with a scale with more nuance and debatable items more appropriate to the egalitarian Dutch context. If an instrument like that had been used, a difference in gender equality attitudes between native Dutch adolescents and non-Western immigrant adolescents might have been found.

Furthermore, another explanation is that all adolescents with a non-Western migration background are grouped together in the current study. As a result, no distinction can be made between the different non-Western migration backgrounds. This may be the reason no association was found, because if one group is very egalitarian and another group is very traditional this cancels each other out. For this reason, the Dutch Central Bureau of Statistics no longer uses the classification of Western and non-Western immigrants (Centraal Bureau voor de Statistiek, 2022a).

Contrary to expectations, contraceptive use did not differ between adolescents' with traditional and egalitarian attitudes regarding gender equality. These findings are inconsistent with previous research, which found that adolescents with more traditional attitudes regarding gender equality were less likely to use contraceptives (de Meyer et al., 2014; Pleck et al., 1993; Pulerwitz & Barker, 2007). The unexpected findings can be the result of the measuring instrument for gender equality that does not fit the Dutch context, as explained above. Another possibility is that attitudes regarding gender equality do not explain contraceptive use and that there are other factors that have a much greater effect on adolescents' contraceptive use, such as sexual communication and family affluence.

Concluding, attitudes regarding gender equality did not explain the lower pill and dual method use of adolescents with a non-Western migration background compared to their

native Dutch peers. Possibly there are other factors that do explain their lower pill and dual method use, such as family affluence. In fact, adolescents with high family affluence were more likely to report the use of contraceptives in contrast to adolescents with low family affluence (see Table 3). Studies show that non-Western immigrant adolescents are especially likely to have a low family affluence, and thus less money to spend on contraceptives (Dutch Inspectorate of Education, 2018; Hoff et al., 2019). Future research can examine if family affluence can explain the lower pill and dual use among adolescents with a non-Western migration background. Moreover, it is interesting to investigate the relationship between attitudes regarding gender equality and contraceptive use among an older age group, such as college students, since the age at which more than half of the adolescents have had sexual intercourse is 18.6 years (Rutgers & Soa Aids Nederland, 2017).

### **Limitations and Strengths**

This study's findings should be interpreted with awareness of its limitations. First, the used data were cross-sectional, and therefore no causal conclusions can be drawn on the basis of the findings. A second limitation is that all adolescents with a non-Western migration background are grouped together. As a result, no distinction can be made between the different non-Western migration backgrounds. This classification is used in the current study, because it was not possible to separate the ethnic groups since they were too small to carry out a reliable analysis with. Moreover, distinguishing the non-Western immigrants is in line with the HBSC report of Stevens and colleagues (2018) and the Central Bureau of Statistics classification in 2017.

A third limitation is the measuring method of attitudes regarding gender equality that may not be valid in the Dutch context, as mentioned before. In future research it is recommended to use a measuring instrument with more nuance and debatable items that better match the relatively egalitarian Dutch context. Fourth, the results should be interpreted with caution because data on contraceptive use was limited to the adolescents' last sexual intercourse. Nevertheless, laboratory and field tests demonstrated that adolescents have difficulties summarising their typical contraceptive use, even for short periods of time (Cavazos-Rehg et al., 2010; Hillard, 2010; Morris et al., 1993). Furthermore, if asked about 'typical' behaviour, participants are more likely to give socially desirable answers. Therefore, responses about the 'last' intercourse have higher reliability and validity than those about 'typical' behaviour.

Finally, a fifth limitation entails that it was not possible to control for some potentially important individual confounders, such as knowledge of and attitudes toward contraceptive

methods, the quality of communication between sexual partners, in relation to contraceptive use because of the limited availability of such measure within the HBSC data set. If future datasets become available that include such measures, then replications of the analyses including these factors would be warranted.

This study also has multiple strengths. First of all, the use of a large, nationally representative sample increases the generalisability of the findings. Second, it is one of the first studies on the relationship between attitudes regarding gender equality and contraceptive use among a large sample of adolescents in the Netherlands. Thirdly, the three commonly used contraceptive methods among adolescents in the Netherlands were examined (Rutgers & Soa Aids Nederland, 2017), including dual method use which is not often investigated. Fourth, important variables that were available in the HBSC dataset, such as religion and family affluence, are controlled for. Fifth, it is innovative to look at gender equality at the individual level rather than at the country level (e.g., de Looze et al., 2019; de Meyer et al., 2014; Valverius et al., 2021), especially with such a young age group.

### **Conclusion**

The current study investigated to what extent attitudes regarding gender equality explain low contraceptive use among non-Western immigrant adolescents compared to their native Dutch peers. Results show that adolescents with a non-Western migration background were less likely to use a pill and dual methods. They had no increased chance on traditional attitudes regarding gender equality than native Dutch adolescents and traditional attitudes were not associated with contraceptive use. Concluding, the lower contraceptive use among adolescents with a non-Western migration background cannot be explained by their attitudes regarding gender equality. More research with a measuring instrument for attitudes regarding gender equality that is more suitable to the Dutch context is needed to identify potential causal pathways through which attitudes regarding gender equality and adolescents' contraceptive use are linked.

### References

- Abel, G., & Fitzgerald, L. (2006). ‘When you come to it you feel like a dork asking a guy to put a condom on’: Is sex education addressing young people’s understandings of risk? *Sex Education, 6*(2), 105–119. <https://doi.org/10.1080/14681810600578750>
- Abma, J. C., & Martinez, G. M. (2017). Sexual activity and contraceptive use among teenagers in the United States, 2011-2015. *National health statistics reports, (104)*, 1-23. <https://ap.lc/Obv4o>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology, 51*(6), 1173-1182. <https://ap.lc/m9j2T>
- Bell, J. (2009). Why embarrassment inhibits the acquisition and use of condoms: A qualitative approach to understanding risky sexual behaviour. *Journal of Adolescence, 32*(2), 379–391. <https://doi.org/10.1016/j.adolescence.2008.01.002>
- Bertotti, A. M. (2013). Gendered divisions of fertility work: Socioeconomic predictors of female versus male sterilization. *Journal of Marriage and Family, 75*(1), 13–25. <https://doi.org/10.1111/j.1741-3737.2012.01031.x>
- Cavazos-Rehg, P. A., Krauss, M. J., Spitznagel, E. L., Schootman, M., Peipert, J. F., Cottler, L. B., & Bierut, L. J. (2010). Type of contraception method used at last intercourse and associations with health risk behaviors among US adolescents. *Contraception, 82*(6), 549-555. <https://doi.org/10.1016/j.contraception.2010.05.007>
- Centraal Bureau voor de Statistiek. (2022a, February 16). *CBS introduceert nieuwe indeling bevolking naar herkomst*. Retrieved May 21, 2022, from <https://www.cbs.nl/nl-nl/nieuws/2022/07/cbs-introduceert-nieuwe-indeling-bevolking-naar-herkomst>
- Centraal Bureau voor de Statistiek. (2022b, February 16). *Hoeveel mensen met een migratieachtergrond wonen in Nederland?* Retrieved May 9, 2022, from <https://www.cbs.nl/nl-nl/dossier/dossier-asiel-migratie-en-integratie/hoeveel-mensen-met-een-migratieachtergrond-wonen-in-nederland->
- Currie, C., Molcho, M., Boyce, W., Holstein, B., Torsheim, T., & Richter, M. (2008). Researching health inequalities in adolescents: The development of the Health Behaviour in School-aged Children (HBSC) family affluence scale. *Social Science & Medicine, 66*(6), 1429-1436. <https://doi.org/10.1016/j.socscimed.2007.11.024>
- Curtin, N., Ward, L. M., Merriwether, A., & Caruthers, A. (2011). Femininity ideology and sexual health in young women: A focus on sexual knowledge, embodiment, and

- agency. *International Journal of Sexual Health*, 23(1), 48–62. <https://doi.org/10.1080/19317611.2010.524694>
- de Looze, M., Madkour, A. S., Huijts, T., Moreau, N., & Currie, C. (2019). Country-level gender equality and adolescents' contraceptive use in Europe, Canada and Israel: Findings from 33 countries. *Perspectives on Sexual and Reproductive Health*, 51(1), 43–53. <https://doi.org/10.1363/psrh.12090>
- de Meyer, S., Jaruseviciene, L., Zaborskis, A., Decat, P., Vega, B., Cordova, K., Temmerman, M., Degomme, O., & Michielsen, K. (2014). A cross-sectional study on attitudes toward gender equality, sexual behavior, positive sexual experiences, and communication about sex among sexually active and non-sexually active adolescents in Bolivia and Ecuador. *Global Health Action*, 7(1), 24089. <https://doi.org/10.3402/gha.v7.24089>
- Diehl, C., Koenig, M., & Ruckdeschel, K. (2009). Religiosity and gender equality: Comparing natives and Muslim migrants in Germany. *Ethnic and Racial Studies*, 32(2), 278–301. <https://doi.org/10.1080/01419870802298454>
- Dutch Inspectorate of Education (2018). *Summary report: The state of education in the Netherlands 2016/2017*. Netherlands Inspectorate of Education, Utrecht. <https://ap.lc/wTTap>
- Emmerink, P. M. J., Vanwesenbeeck, I., van den Eijnden, R. J. J. M., & ter Bogt, T. F. M. (2015). Psychosexual correlates of sexual double standard endorsement in adolescent sexuality. *The Journal of Sex Research*, 53(3), 286–297. <https://doi.org/10.1080/00224499.2015.1030720>
- Fennell, J. L. (2011). Men bring condoms, women take pills. *Gender & Society*, 25(4), 496–521. <https://doi.org/10.1177/0891243211416113>
- Galambos, N. L., Petersen, A. C., Richards, M., & Gitelson, I. B. (1985). The Attitudes Toward Women Scale for Adolescents (AWSA): A study of reliability and validity. *Sex Roles*, 13(5–6), 343–356. <https://doi.org/10.1007/bf00288090>
- Grose, R. G., Grabe, S., & Kohfeldt, D. (2013). Sexual education, gender ideology, and youth sexual empowerment. *The Journal of Sex Research*, 51(7), 742–753. <https://doi.org/10.1080/00224499.2013.809511>
- Hillard, P. J. A. (2010). Contraception: Adherence? Compliance? Successful use? And how do we know? *Journal of Women's Health*, 19(12), 2157–2158. <https://doi.org/10.1089=jwh.2010.2433>

- Hillier, L., Harrison, L., & Warr, D. (1998). When you carry condoms all the boys think you want it: Negotiating competing discourses about safe sex. *Journal of adolescence*, 21(1), 15-29. <https://ap.lc/owgQv>
- Hoff, S., van Hulst, B., Schut J. M. W., & Goderis, B. (2019). *Summary: Poverty survey 2019*. The Netherlands Institute for Social Research, The Hague. <https://ap.lc/2Lede>
- Holter, Ø. G. (2014). What's in it for men? Old question, new data. *Men and Masculinities*, 17(5), 515-548. <https://doi.org/10.1177/1097184X14558237>
- Inchley, J., Currie, D., & Cosma, A. (2018). *Health Behaviour in School-aged Children (HBSC) study protocol: Background, methodology and mandatory items for the 2017/18 survey*. Child and Adolescent Health Research Unit (CAHRU).
- Lachance-Grzela, M., & Bouchard, G. (2010). Why do women do the lion's share of housework? A decade of research. *Sex Roles*, 63(11-12), 767-780. <https://doi.org/10.1007/s11199-010-9797-z>
- Morris, L., Warren, C. W., & Aral, S. O. (1993). Measuring adolescent sexual behaviors and related health outcomes. *Public Health Reports*, 108(1), 31. <https://ap.lc/TpTil>
- Pessin, L., & Arpino, B. (2018). Navigating between two cultures: Immigrants' gender attitudes toward working women. *Demographic Research*, 38, 967-1016. <https://doi.org/10.4054/demres.2018.38.35>
- Pleck, J. H., Sonenstein, F. L., & Ku, L. C. (1993). Masculinity ideology: Its impact on adolescent males' heterosexual relationships. *Journal of Social Issues*, 49(3), 11-29. <https://doi.org/10.1111/j.1540-4560.1993.tb01166.x>
- Pulerwitz, J., & Barker, G. (2007). Measuring attitudes toward gender norms among young men in Brazil. *Men and Masculinities*, 10(3), 322-338. <https://doi.org/10.1177/1097184x06298778>
- Röder, A., & Mühlau, P. (2014). Are they acculturating? Europe's immigrants and gender egalitarianism. *Social Forces*, 92(3), 899-928. <https://doi.org/10.1093/sf/sot126>
- Rutgers & Soa Aids Nederland. (2017). *Seks onder je 25e: Seksuele gezondheid van jongeren in Nederland anno 2017*. Eburon. <https://rutgers.nl/onderzoeksboek-seks-onder-je-25e-2017/>
- Sanchez, D. T., Fetterolf, J. C., & Rudman, L. A. (2012). Eroticizing inequality in the United States: The consequences and determinants of traditional gender role adherence in intimate relationships. *The Journal of Sex Research*, 49(2-3), 168-183. <https://doi.org/10.1080/00224499.2011.653699>



- Sánchez Guerrero, L., & Schober, P. S. (2021). Socialisation influences on gender ideologies of immigrant and native youth in Germany, England, Sweden and the Netherlands. *Sex roles*, 85(3), 113-127. <https://doi.org/10.1007/s11199-020-01208-z>
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological methodology*, 13, 290–312. <https://doi.org/10.2307/270723>
- Stevens, G., van Dorsselaer, S., Boer, M., De Roos, S., Duinhof, E., ter Bogt, T. F. M., van den Eijnden, R. J. J. M., Kuyper, L., Visser, D., Vollebergh, W., & de Looze, M. (2018). *HBSC 2017: Gezondheid en welzijn van jongeren in Nederland*. <https://hbcsnetherlands.com/rapport-hbsc-nederland-2017/>
- Tel, R., Stevens, G., Walsh, S., & de Looze, M. (submitted). Gender norms among adolescents: A cross-national validation of the AWSA.
- Valverius, A., Arnell, L., & Strandh, M. (2021). Egalitarian values and sexual behavior - The role of country level values in shaping individual level behaviors in Africa, South America and Asia. *International Journal of Sexual Health*, 33(3), 396–409. <https://doi.org/10.1080/19317611.2021.1919952>
- West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & Society*, 1(2), 125–151. <https://doi.org/10.1177/0891243287001002002>
- Willard, C. J. R., & Steiner, M. J. (2002). Dual protection against unintended pregnancy and sexually transmitted infections: What is the best contraceptive approach. *Sexually Transmitted Diseases*, 29(3), 168-174. [https://journals.lww.com/stdjournal/Fulltext/2002/03000/Female\\_condom\\_introduction\\_and\\_sexually.00007.aspx](https://journals.lww.com/stdjournal/Fulltext/2002/03000/Female_condom_introduction_and_sexually.00007.aspx)
- World Health Organization. (2017). Sexual health and its linkages to reproductive health: An operational approach.