UNIVERSITY OF TWENTE

If you are gay, then what is your pay?

An analysis of the earnings of heterosexual and homosexual workers in the Netherlands

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Preface

This thesis forms the final product of my years as a student at the University of Twente. However, it does not mark the end of my time as a student, and certainly not the end of learning for me. Despite the fact that I still really like the topic of the thesis (or maybe exactly because of this), completing this work took me much longer than anticipated. In fact, I did not expect to start and complete a whole other master program, write another thesis, fulfill a board year and start a PhD before finalizing this paper, but yet here I stand. I owe a lot of gratitude to both my UT supervisors as well as my I&O supervisor for their patience in this process. I would like to start by thanking both dr. Giedo Jansen and dr. Henk van der Kolk for being willing to supervise me, for reading several drafts and above all for their helpful comments and advice. By having a talk with me about doing a PhD, dr. Giedo Jansen contributed to the first step in my career too. Also, I would like to thank I&O Research for enabling me to collect a novel dataset for this study and to take a close look at the work of a private research agency. Even though I soon found out that this was not the type of research that suits me, I really admire the staff for their ability to tailor their research to the needs of public organizations and communicate their findings to society. Especially Leon Heuzels, who supervised me at I&O, has been really friendly and supportive in the data collection process.

Furthermore, I would like to thank prof. dr. Stijn Baert for the extensive email conversation we had about the conceptual aspects of and broader perspectives on the topic, and prof. dr. Erik Plug for providing me with the inspiration and insights during his course in Labour Economics at the University of Amsterdam in the Spring of 2018 that lead me to this study. Also, I would like to thank Jasmijn van Slingerland for having read an early draft of this paper and for providing me with some very helpful suggestions. Finally, I would like to thank Steef Severijn for providing me with his suggestions on aspects I struggled with, for supporting me in continuing the research (I did not always follow this advise, as you have found out by now), and to ‘just be there’.

Even though this thesis has been finished, I am not done yet with its theme. I am determined to contribute to bringing in a diversity perspective in academia and in society, *inter alia* via the European Committee for LGBTQ+ Economists. I believe this research and my study background have formed valuable stepping stones that enable me to realize my ideals and I am grateful to anyone who has contributed along the way.

Abstract

Internationally, the literature that explores the existence of any earnings difference between heterosexuals and homosexuals and its underlying factors is growing. The mixed results and typically limited sample sizes of the conducted studies provide the need for replications and further research on the topic. This is especially true for the Netherlands, in which only two studies have been performed on the topic until now, which provide mixed evidence on the existence of any earnings difference between heterosexual and homosexual men. This study re-examines the existence of any earnings difference between heterosexual and homosexual workers in the Netherlands for a newly collected dataset. Moreover, compared to the two previous studies, it includes a larger set of variables that enables a further decomposition of any found earnings difference. Based on a sample of 833 Dutch employees, the study finds no significant earnings difference between heterosexual and homosexual men. A regression analysis shows that for homosexual men, their significantly higher education level, larger work experience and higher occupational status are associated with an earnings premium relative to heterosexual men, while their lower frequency of having dependent children is associated with an earnings penalty. Among women, contrarily, the study finds a substantial earnings premium of about 18% for lesbians relative to heterosexual women. A regression analysis shows that a large part of this earnings premium is associated with lesbian workers' significantly higher educational attainment, as the earnings difference becomes insignificant after controlling for educational attainment. These findings are in line with most of the previous results for women, while the study's findings contribute to the mixed evidence on the (non-)existence of a sexual orientation wage gap among men. Our understanding of the labor market outcomes of sexual minorities would benefit from further research exploring the underlying mechanisms. Also, future research on larger datasets would allow one to examine the role of interaction effects, and to analyze the existence and magnitude of any earnings differences by sexual orientations at different points of the wage distribution.

Keywords: earnings, sexual orientation, income inequality, wage gap

JEL: J15, J31, J71

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Introduction

The 'gender wage gap', the notion that women on average earn less than men, is a well-known concept in society. However, it is less commonly understood that earnings differences also exist between population groups distinguished on the basis of other characteristics. This study will focus on the earnings differences between homosexuals and heterosexuals[1]. In general, most empirical studies find that homosexual men earn less than heterosexual men on average (not controlled for other factors). Contrarily, lesbian women have been found to earn more than heterosexual women (Klawitter, 2015). When controlling for factors such as age, education level and working experience, the 'earnings penalty' of homosexual men typically increases, while the earnings premium of lesbian women decreases. Although these earnings differences are well-documented, they are not well-understood (Plug, 2018_a). Also in the Netherlands, an earnings difference between similar homosexuals and heterosexuals (in terms of age and education level) has been established in the last fifteen years, among men ranging from no significant earnings difference between homosexuals and heterosexuals to an earnings penalty for gay men of 3 – 18% and among women ranging from no significant earnings difference between homosexuals and heterosexuals to an earnings bonus for lesbian women of 3% (Buser et al., 2018; Drydakis, 2014; Plug & Berkhout, 2004). This earnings difference is in place despite the Netherlands being a country in which the emancipation of homosexuals is at a considerably high level, so that the level of discrimination therefore can be expected to be relatively low.

Discrimination is illegal within the European Union: EU Council Directive 2000/78/EC, also known as the Employment Equality Framework Directive, prohibits direct and indirect discrimination on the basis of various grounds, including sexual orientation (Art. 12 Council Directive 2000/78/EC)[2]. Within the Netherlands, discrimination on the basis of sexual orientation, among others, is prohibited already since 1994 under the *Algemene Wet gelijke behandeling* (Awgb), which is part of Dutch civil law and made the Netherlands one of the first European countries to have extensive legal protection against discrimination on multiple grounds. The Awgb is based on Article 1 of the Dutch constitution (2018), which obligates the equal treatment of everyone and prohibits discrimination on any ground. As the Netherlands thus have legal protection against discrimination in place for a long

[1] Whenever in this thesis the term 'homosexuals' is used, this refers to the totality of gay men and lesbian women, unless indicated otherwise. Similarly, the term 'heterosexuals' refers to the totality of heterosexual men and women.

[2] The part of this paragraph related to legislation has been retrieved from the paper 'The earnings difference between homosexuals and heterosexuals and potential policy solutions', which I have written in 2019 for a master course.

period already, one would expect the level of discrimination to be low. Together with the earlier-mentioned note of the Netherlands being one of the most tolerant countries for homosexuals (Abou-Chadi & Finnigan, 2019; Zhang & Brym, 2019), the country makes an interesting case for an analysis of a set of causes underlying the earnings difference between homosexuals and heterosexuals.

Even though there is a negative association between the level of prejudice against homosexuals and the wages of homosexual men (Burn, 2020), discrimination is not necessarily the (only) cause of any earnings difference, as there may be other mechanisms in place. A central question within the general literature on earnings differences between homosexuals and heterosexuals is to what extent these differences can be decomposed by explaining the effects of various different factors and mechanisms. The various studies on this topic differ inter alia in terms of setting (although an increasing number of studies focuses on other countries, most literature has the United States as setting) or in terms of the explanatory variables that are included and research methods that are utilised. With regard to research methods and data used, one can distinguish three types of studies on this topic (Laurent & Mihoubi, 2017): studies using census data, studies on the basis of data from other types of surveys, and experimental studies. Traditionally, most studies within this topic were of the first type, using datasets from for example the U.S. Census, in order to test the existence and magnitude of earnings differences. On top of this, survey studies enable researchers to not only have conventional census data on *inter alia* people's earnings, education level and work experience, but to collect data as well on other aspects like labour market preferences and behavioural aspects.

Studies of the third type, those that include an experimental research design, mostly focus on the presence of hiring discrimination on the labour market, which is a topic different from but related to earnings differences between sexual orientations. In economic experiments, these studies typically send fictitious resumes and applications in order to check the effect of the fictitious candidate's (perceived) sexual orientation on his/her probability of being invited for a job interview. Some of the studies are conducted in a so-called 'laboratory setting', sending the applications to groups that act as employers/recruiters, such as students (Baert, 2017) or online participants (Gorsuch, 2019). Other studies are conducted in the actual 'field', sending applications to real employers and recruiters (Ahmed et al., 2013; Drydakis, 2015). In general, experimental studies find hiring discrimination on the ground of sexual orientation to be in place, albeit in various magnitudes.

The current literature focusing on the earnings difference between homosexuals and heterosexuals in the Netherlands is rather limited in number and has, so far, mainly focused on researching the magnitude of the earnings differences and some reasons underlying these

differences by making use of survey data: Plug and Berkhout (2004) have used existing survey data to examine the earnings difference between homosexuals and heterosexuals who were recently graduated from higher education. This may underestimate the general earnings differences since these differences are, as indicated by the researchers themselves, not that pronounced among young people that have just entered the labour market. Jaspers and Verbakel (2012) have also used existing survey data, although they did not aim to address the earnings difference, but instead the difference in division of paid labour within couples between same-sex and different-sex couples. They thus did not make the link between differences in this division and any differences in earnings. Buser et al. (2018) conducted an experiment to measure the level of competitiveness among members of a research panel and combined this with the use of existing survey data on the same sample of panel members in order to examine the effect of competitiveness on earnings.

As there have not been many studies so far addressing the sexual orientation differences with respect to earnings in the Netherlands, there are several opportunities to address the gaps in the current literature. Firstly, compared with Plug and Berkhout (2004), the sample will be less restricted and therefore more representative for the total population of working age - while the study by Plug and Berkhout (2004) was focused on young people, thus only including workers that recently entered the labour market, this study will also include older workers. Secondly, this study will take into account more possible variables that may explain the earnings difference. So far, Plug and Berkhout (2004) only controlled for education level and hours worked by individuals, while Buser et al. (2018) only controlled for age, education level and level of competitiveness. This study will not only include education level, but also other human capital factors, family factors and occupational status in one survey-based study, in order to be able to explain as much as possible from any potentially found difference in earnings between homosexuals and heterosexuals and thus decompose the earnings difference as much as possible.

Finally, only a few studies have been conducted on this topic in the Netherlands. This study would like to build upon the foundation that previous survey-based studies have created by exploring the relationship between sexual orientation and earnings again using new and self-collected data. Seeing that the samples size of studies like these are often relatively small, it is important that multiple studies on this topic are conducted for different data samples. Also, the data for this study were collected on a later point in time, as Plug and Berkhout (2004) have used data from the period 1998 – 2001 and Buser et al. (2018) from 2014, while this study has collected data in 2019. Seeing that the results of a study like this are likely to be time-specific, and as a meta-analysis finds the earnings differences between heterosexuals and homosexuals to diminish over

time (Klawitter, 2015), it is interesting to study to what extent this overall trend also holds for the Netherlands.

Societally, the relevance of the study appears from its attempts to better establish the relationship between sexual orientation and earnings in the Netherlands. If there would be significant differences in earnings between sexual orientation groups, this may be a basis for governmental intervention in the labour market in order to raise the level of equality or equity. Within the Netherlands, equality is anchored as a legal norm in Article 1 of the Dutch constitution. Resulting from this Article, as well as from Council Directive 2000/78/EC, (labour market) discrimination on the ground of sexual orientation is prohibited. Apart from the fact that discrimination is prohibited, it may also hamper economic growth: studies have suggested that inclusion of LGBT people is not only economically profitable on the level of an individual company (Pichler et al., 2017; Shan et al., 2017; Hossain et al., 2019), but also on a macro-level (Badgett et al., 2019). Thus, in the light of combating discrimination against homosexuals and enforcing anti-discrimination legislation, it would be good to have a clue of the existence of any earnings differences between homosexuals and heterosexuals and of any alternative underlying causes other than discrimination. After all, discrimination does not necessarily have to be the driving force behind these differences, as said before.

Consequently, this study has formulated the following research questions: (1)*To what extent is there a difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019?,* (2) *To what extent can any difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019 be explained by human capital factors?*, (3) *To what extent can any difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019 be explained by family factors?*, and (4) *To what extent can any difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019 be explained by occupational factors?*.

1. Theoretical framework

In this chapter, a hypothesis on the direction of the total earnings difference between heterosexuals and homosexuals will be formulated first, for both men and women, in Subchapter 1.1. Besides, in this chapter, the theoretical mechanisms underlying any potential earnings difference between heterosexuals and homosexuals are explicated and hypotheses formulated accordingly. For any factor to influence the earnings of homosexuals relative to those of heterosexuals, the variable not only needs to affect labour earnings, but also needs to differ in level ('endowment') or in effect ('returns') by sexual orientation. Therefore, for every variable included in the model, it is theorized why it would affect labour earnings in Subchapter 1.2, as well as why it would be associated with sexual orientation in Subchapter 1.3. The latter Subchapter also contains hypotheses on the expected direction of the effect of a variable on the earnings of homosexuals relative to those of heterosexuals. Finally, the total model is visited in Subchapter 1.4., in which also additional variables, which are left out of the model, are mentioned together with the reasons not to include them in the model.

1.1 Hypothesized earnings differences

Internationally, several studies have been performed that compared the earnings of heterosexuals and homosexuals. Most of them have been performed in the United States of America, but also several studies have been conducted using data from European countries. In a meta-analysis, Klawitter (2015) provided an overview of the results of these studies, including 34 estimates for men and 29 for women. Of these, about two thirds are based on data for the U.S., and one third on non-U.S. data. Figure 1, retrieved from Klawitter (2015), shows the spread of the found earnings differences. It clearly shows that most studies found that homosexual men had lower earnings than heterosexual men, with a few studies finding the contrary or no significant difference. Also, most studies found lesbian women to have higher earnings than heterosexual women, with again a few studies finding the contrary or no significant difference. Besides, Figure 1 shows a trend of decreasing differences over time, with still a considerable extent of variation in results. While some explain this trend as a lowering degree of discrimination, which may be possible, Klawitter (2015) emphasizes that this cannot be concluded on the basis of the studies performed

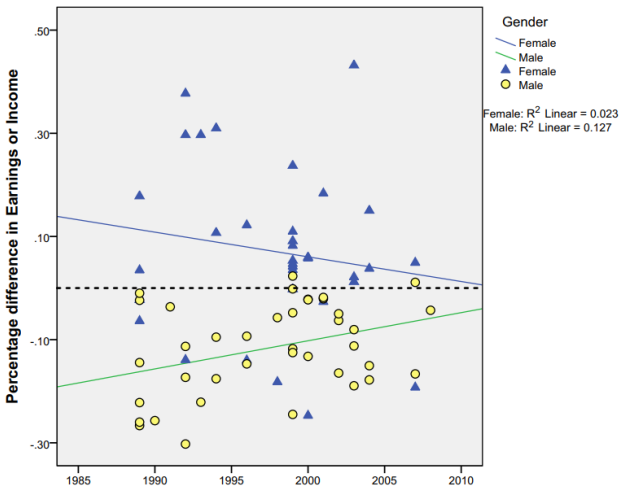

Figure 1. **An overview of estimates of the earnings difference between heterosexuals and homosexuals by previous studies. Source: Klawitter (2015)**

and may have other reasons as well, such as changing (use of) data sets, research designs or operationalizations over time.

Even though the meta-analysis provides a broader picture of general earnings differences between heterosexuals and homosexuals, one cannot generalize the findings of the meta-analysis to every setting. Countries namely differ in many institutional, economic and cultural aspects, such as tolerance towards sexual orientation minorities and labour market legislation, and partially because of this, the resulting earnings differences also vary among countries. From all the studies included in the meta-analysis, the only study using data on the Netherlands is that by Plug and Berkhout (2004). This study and the later performed study by Buser et al. (2018) are the only two scientific studies that compare the earnings of homosexuals and heterosexuals in the Netherlands. While Buser et al. (2018) initially found no significant earnings difference between heterosexual and homosexual men after controlling for age only, Plug and Berkhout (2004) found homosexual men to earn significantly less. After controlling for education level too, Buser et al. (2018) did find a significant earnings penalty for homosexual men too, while the earnings penalty found by Plug and Berkhout (2004) became even bigger after restricting the sample to university graduates. For women, both Plug and Berkhout (2004) and Buser et al. (2018) found lesbian women to earn significantly more than heterosexual women. Once controlled for education level, this earnings premium becomes insignificant in both studies.

Thus, the Dutch results are in line with the general findings from the international literature. Because the evidence for men is mixed, though, a choice is made for the hypothesis of this study. Since most international studies and one of the two Dutch studies find homosexual men to earn significantly less than heterosexual men (without controlling for factors like educational attainment), this is also the hypothesis for this study. As both Dutch studies find lesbian women to earn significantly more than heterosexual women, and the majority of studies on other countries too, this is also hypothesized in this study. Because there is considerable variation in the magnitude of the found differences, as can be seen in Figure 1, it is difficult to form a hypothesis on this. Therefore, the hypotheses below do not contain an expectation on the magnitude of the anticipated earnings differences, but differences of a few percentages (within a range of up to about 10%) would be in line with previous findings in the scientific literature on the Netherlands and similar countries.

Hypothesis 1a: Homosexual men have lower earnings than heterosexual men on average.

Hypothesis 1b: Lesbian women have higher earnings than heterosexual women on average.

1.2 Impact of included variables on labour earnings

In general, a large number of factors is considered to have an influence on an individual's labour earnings, several of which are incorporated in the model. For reasons of convenience and for they are theoretically expected to affect earnings in a different way, these factors are clustered into three groups: human capital, family, and occupational factors. Additionally, another factor, migration background, is included as control variable. All theoretical mechanisms are discussed in the next Subchapters.

1.2.1 Human capital factors

Human capital theory predicts a positive relationship between one's productivity and wage; the more productive a person is, the higher his/her wage is expected to be. Even though this prediction does not apply one-to-one to every case, as both on a microlevel as well as on a macrolevel there are cases of a decoupled relation between productivity and wages (Brill et al., 2017; Kügler et al., 2018), it is still considered to be the single most important predictor of someone's earnings in (labour) economic literature (Kügler et al., 2018). When aiming for a higher wage, one should thus attempt to raise his/her productivity. According to human capital theory, it is human capital that makes labour more productive, just like physical capital does. The main factors that affect one's productivity are considered to be the two human capital factors, being education and working experience. However, also health is considered to be a factor of relevance (Borjas, 2008; Plug, 2018_b). These factors will be discussed sequentially below.

Within human capital theory, **education** is assumed to raise one's productivity by developing and improving skills that are relevant for one's (future) job. Not only it is both assumed and found that education raises one's productivity, but proofs of attended education (certificates, degrees, titles) are also considered to be signals to employers that positively influence one's career opportunities and earnings (Walker & Zhu, 2003; Borjas, 2008), as one shows his/her intellectual capacities, affinity with any specific topic as well as stamina by having attended and completed a certain degree. Thus, education has a positive impact on earnings, plenty of studies indicate (for example Ashenfelter & Krueger, 1994; Levin & Plug, 1999; Card, 1999; Autor, 2014). However, not only formal education leads to the acquirement of human capital; throughout their working lives, people are accumulating **work experience**, and thereby developing skills related to the tasks they are performing. It is generally understood that if someone performs a tasks repetitively, he/she will be able to perform the same task in less time in the future. This process is known as the learning effect (Anzanello & Fogliatto, 2011; Raman & Varghese, 2014). Accordingly, an increasing amount of work experience is assumed to raises one's productivity.

Apart from education and work experience, also one's **health** is considered to have an influence on individual productivity; while being healthy stimulates one's productivity at the workplace, physical or mental illness typically reduces one's productivity (Suhrcke et al., 2006; Loepke et al., 2007; Pereira et al., 2017). Among workers, there are two ways in which productivity is reduced by a poor (physical or mental) health status: being absent from work on one hand (while still being employed), and being present at work in suboptimal health on the other hand. Firstly, one's sickness absence is considered to be an important indicator of one's individual productivity, as someone who is absent due to sickness is not supplying labour at that moment (Hansen, 2000; Tompa, 2002). Although there are various other factors having an influence on one's sickness absence (including personality and social context), one's health status is considered to be an important predictor of one's sickness absence. For example, recurrent health problems, longstanding illnesses, mental health problems (including depression and emotional stress) and unhealthy behaviour (including smoking, illicit drugs consumption and problematic alcohol consumption) are considered to raise one's level of sickness absence (Tompa, 2002). But not only in case of absence, the productivity of an individual in a poor health condition is limited; this is also the case when one is present at work in suboptimal health, as he/she is limited in the performance of job-related tasks compared with his/her potential capacity in case of an optimal health status (Brouwer et al., 2002; Mitchell & Bates, 2011). In case workers are paid relative to their productivity, an assumption of human capital theory, a lower health status would thus reduce one's earnings. By way of illustration: an employer is likely to be less tended to award promotion to a worker who is often absent or whose output is smaller compared with colleagues, either because of (the perception of) a lower productivity level of the employee or because of (the perception of) a lower effort level (Chadi & Goerke, 2018). Consequently, in a large number of empirical studies, one's health status has been found to be positively related to one's wages and earnings (for example Haveman et al., 1995; Contoyannis & Rice, 2001; Halla & Zweimüller, 2013; Xiao et al., 2015).

1.2.2 Family factors

The effects of partnership and **cohabitation** on one's employment and earnings have been studied extensively, often in the context of analysing the gender earnings gap. In the broader context, not looking at gender differences, it can be argued that having a partner and cohabitating may have various effects on one's employment and earnings. firstly, regardless of living together or not, partnership may influence one's job decisions. One may reduce his/her employment or choose a less stressful job in order to increase the quality and quantity of time with his/her partner. Having a very demanding job that requires long hours and a large amount of overwork namely has been found to

reduce one's relationship quality, at least in the eyes of the partner (Shafer et al., 2018). Also, having a stressful job generally reduces the relationship quality as perceived both by the person having the stressful job as well as by his/her partner, although this effect is moderated by former's ability to psychologically detach from work in the private setting of home (Debrot et al., 2018). Besides, couples in which both partners are employed spend less time together than couples in which only one partner is employed, while time spent together is positively associated with the quality of the relationship (Flood & Genadek, 2016). If for these reasons, people in a relationship decide to reduce the size of their employment or choose for other jobs, partnership may affect labour earnings.

Besides, cohabitation is considered to affect labour market outcomes via two additional mechanisms. Firstly, in case of cohabitation, household tasks can be distributed over two people, which requires a division of tasks and allows for specialisation. Specialisation relates to one partner taking up the (major part of the) household labour and the other focusing on paid labour and thus earning the (major part of the) household's income. In case of a more equal division of paid and domestic labour, both partners have a paid job and take up a part of the household work. In this way, cohabitation can either stimulate or reduce one's employment and consequently earnings. Secondly, another element of cohabitation, namely sharing income, may also play a role in the effect of cohabitation on employment and income: having a partner that contributes largely to the household's income reduces one's need to be employed and to earn money, assuming that the partner shares his/her income (Verbakel & De Graaf, 2009). Because cohabitation and partnership correlate strongly within this study, it has been decided to include cohabitation in the model only. As this is also a rough proxy of partnership, the variable of cohabitation is theorized to have an effect on earnings both via partnership as well as via cohabitation on its own.

Apart from partnership and cohabitation, also another household characteristic has been found to influence one's employment status and earnings: the presence of **children living at home**. Considering that most children grow up in a household with two parents, there are (at least formally and theoretically) two parents that share the responsibility for raising the child, on top of the responsibility they bear for other household tasks and earning the household income. In practice, however, specialization may take place. In that case, similar to specialization with respect to the division of other household tasks within couples, one partner focuses on childcare (and typically also other household tasks), while the other partner focuses on earning the household income. For the former, having children would thus reduce employment and personal labour earnings, while for the latter, employment and personal labour earnings typically remain at the same level or even increase because of having children (Juhn & McCue, 2017). Thus, the employment and earnings effects of having children are ambiguous, and depend on the division of childcare tasks among the parents

within a household. In recent decades, childcare is increasingly outsourced by parents to professional childcare organizations, inter alia due to an increased provision and subsidizing of such childcare services by governments (Bettendorf et al., 2015). This has decreased the necessity of specialization and the reduction of working hours by parents (Craig & Powell, 2013), but as the majority of children in the Netherlands is still taken care for at least partly by their parents (who work part-time in order to take part-time care of their children) (Portegijs et al., 2014; Ministerie van Sociale Zaken en Werkgelegenheid, 2018), the presence of children living in a household is still considered to have an influence on the employment and earnings of their parents.

1.2.3 Occupational factor

Apart from productivity and family factors, also occupational characteristics are deemed to have an influence on one's labour income. It is generally understood that salaries vary across occupations, as some occupations bring about more responsibilities than others, or are very complex in nature (Cullen, 1985; Van Ophem et al., 1993). Some other job aspects, such as regularity with respect to work hours and safety, are generally desirable by employees, while irregular working hours and a dangerous working environment are undesirable. Therefore, the latter occupations are expected to yield a higher wage, in order to attract sufficient employees that are willing to fulfil the job (Kumar & Coates; Dauffenbach & Greer, 1984). Therefore, in studies assessing earnings differences between genders or between immigrants and natives, it has turned out to be relevant to include a variable that captures occupational attainment (Brown et al., 1980; Dell'Aringa et al., 2015). In order to capture a large part of the variance in job characteristics that are relevant from a socioeconomic perspective, the variable of **occupational status** is included in the theoretical model. Occupational status is the relative prestige of a job, which can be defined as the expectation that a member of an occupation "will receive (or give) deference to a randomly selected member of any other occupation" (Hodge, 1981), and strongly relates to earnings (Ganzeboom & Treiman, 2003).

1.2.4 Control variable: migration background

Finally, **migration background** is considered as a control variable, for it is not theorized that one's sexual orientation has an effect on one's migration background, while migration background is expected to affect earnings. More specifically, having a migration background (being born in another country or having parents that are born in another country) is assumed to reduce one's earnings. There are several arguments to believe so: firstly, people with a migration background are often less integrated into the Dutch society than people without a migration background. For example, their proficiency of the Dutch language is lower on average, which does not only hamper their

participation in the labour market, but also in their educational performance (Jongen et al., 2019). Consequently, people with a migration background are significantly lower educated than people without a migration background in the Netherlands (Jongen et al., 2019). As seen before, education (level) is an important predictor of one's earnings, and so by being less often highly educated, people with a migration background are expected to earn less on average than people without a migration background. Another way in which education plays a role in the lower earnings of people with a migration background is related to education followed abroad: first-generation migrants may have followed their education and may also have collected work experience abroad, which in many cases is not (fully) recognized by employers and/or professional regulations as being formally equivalent to similar domestic education and work experience.

Some arguments for people with a migration background earning less on average are thus related to the earnings-predicting variables in the model of this study, such as education. Additionally, also with regards to some occupation-related factors, people with a migration background seem to differ from people without. Namely, people with a migration background seem to end up more often than people without a migration background working in flexible contracts, that often come with lower salaries and less opportunities for professional training (Jongen et al., 2019). Additionally, among lowly educated people, those with a migration background seem to sort more often towards studies with fewer professional opportunities than those without a migration background (Jongen et al., 2019).

However, not all arguments for lower earnings are related to the earnings-predicting variables in the model of this study; also discrimination is expected to play an important role. The results of various correspondence studies suggest that discrimination in the hiring process on the basis of migration background exists (see for example the influential study by Bertrand & Mullainathan, 2004 and the meta-analysis by Zschirnt & Ruedin, 2016). Also in the Netherlands, a few of such studies have been conducted, and all found hiring discrimination against people with a migration background (from various different countries) to exist on the Dutch labour market (for example Andriessen et al., 2012; Blommaert et al., 2014), even when these people have explicitly stated in their resume and application letter that they have followed their education in the Netherlands (for example Di Stasio et al., 2019; Thijssen et al., 2019).

Considering the various arguments above, people with a migration background are thus expected to earn less on average than people with a migration background. It has also been found in various empirical studies that such earnings differences exist; the CPB Netherlands Bureau for Economic Policy Analysis has calculated that among people in their thirties and forties, those with a Surinam, Antillean, Turkish and Moroccan migration background (the largest groups of people with a

migration background in the Netherlands) have a disposable (standardized) income that is respectively 16%, 21%, 26% and 31% lower than that of people without a migration background (Jongen et al, 2019). Additionally, Gheasi et al. (2017) have found that even in case they have earned degrees of Dutch higher education institutions, first-generation migrants and second-generation migrants with roots in non-OECD countries remain to earn less than natives.

1.3 Differences between homosexuals and heterosexuals and hypothesized impact on labour earnings

In the previous section, several factors that generally affect earnings have been explicated, but this is not yet sufficient to be informative about any earnings difference between two groups. Any earnings difference may be decomposed into two parts (Firpo, 2017), a schematic overview of which is depicted in Figure 2. One part of the earnings difference may due to differences in endowment, which is called the endowment effect. This endowment effect contains the differences in characteristics that are relevant for wages, such as the mediating variables in the theoretical model of this study. But even in case the endowments of heterosexuals and homosexuals are equal, so in case they would be similarly educated, would have equal amounts of work experience, etcetera, they may still end up with different earnings. The returns to their endowments may namely differ by sexual orientation. This is the second part of the decomposition and is called the wage structure effect. Often, the existence of any wage structure effects is understood as the existence of discrimination, for example if the same education level results in lower earnings for homosexuals than for heterosexuals. But this explanation is not necessarily correct, since there may be other explanations as well (Firpo, 2017). For example, upon having a child living at home, a lesbian woman may generally reduce her working hours to a smaller extent than a heterosexual woman because of a difference in the division of household tasks over spouses, so that the effect of having children varies by sexual orientation without discrimination playing any role.

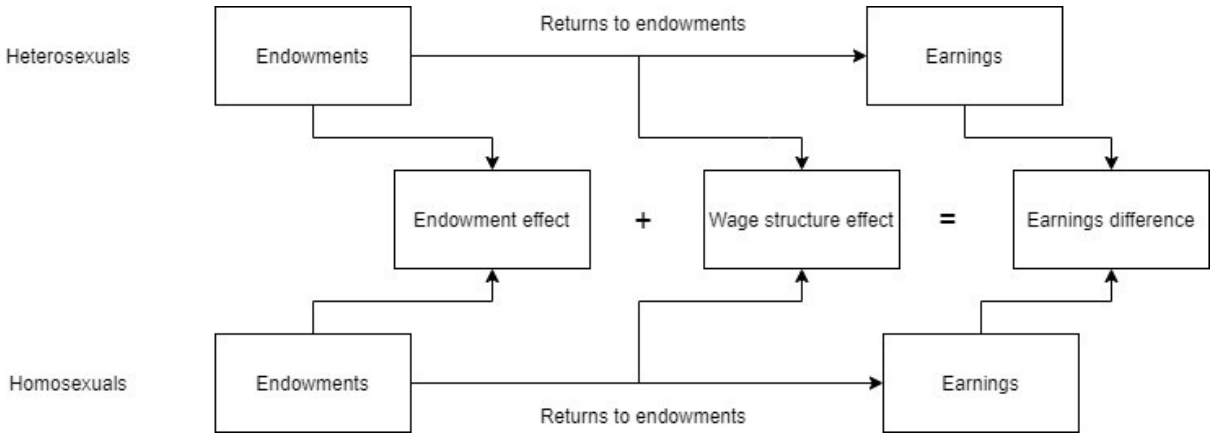

Figure 2. Graphic representation of the decomposition of any earnings differences between heterosexuals and homosexuals

In this subchapter, it is explained on the basis of the scientific literature why and how heterosexuals and homosexuals would differ with respect to the mediating factors included in the theoretical model. The hypotheses will focus on any expected endowment effects and not on any expected wage structure effects for two reasons. Firstly, for all mediating variables an endowment effect is expected, but not for every mediating variable a wage structure effect is expected. Secondly, there is already a large number of hypotheses focusing on endowment effects only, and combining endowment and wage structure effects in the same hypotheses could result in ambiguous hypotheses. Therefore, only endowment effects are hypothesized, but the existence of both endowment and wage structure effects are empirically tested (see Subchapter 2.4).

1.3.1 Human capital factors

With respect to **education**, it is commonly found (regardless of country or time of the studies in question) that homosexuals are on average higher educated than heterosexuals (for example Black et al., 2007; Buser et al., 2018; Burn & Martell, 2020). Usually, it is theorized that this difference is generated by a higher willingness among homosexuals to invest in their human capital than heterosexuals. This may have several reasons: for example, young homosexuals, expecting to face more difficulties finding a future partner than heterosexuals due to a relatively small number of other homosexuals in the area, strive more often for financial independence and therefore consume more education than heterosexuals. Similarly, they may also take more education in order to offset the adverse effects of the hiring discrimination and workplace discrimination they may anticipate on (Burn & Martell, 2020). As an alternative reason, lesbian women do not have the expectations of a male breadwinner and may therefore invest more in their own education. Also, for they have children less often than heterosexual women, they are typically expected to profit more from extra

human capital investments and may therefore consume more education. Considering the abovementioned relation between education and earnings, this would imply that homosexuals would earn more than heterosexuals, ceteris paribus. Indeed, when controlling for educational attainment, the documented earnings differences change in magnitude; while the earnings penalty of gay men increases, the earnings bonus of lesbian women shrinks. This implies that homosexual men are protected against an even higher earnings penalty by being higher educated than heterosexual men on average, while a large part of the lesbian earnings bonus is due to their higher educational attainment compared with heterosexual women.

Hypothesis 2a: Homosexual men have a higher educational attainment on average, which increases their earnings relative to heterosexual men.

Hypothesis 2b: Lesbian women have a higher educational attainment on average, which increases their earnings relative to heterosexual women.

Although up until now, there is no empirical evidence for a difference in **work experience** between heterosexuals and homosexuals, it is theoretically argued that there may well be differences with regard to this aspect (Klawitter, 2015). When looking at the gender wage difference, one finds evidence of women generally collecting less work experience, for they typically stop working or reduce their number of working hours during the stage of their working lives in which there have (young) children living at home. When, after this stage, they re-enter the labour market or increase their number of working hours again, they have collected less work experience than women or childless women, and are therefore considered as less productive and consequently expected to earn less (Borjas, 2008). First of all, homosexuals are less likely to have children than heterosexuals, so in case of not controlling for having children, there is already a difference between these groups. However, even when controlling for this factor, differences are expected to occur; as lesbian women are found to reduce their working hours less than heterosexual women in the Netherlands (Jaspers & Verbakel, 2012), they are expected to be characterized by a higher intensity of work experience and therefore to earn more than heterosexual women. Oppositely, homosexual men are found to reduce their working hours more than heterosexual men in the Netherlands (Jaspers & Verbakel, 2012), which is the reason they are characterized by a lower intensity of work experience and therefore to earn less than heterosexual men.

Hypothesis 3a: Homosexual men have less work experience on average, which decreases their earnings relative to heterosexual men.

Hypothesis 3b: Lesbian women have more work experience on average, which increases their earnings relative to heterosexual women.

In various studies conducted in several countries, homosexuals are found to be characterized by a lower **health** status than heterosexuals (for example Booker et al., 2017; Gonzales & Henning-Smith, 2017; Gustafsson et al., 2017). Also in the Netherlands, homosexuals have been found to be (self-reportedly) unhealthier than heterosexuals (Van Beusekom & Kuyper, 2018). A possible reason suggested within the literature for this difference is the larger degree of discrimination and violence that homosexuals need to cope with relative to heterosexuals, potentially leading to fear, mental pressure and a lower mental health level (Collins & Callahan, 2012; Collins, 2013). When this mental pressure leads to an increased consumption of alcohol, drugs and tobacco products (products that homosexuals consume more than heterosexuals according to the Dutch study by Van Beusekom & Kuyper (2018)), this may result in a lower physical health level as well. Considering the earlier-mentioned relationships between health on the one hand and productivity and earnings on the other hand, homosexuals are expected to be less productive and therefore to earn less than heterosexuals.

Hypothesis 4a: Homosexual men have a lower health status on average, which decreases their earnings relative to heterosexual men.

Hypothesis 4b: Lesbian women have a lower health status on average, which decreases their earnings relative to heterosexual women.

1.3.2 Family factors

As explained earlier, having a relationship may influence one's employment and earnings. Partly, this is dependent on the division of paid labour and household work within a couple. While in heterosexual couples in the Netherlands, the traditional pattern of the man working more than the women is still clearly visible, this traditional pattern lacks for same-sex couples. Indeed, among couples without children in the Netherlands, specialization is less common within same-sex couples and the division of paid labour is more equal between the partners in a same-sex couple than in a heterosexual couple (Jaspers & Verbakel, 2013). Therefore, ceteris paribus, the effect of being in a couple is expected to be less positive for homosexual men than for heterosexual men, as the latter more often specialize in paid labour. Similarly, the effect of being in a couple is expected to be less negative for lesbian women than for heterosexual women, as the latter more often specialize in household work. With regards to employment and earnings reduction due to income-sharing and the desire to spend more time together, no difference in effects is expected between homosexuals and heterosexuals. Additionally, the probability of **cohabiting** is considered to be somewhat lower for homosexuals than for heterosexuals, as in a Dutch-based study, the former more often reported to be living on their own (Kuyper, 2017); a potential explanation is that the number of homosexual

people is smaller than the number of heterosexual people and the likeliness of finding a suitable partner thereby smaller. Also, the likelihood of entering into a same-sex relationship for homosexuals depends on the social context they live in (Prince et al., 2019). Even though the Netherlands as a whole is considered to be a tolerant and increasingly tolerant country with regards to homosexuals, there are groups within the Dutch society that are less tolerant towards homosexuals; for example, some religious groups and citizens with a non-western migration background are typically less tolerant (Kuyper, 2018). When living within such groups, homosexuals may be less tended to enter into a same-sex relationship and therefore to cohabite than heterosexuals.

Hypothesis 5a: Homosexual men typically cohabite less often, which decreases their earnings relative to heterosexual men.

Hypothesis 5b: Lesbian women typically cohabite less often, which increases their earnings relative to heterosexual women.

Similar to the specialization pattern among couples without children, also the specialization pattern among couples with children differs between different-sex and same-sex couples in the Netherlands. The difference is even bigger, with a substantially lower degree of specialization among same-sex couples (both men and women) compared with heterosexual couples (Jaspers & Verbakel, 2013). Homosexual men reduce their working hours more in case of **having children living at home** than heterosexual men, while lesbian women reduce their working hours less in case of having a dependent child compared with heterosexual women (Tebaldi & Elmslie, 2006; Jaspers & Verbakel, 2013). When working less hours, one also typically earns less. Nevertheless, in the Netherlands, homosexuals are having children less often than heterosexuals, with homosexual men having less often children than lesbian women (Jaspers & Verbakel, 2013), probably because it is biologically more difficult to 'obtain' children.

Hypothesis 6a: Homosexual men typically have less often children living at home, which decreases their earnings relative to heterosexual men.

Hypothesis 6b: Lesbian women typically have less often children living at home, which increases their earnings relative to heterosexual women.

1.3.3 Occupational factor

With regards to occupational segregation, it has been shown that homosexual men have a lower probability of working in an **occupation** that requires longer university education than heterosexual men (despite being higher-educated on average), while lesbian women have a higher probability of working in such professions than heterosexual women (Ahmed et al., 2011). Also, some studies have

found homosexual men to have a lower probability of working in a managerial position than heterosexual men, while lesbian women were found to have a higher probability of working in a managerial position (Frank, 2006; Ahmed et al., 2011). Other studies find a higher probability for both homosexual men as well as lesbian women of working in a lower-ranked managerial position than heterosexuals men and women, but a much lower probability for homosexual men to be working in a higher-ranked managerial position (Aksoy et al., 2019). This phenomenon, in which homosexual men (and, depending on the study, lesbian women too) have a lower probability of being in a high-ranked position, is referred to as the 'gay glass ceiling' (Frank, 2006; Aksoy et al., 2019). The lower probability of being a (high-ranked) manager may be (partially) explained by the research finding that the leadership effectiveness of homosexual men and lesbian women is rated lower than the leadership effectiveness of heterosexual men and women in case of relatively intolerant evaluators (Morton, 2017; Pellegrini et al., 2020). As explained before, occupations requiring longer university education and managerial occupations are considered higher-ranked occupations, that yield higher wages. Due to a difference in probability of working in such an occupation, a difference in earnings is expected.

Hypothesis 7a: Homosexual men work in occupations with a lower status on average, which decreases their earnings relative to heterosexual men.

Hypothesis 7b: Lesbian women work in occupations with a higher status on average, which increases their earnings relative to heterosexual women.

1.4 Total model

In total, our model is depicted in Figure 3 below. Any difference in earnings between heterosexuals and homosexuals is expected to be formed mostly via the variables included in the model.

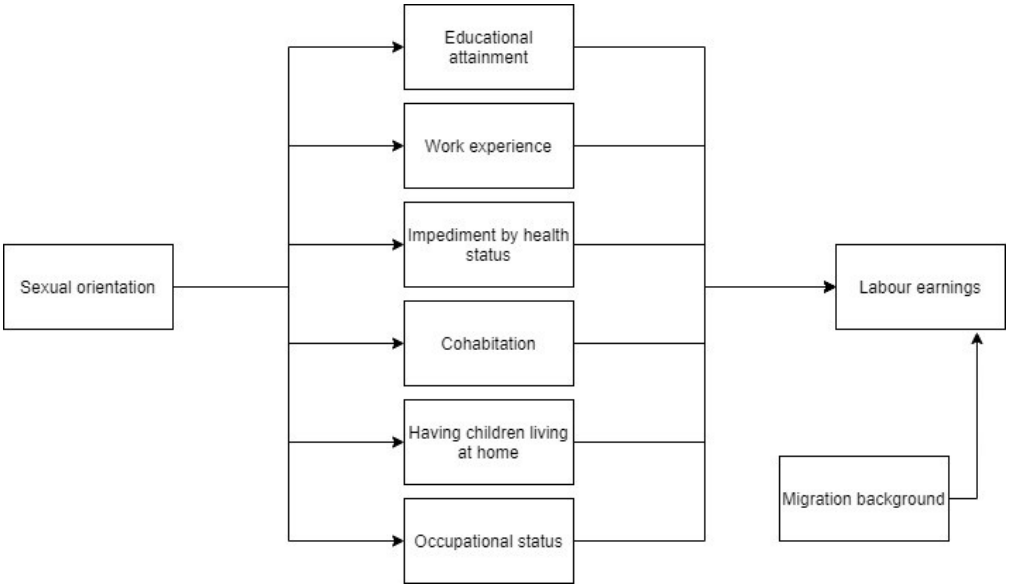

Figure 3. **Diagram of the theoretical model**

It should be noted, however, that there may be other factors that may influence this earnings difference that are not incorporated in the model for various reasons. Some variables have been asked for in the survey, but were still not included in the analysis for a lack of responses. For example, many respondents skipped the question about the number of employees working at their employer, suggesting they did not know the answer to this question. Because of this reason, it was unfeasible to include this variable in the model. Alternatively, some variables that were asked for correlated strongly with others, such as partnership (which correlated strongly with cohabitation), which is why they were excluded in the end. Another example is the number of working hours, as the effects of impediment by health status, cohabitation and having children living at home on earnings are expected to run partly via this number of working hours. Including this variable separately as well would complicate the analysis.

Furthermore, some variables were complicated to measure quantitatively by means of a survey or would require several questions or a survey experiment to be presented to respondents, which has disadvantages both in terms of the costs involved as well as in terms of the survey length. Examples of this are exposure to discrimination and preferences for occupational characteristics, such as taste for competition in the workplace. Finally, as a model is a simplified representation of the 'real world', it cannot capture all variables that play a role, and attempting to do so may result in overfitting, the inclusion of too many variables which complicates the data analysis. Therefore, it is best to keep the number of variables rather low.

Apart from the variables associated with both sexual orientation and earnings, there are also some control variables that are left out of the study, so variables that are expected to correlate only

with earnings and not with sexual orientation. These variables are left out of the model for the same reasons as mentioned above. Examples are age (which correlates strongly with work experience), personality (which would require the inclusion of a whole scale in the survey) and physical appearance (which is difficult, if not impossible, to measure with a survey).

2. Methodology

After the theoretical framework and hypotheses have been constructed in the previous Chapter, the study's methodology will be explicated in Chapter 2. It starts by discussing how the study's data has been collected in Subchapter 2.1, after which it proceeds by elaborating on the operationalization of the used variables in Subchapter 2.2. After the data are described in Subchapter 2.3, this Chapter ends with a part on the analytical strategy that is followed (Subchapter 2.4).

2.1 Data Collection Method

Ideally, one would set-up a randomized controlled trial (RCT), in which a sample of people is randomly assigned to a treatment while another sample, acting as control group, is not. In this way, the effects of confounding factors can be ruled out for the setting in which the experiment is performed. However, practical, methodological, ethical, and financial obstacles prevent such trials to be designed and implemented in practice with respect to the analysis of earnings differences. Alternatively, one needs to work with administrative or survey data in order to study earnings differences. Unless a convincing quasi-experimental research design (such as a regression discontinuity design, instrumental variable estimation or a differences-in-differences design) is applicable, which has not been found in the context of this topic, the threat of third variables having an effect on the study's outcomes needs to be considered seriously. Furthermore, the choice needs to be made between a cross-sectional design and a time series model. While the latter has the advantages of mapping changes in variables and effects over time and controlling for the time order of any found effects, one needs to collect data at several points in time, which may be both costly and time-consuming. As data on a new sample is collected, for there was no available dataset suitable for this study (containing all the variables of interest), data collection in several waves was deemed to be unfeasible in terms of time scope and financial aspects (as participants were rewarded, which is touched upon later in this Subchapter).

An online survey is deemed to be the most suitable data collection method for this study, for one cannot always obtain the values of the variables included for a certain individual via physical measures or observation of behaviour, so the data collection method has to be verbal. Additionally, opposed to an unstructured interview, questions can be composed beforehand in a survey (or structured interview). But the main reason to choose for an online survey rather than a structured interview or a 'physical' survey is the fact that in conversations, whether those are conversations with researchers/interviewers or with others, respondents might be influenced. For they often have the tendency to give a societally desirable answer while responding to the questions in the presence

of other people, they might give an answer that does not stroke with their actual opinions. A survey which our respondents can fill in at home or anywhere else (online) without being supervised, is therefore the most suitable data collection method for this research. Surveys are often considered to be feasible (Dooley, 2001), for the coverage of many people creates the potential to obtain a representative sample, which enables to generalize outcomes to the population at large. Additionally, the method is rather cost-effective, as it enables the collection of a large set of data at considerably low costs (Kelley et al., 2003). Within studies focusing on differences in labour market outcomes for individuals, it has been common to make use of surveys as a method of collecting data. Various studies, such as the one by Buser et al. (2018), have conducted their surveys online.

Considering above-mentioned strengths, also in this study a survey will be composed and conducted. By means of this survey, information on the different variables of interest can be collected. Even though there are already datasets publicly available that include information about the relation between individuals' earnings and education level, for example, there is no dataset publicly available about individuals' earnings and all of the independent variables that are of interest within this study. It would be unfeasible to combine various datasets with each other, seeing that the respondents of the surveys are likely to be different sets of individuals. Moreover, there may have been differences in terms of the way surveys were conducted, or in the way survey questions were formulated, which also obstructs the combination of various existing survey datasets.

For this study, a new survey has been composed. Some of the questions have been retrieved from or were inspired by the surveys of the Labour Supply Panel ('*Arbeidsaanbodpanel*' in Dutch) of the Netherlands Institute for Social Research ('*Sociaal en Cultureel Planbureau*' (2016)) and the Survey Working Population ('*Enquête Beroepsbevolking*') of Statistics Netherlands (Cremers, 2016). The new survey (Appendix D) has been programmed as an online questionnaire, so that selection and referral automatically applied on the basis of previously answered questions. Respondents were selected among members of the I&O Research Panel. This panel consists of about 25.000 individuals and is managed by the private research agency I&O Research. Members of the panel have been approached by I&O Research (and as such, self-registration is impossible), and the research agency attempts to make its research panel as representative as possible for the whole Dutch population in terms of *inter alia* age, gender, education level, region, employment status, etc. However, as I&O Research is dependent on the willingness of approached individuals to become member of the panel, and the willingness does not seem to be uniformly distributed among different population groups, complete representativeness has not been established yet. For example, men, the elderly, higher educated people and individuals without any migration background are overrepresented

among the panel members. Members of the panel regularly receive invitations to fill out surveys from I&O Research, and are then free to decide per occasion whether or not to fill out the survey. For each survey respondents complete, they are awarded points, which they can exchange for coupons.

Balancing the methodological demand for a large number of respondents on the one hand, and the monetary costs involved with this for I&O Research (due to the points exchangeable for coupons) on the other hand, it was decided to select 4.400 individuals from the total group of I&O Research panel members, considering that probably only a part of this group will actually fill out the questionnaire. Taking into account the latter, and seeing that an estimated 4 to 6% of the Dutch population is homosexual or bisexual (Van Beusekom & Kuyper, 2018), a completely random sample may have led to a number of homosexual respondents that is too low to enable representativeness and too low to include in a regression analysis. Therefore, the sample is not drawn in a completely random way. Instead, all 730 panel members that were known beforehand as homosexual or bisexual (due to their answers in previous surveys) were selected for the sample. The other 3.670 individuals selected for the sample were drawn randomly from the remaining group of I&O Research panel members (almost 25.000 people). The data-collection took place in July 2019; on the 3th of July, all selected panel members received an invitation email with a link to the online survey, and the ones who had not yet filled out the survey received a reminder email on the 10th of July. Finally, the online survey was closed on the 17th of July.

2.2 Operationalisation

Earnings and sexual orientation

The dependent variable of this study, '**earnings'**, is a ratio variable. More specifically, earnings is defined as after-tax net monthly wage. Firstly, the focus within this study is on labour earnings, which is why earnings only includes wages and excludes other types of earnings, such as dividend, rental income and interest income. Secondly, wages are expressed and asked for as monthly wages, since people tend to know their monthly wage better than their hourly/daily/four-weekly/yearly wage. This prevents respondents to calculate their earnings into another volume, which could have a negative effect on the response rate. Finally, after-tax wages are considered, for this is the net wage that people actually receive and that they can spend. In the context of analysing economic inequality, it is thus more relevant to look at the after-tax wage.

The independent variable of this study, '**sexual orientation'**, is included as dichotomous variable. The two values attached to the variable are 'homosexual' and 'heterosexual'. Since asking for one's sexual orientation might be a sensitive question, it is often not asked for directly. Instead,

many studies rely on the (reported) gender of one's partner in order to determine one's sexual orientation. Even though this is a useful method in doing so without (directly) notifying the respondents of having an interest in their sexual orientation as the focus of your study, it does not allow for the determinization of the sexual orientation of single people. Therefore, also questions will be asked about the sexual orientation of one's former partner(s) and, in case of never having had a partner, about the likely gender of any future partner. As the method of determination in the main analysis, one is categorized as homosexual if his/her current partner is of the same gender, and as heterosexual if his/her current partner is of the opposite gender. In absence of a current partner, sexual orientation is determined on the basis of the gender of (the majority of) one's former partner(s). If also former partners are lacking, one's sexual orientation is determined on the basis of the question to which people (with respect to their gender) one is mostly attracted romantically and sexually.[3] In this way, also people of other sexual orientations, including bisexuality and pansexuality, are categorized into one of the two values of sexual orientation. Even though other sexual orientations are recognized by this study, the small number of respondents who identify as such prevents this study from analyzing these subgroups. Consequently, the focus of the study is on only two sexual orientations, heterosexual and homosexual, which is very common within the literature on this topic.

Human capital factors

Among human capital factors, there are the variables of education level, level of work experience and health status. Within this study, '**education level**' is a non-numerical and ordinal variable with eight values: (1) no education/primary education, (2) LBO/VBO/VMBO '*kader/basis'*/MBO 1, (3) mavo/havo (first three years)/VWO (first three years)/ULO/MULO/VMBO '*theoretische leerweg'*, (4) MBO 2/3/4 or MBO in the pre-existing structure, (5) havo (last two years)/VWO (last three years)/HBS/MMS/HBO (first year)/WO (first year), (6) HBO (except for HBO master)/WO bachelor, (7) WO-doctoral/WO-master/HBO-master/post-doctoral education and (8) 'I do not know/I do not want to tell' (with the last value not occurring in the sample). Keeping an eye on the sample size, and in order to not have too many values of a nominal variable, these eight values for this variable have

[3] In order to assess the robustness of the results, the study's analysis has also been replicated for another operationalization of sexual orientation. In this operationalization, sexual orientation is purely based on the question about people of which gender one is mostly attracted to romantically and sexually. The results of the robustness check are not reported in this paper, but these are in line with the main analysis of this paper and do not alter the study's conclusions regarding the (non-)existence of any earnings difference between heterosexuals and homosexuals and its underlying mechanisms. The only exception is that heterosexual and homosexual men do not significantly differ in their work experience in the robustness analysis, because of which the mechanism of work experience does not play any significant role among men in the robustness analysis, while it does in the main analysis.

been recoded into three new values: (1) low level of education (previous values 1, 2 and 3), (2) middle level of education (previous values 4 and 5) and (3) high level of education (previous values 6 and 7). Because this recoded variable for education level is still an ordinal variable, it is recoded again into binary variables. Dummy variables are created for middle level of education and high level of education, while low level of education is omitted as the base category.

'**Amount of work experience**' is a ratio variable. Respondents are asked for their total number of years providing paid labour since entering the labour market, and this number will be defined as one's work experience. Respondents were also asked whether they have had periods in which they were not providing paid labour, due to being unemployed, a sabbatical, a gap year or any other reasons. Such a period needs to be excluded from the amount of work experience. Neither voluntary work does count for the years of work experience, nor do side jobs and holiday jobs that many people have (had) next to their studies before fully entering the labour market. For the total work experience, only the number of years working does matter, not the number of hours worked in those years.

'**Health status'** is an ordinal variable. As this study is mainly concerned with the extent to which a suboptimal health status could lower productivity, respondents are asked to judge themselves to what extent this was applicable in their own case. First, a question is asked on the respondent's health status during his/her working life. The five possible values are (1) always good, (2) mostly good, (3) not good/not bad, (4) mostly bad and (5) always bad. Respondents who answer with the value 'Always good' are not assigned any further question on health status. Respondents who indicate any of the other values by choosing another answer option are assigned the question 'To what extent has your health impeded you in your occupational tasks during your working life? This is about cases during which you were in a paid job, but in which you felt less capable of executing the occupational tasks that came with your paid job'. The four possible values are (1) (almost) never impeded, (2) now and then impeded, (3) often impeded and (4) (almost) always impeded. Because of the small number of observations in the fourth category, this is merged with the third category, that becomes 'often or (almost) always impeded). Respondents who were not asked this question because they self-indicated their health to be always good are assigned to the first category, (almost) never impeded. Because this operationalization of impediment by health status is still an ordinal variable, it has been transformed into binary variables. Two dummy variables have been created for 'now and then impeded by health status' (from now on referred to as 'sometimes impeded by health status') and for 'often or (almost) always impeded by health status' (from now on referred to as 'often impeded by health status'), with (almost) never impeded by health status as the omitted base category.

Family factors

'**Cohabitation**' is considered to be a dichotomous variable, with as two values 'cohabiting' and 'not cohabiting'. With cohabiting, living together with a partner is referred to, as the relevant underlying theoretical mechanism of dividing paid labour and household tasks is most common for this form of cohabiting and usually does apply for other settings to a lesser extent. Consequently, living together with one's children without a partner, or living together with roommates, do not count as cohabiting. For this variable, the original seven values to the question 'Who is your household composed of?' are recoded into two values. The original values 'I am married/living together without children living at home' and 'I am married/living together with children living at home' are combined in order to form the new value 'cohabiting'. The original values 'I am living on my own', 'I am living on my own (without partner) with children', 'I live with my parent(s)/caregiver(s)', 'Other' and 'I do not know/I do not want to tell' are combined in order to form the new value 'not cohabiting'.

'**Having children living at home**' is considered to be a dichotomous variable, with as two values 'having children living at home' and 'not having children living at home'. For this variable, the original seven values to the question 'Who is your household composed of?' are again recoded into two values. The original values 'I am living on my own (without partner) with children' and 'I am married/living together with children living at home' are combined in order to form the new value 'having children living at home'. The other values, the original values 'I am living on my own', 'I am married/living together without children living at home', 'I live with my parent(s)/caregiver(s)', 'Other' and 'I do not know/I do not want to tell' are combined in order to form the new value 'not having children living at home'.

Occupational factor

'Occupational status' is an interval variable. First, the respondent needed to fill out his/her function/job in a maximum of ten words, followed by a concise description of the most important tasks related to the job in a maximum of 100 words. The job titles were used to recode this string variable into a numerical variable, using an automatic coding script by Ganzeboom (2015). This script decoded job titles on the basis of most similar job title in its database into ISQO job classification codes. Consequently, all codes have been manually checked by the author, also using the task description provided by respondents, in order to correct for the wrong matches. The resulting ISQO job classification codes, however, are suboptimal to include in the analysis, since the classification has not yet resulted in an interval variable. Instead of this job classification, the variable of job prestige would form an interval variable, as one can rank jobs on the basis of (generally perceived)

job prestige, and for the variable has arithmetic properties. Therefore, the ISQO job classification codes have been recoded into ISEI08 scores for socioeconomic occupational status using a conversion tool by Ganzeboom and Treiman (2015). It is important to note that one should be careful with including ISEI08 scores as well as earnings, since these are both labour market outcomes and the ISEI index is constructing using data on education and earnings (Ganzeboom & Treiman, 2003). It may still be justified, nevertheless, to include occupational status as a variable in studies on earnings differences, in case one would like to assess whether any earnings difference is (partly) shaped via the channel of occupational attainment (Dell'Aringa et al., 2015), which is the case in this study. After the automatic recoding of ISQO into ISEI08 scores, all cases were again manually checked and corrected for errors.

Control variables

The control variable **'Gender'** is considered to be a dichotomous variable within this study. The respondent were required to choose between either man or woman. More extensive and comprehensive typologies of gender do exist, but for the sake of methodological simplicity, the decision has been made to only include two types of gender, which is still common practice in social science research.

The third control variable, '**migration background'**, is a nominal variable. Respondents needed to fill in their country of birth as well as the countries of birth of their father and mother. For the analysis, this is recoded into a dichotomous variable, with as values either having a migration background or not having a migration background. Someone is only considered not to have a migration background if both his/her own country of birth as well as those of his/her father and mother is the Netherlands. Otherwise, in case the country of birth of either the respondent or his/her father or his/her mother is not the Netherlands, the respondent is considered to have a migration background.

2.3 Data description

Of the 4.400 individuals that were selected for participation in this study, 1.059 people filled out the survey. This makes a response rate of 24.1%. After removing observations that did not fill out questions needed for determining the variables of interest, that filled out 'do not know/do not want to tell' for these crucial questions, or that filled out values that are unlikely or impossible (for example a respondent who filled in his/her birth year as the year of starting working), 837 observations are left. As pointed out before, the operationalization of sexual orientation leads to a small subcategory of bisexual respondents. Because this subcategory is too small for further analysis,

its four observations have also been removed from the sample. This yields a final total number of cases of 833. In Table 1 below, the variables included in the study are listed with their minimum value, maximum value, mean and standard deviation.

Type of variable	**Variable**	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
Dependent variable	Earnings	107	9000	2336.676	938.729
	Earnings (log)	4.673	9.105	7.671	0.444
Independent variable	Sexual orientation	0	1	0.151	0.359
Human capital factors	Middle level of education	0	1	0.363	0.481
	High level of education	0	1	0.535	0.499
	Work experience	0	55	25.589	13.309
	Sometimes impeded by health status	0	1	0.274	0.446
	Often impeded by health status	0	1	0.040	0.195
Family factors	Cohabitation	0	1	0.679	0.467
	Children living at home	0	1	0.335	0.472
Occupational factor	Occupational status (ISEI08)	11.740	88.980	57.083	19.093
Control variable	Migration background	0	1	0.101	0.301
	Gender	0	1	0.407	0.492

Table 1. **Descriptive statistics of all the variables included in the study (N=833)**

2.4 Analytical strategy

In order to compare the earnings distribution of heterosexuals and homosexuals and examine whether there is a significant difference between the two groups in that respect, a two-sample t-test is conducted. Since two different groups are compared, between which there is no overlap, and the data are thus unpaired, unequal variances are assumed. The Welch's t-test is a slightly different version of the regular two-sample "Student's" t-test, and preferable in case the variances of the two samples are unequal (Salkind, 2010). The resulting t-value can, together with the degrees of freedom, be used to derive a p-value, indicating the probability to find the observed data in case the null hypothesis is true. Within this study, the p-value can thus be used to examine whether there is a significant difference in mean earnings between heterosexuals and homosexuals.

In order to study the direction, strength and significance of the hypothesized relationships between the independent variable, mediating variables and control variable on the one hand and earnings on the other hand, the collected data will be analyzed using multivariate regression analysis. Typically, linear regression is used in many studies addressing any earnings differences, with Ordinary Least Squares (OLS) as an estimation method. As OLS minimizes the sum of squared residuals, it is the easiest way of estimating the relationship between the variables of the model. The OLS regression takes the form:

$$
\begin{aligned}
Labour\ earnings \\
&= \beta_0 + \beta_1 homosexual + \beta_2 edumid + \beta_3 eduhigh + \beta_4 work + \beta_5 impedsome \\
&+ \beta_6 impedalw + \beta_7 cohabit + \beta_8 children + \beta_9\, occupation + \beta_{10}\, migration \\
&+ v_i
\end{aligned}
$$

in which β_0 is the intercept, β_1, β_2, … , and β_9 are the regression coefficients, *homosexual* is denoting the variable of sexual orientation, $edumid$ middle level of education, $eduhigh$ high level of education, $work$ amount of work experience, $impedsome$ sometimes impeded by one's health status, $impedalw$ always impeded by one's health status, $cohabit$ cohabiting, $children$ having children living at home, $occupation$ occupational status, $migration$ migration background, and v_i the error term containing all unobserved factors affecting labour earnings.

By means of the regression analysis, it can be analyzed to what extent the variables in the model are associated with earnings. As a next step, it will be analyzed whether differences in endowment, for those variables that are significantly associated with earnings, can explain differences in earnings between homosexuals and heterosexuals. In order to do so, Welch's t-tests are also performed for these variables.

But apart from differences in earnings being the result of differences in endowment, it may also result from differences in the returns to endowment. Thus, even in case heterosexuals and homosexuals would be similarly educated, have equal amounts of work experience, etcetera, they may still have different earnings, because these endowments may be differently associated with earnings for homosexuals relative to heterosexuals. In order to analyse whether this is actually the case, several interaction terms will be added to the regression. These interaction terms show the strength of the association between one of the variables with earnings for homosexuals specifically. For example, if the interaction variable of having children living at home and sexual orientation would be significantly associated with earnings, this means that the strength of the association between having children living at home and earnings differs by sexual orientation.

3. Results

In the Results chapter, a comparison of earnings distributions will be carried out firstly, in order to assess whether any earnings difference exists at all between heterosexuals and homosexuals. Secondly, a regression analysis will be performed, in order to analyze the association between the included intervening and control variables and earnings.

3.1 Comparison of earnings distributions

In the descriptive analysis, the two groups (heterosexuals and homosexuals) are compared with each other with respect to their earnings distribution. In line with the hypotheses, separate comparisons are conducted for men and for women. Firstly, horizontal box plots are constructed for the income distributions. For each group, these box plots indicate the minimum (excluding outliers), the 25th percentile, the median/50th percentile, the 75th percentile and the maximum (excluding outliers). The dots are outliers.

Figure 4. **Box plots of the earnings distribution among men (N=494)**

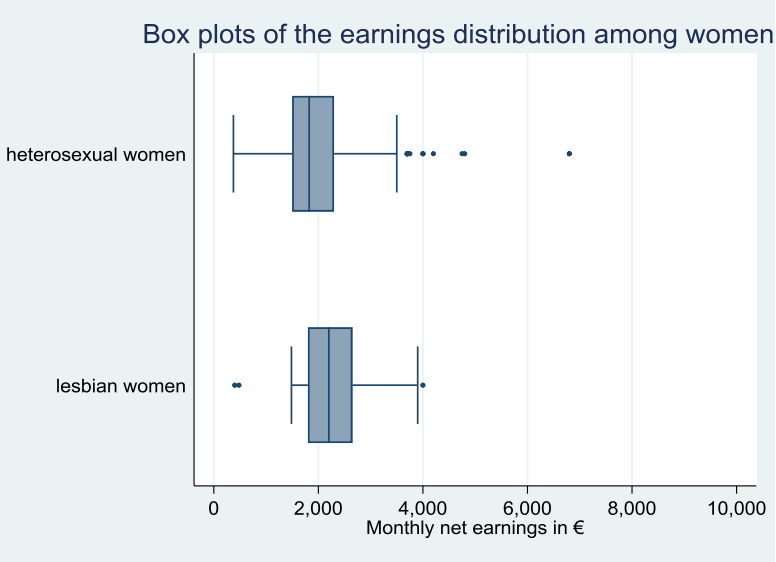

Figure 5. **Box plots of the earnings distribution among women (N=339)**

From the box plots, a few observations can be made: firstly, comparing the box plots of Figure 4 with those of Figure 5, they clearly visualise that the men in the sample earn more than the women on average. Secondly, focusing on Figure 4, one can hardly see any difference between the box plot of heterosexual men and that of homosexual men. The most apparent difference concerns the outliers; there are more outliers among the heterosexual men, most of them slightly left or right from the box plot. Among the homosexual men, there are only a few outliers, but these are all right from the box plot, two of which of an extremely high value. Secondly, regarding the women in the sample (Figure 5), there are clearer differences between heterosexual and lesbian women. All five indicating points of the box plot have a higher value for lesbian women than for heterosexual women. It should be noted that there are few outliers among the lesbian women, all but one to the left side of the box plot, while all outliers among the heterosexual women are to the right of the box plot. A further investigation of all outliers is necessary, for these single data points may change our conclusions for the whole sample, and may moreover point at data entry errors or measurement errors. The examination of outliers can be found in Appendix B.

Even though the box plots already give some idea of the differences in income distribution between the groups, they are not sufficiently informative to determine whether or not there is a significant earnings difference between homosexuals and heterosexuals. Therefore, as a more formal statistical method, a two-sample t-test is conducted. From Table 2, it can be observed that the heterosexual men within the sample earn on average approximately €2554.24 net per month, while the homosexual men within the sample earn on average almost €130 more, as they have a mean salary of about €2683.99 per month. The question is whether this found earnings premium for homosexual men is statistically significant. This question is tested via the performance of a Welch's t

Test, of which the results are presented in Table 2. On the basis of these results, we can conclude that there is no significant difference in average earnings between heterosexual and homosexual men. Thus, Hypothesis 1A is rejected (see Appendix C).

The heterosexual women within the sample earn on average approximately €1947.14. This is clearly less than the (both heterosexual as well as homosexual) men within the sample. The lesbian women within the sample earn about €2299.22 on average. The difference in average earnings between heterosexual and lesbian women is over €350, but it still needs to be tested formally using the Welch's t Test. On the basis of the results depicted in Table 2, we can conclude that lesbian women earn significantly more than heterosexual women on average. Therefore, Hypothesis 1B is confirmed (see Appendix C).

	Mean	**Standard Error**	**95% Confidence Interval**	
Heterosexual men	2554.243	40.743	2474.148	2634.337
Homosexual men	2683.988	130.979	2423.694	2944.282
	t Statistic		**Degrees of freedom**	**p-Value**
Welch's t test	- 0.946		106.035	0.346
	Mean	**Standard Error**	**95% Confidence Interval**	
Heterosexual women	1947.141	50.067	1848.615	2045.666
Lesbian women	2299.216	132.975	2029.530	2568.902
	Welch's t Statistic		**Degrees of freedom**	**p-Value**
Welch's t test	- 2.478		47.413	0.0168

Table 2. **Welch's t-test of two independent samples with unequal variances.**

3.2 Regression analysis

While the Welch's t-test of the previous Subchapter has provided an answer the question to what extent there are any differences in mean earnings between homosexuals and heterosexuals in the sample, it is uninformative for the analysis of underlying mechanisms. The earnings premium for lesbian women in comparison with heterosexual women that was documented poses the question why this premium is in place. Therefore, a regression analysis will be conducted in this Subchapter. The analysis starts with assessing the relationship between sexual orientation and earnings without including any other factors, after which each group of theorized mediating variables will be added to

the model. The objective is to understand which factors are associated with the earnings premium of lesbian women over heterosexual women. Additionally, it is also interesting to further analyse the men in the sample, despite the lack of any significant earnings difference between heterosexual and homosexual men. It may be the case that there are underlying mechanisms that cancel each other out, for example in the hypothetical scenario that the homosexual men within the sample would be on average higher-educated, but also in a poorer health status and with less work experience. In that case, the positive earnings effect of a higher education level is cancelled out by the negative earnings effects of a poorer health status and less work experience, all in all resulting in a situation without any significant earnings differences between homosexual and heterosexual men. A regression analysis will clarify whether this is actually the case.

Again, men and women will be analysed separately, starting with men. Firstly, the association between the various characteristics with earnings is assessed using linear regression. All numbered columns in Table 3 below indicate different models, so that each model includes a different set of variables, which are presented in the rows. The first thing that catches the eye is that, among men, the association between sexual orientation and earnings is insignificant in the first model of only these two variables, and it remains insignificant in the five next models. Perhaps this is unsurprising given the insignificance of the earnings difference between heterosexual and homosexual men. In the second model, the control variable of migration background is added, which affects the association between sexual orientation and earnings only slightly. In the third, fourth and fifth model, the human capital variables, family variables and job variable are added separately. When the job variable and especially the human capital variables enter the model, the association between sexual orientation and earnings becomes negative. In model 6, all variables of the theoretical model are included. As said, also in this final model, the association between sexual orientation and earnings is insignificant. From the variables of the theoretical model, the variables of high level of education, work experience, being sometimes impeded by health status, being often impeded by health status, having children living at home and occupational status are significantly associated with earnings, whereas the other variables are not.

Type of variable	Regressor	(1)	(2)	(3)	(4)	(5)	(6)
Independent variable	**Sexual orientation**	0.014 (0.044)	0.013 (0.044)	- 0.050 (0.042)	0.068 (0.045)	- 0.025 (0.041)	- 0.021 (0.041)
Control variable	**Migration background**	-	0.055 (0.055)	0.045 (0.051)	0.060 (0.054)	0.057 (0.050)	0.068 (0.048)
Human capital factors	**Middle level of education**	-	-	0.079 (0.056)	-	-	0.025 (0.053)
	High level of education	-	-	0.294* (0.056)	-	-	0.125* (0.057)
	Work experience	-	-	0.005* (0.001)	-	-	0.005* (0.001)
	Sometimes impeded by health status	-	-	- 0.116* (0.037)	-	-	- 0.086* (0.035)
	Often impeded by health status	-	-	- 0.405* (0.084)	-	-	- 0.383* (0.079)
Family factors	**Cohabiting**	-	-	-	0.059 (0.038)	-	- 0.004 (0.035)
	Children living at home	-	-	-	0.133* (0.040)	-	0.109* (0.036)
Occupational factor	**Occupational status**	-	-	-	-	0.008* (0.001)	0.006* (0.001)

Table 3. **Regressions on log earnings among men (N=494). The * indicates a significant relationship at the 95% level. Standard errors in brackets.**

While Table 3 shows the association between all the variables in the theoretical model and earnings, this is not yet sufficient to be informative about the impact that these variables may have on any earnings difference between heterosexual and homosexual men, or in case of the men within the sample, the absence thereof. Therefore, as a next step, it is analysed to what extent heterosexual and homosexual men differ with respect to their mean values for the variables that are significantly associated with earnings. As can be seen in the Table 4 hereunder, heterosexual and homosexual

men significantly differ in their endowment for educational attainment, work experience, having children living at home, and occupational status, while they do not significantly differ in how often they are impeded by their own health status. After multiplying the difference for a specific with the association of that variable with earnings, it can be assessed to what extent the difference in endowment is associated with the earnings of homosexual men relative to the earnings of heterosexual men. It can be observed from Table 4 that the generally higher educational attainment, larger work experience and higher occupational status of homosexual men are associated with higher earnings relative to heterosexual men. Contrarily, their lower frequency of having children living at home is associated with lower earnings compared to heterosexual men. Thus, hypotheses 2A and 6A are confirmed, while the other hypotheses formulated for men are rejected (see Appendix C).

Variable	Mean heterosexual men	Mean homosexual men	Difference in means (homo - hetero)	Association with log earnings	Association with relative earnings homosexual men
High level of education	0.491	0.719	0.228*	0.125	0.029
Work experience	26.150	29.192	3.042*	0.005	0.015
Sometimes impeded by health status	0.230	0.281	0.051	- 0.086	- 0.004
Often impeded by health status	0.037	0.034	- 0.003	- 0.383	0.001
Children living at home	0.358	0.034	- 0.324*	0.109	- 0.037
Occupational status	56.893	61.725	4.832*	0.006	0.034

Table 4**. Calculation of the association of the mediating variables with the earnings of homosexual men relative to those of heterosexual men. Only those mediating variables that are significantly associated with earnings among men are included (see Table 3). The * indicates a that a difference in means is significant at the 95% level, calculated via a Welch's t-test (see Appendix A)**

Apart from this endowment part in earnings differences, there is also the wage structure part that relates to differences in returns to endowment factors. As explained in Subchapter 2.4, this wage structure part was covered by including interaction terms in the regression. Therefore, Table 3 originally contained an additional regression model with nine interaction terms, for the interactions of all mediating and control variables with sexual orientation. However, most interaction terms were insignificantly associated with earnings and moreover, the VIF-test indicated problems of multicollinearity. Therefore, one by one, the interaction terms with the highest p-values were removed from the model, until only those interaction terms that are significantly associated with earnings remained. This time, the VIF-test did not indicate any problems of multicollinearity. Unfortunately, for the two significant interactions, those of middle level of education with sexual orientation and being often impeded by one's health status with sexual orientation, the subgroups contained a limited number of respondents. Especially among homosexual men, the subgroups were often considered to be too small ($N < 10$) for further analysis, seeing that a single outlier within a subgroup was able to affect the significance of the interaction. Therefore, the analysis of interaction effects was considered to be methodologically unfeasible, and the interactions terms were thus removed from the regression model.

For the analysis of the earnings difference between heterosexual and lesbian women, the same procedure is followed. Below, Table 5 presents the results of a linear regression of the independent and mediating variables on earnings among women. In contrast with men, the association between sexual orientation and earnings is significant among men for almost all models. The only exceptions are the third model, in which apart from the control variable the human capital variables are added only, and the sixth model, in which all variables are included. Thus, once the human capital variables are controlled for, the association between sexual orientation and earnings becomes insignificant. This may hint at the human capital variables playing a role in the earnings premium of lesbian women over heterosexual women. It is interesting to observe, furthermore, that the strength of the association between sexual orientation and earnings reduces once the mediating variables are added. Finally, in the sixth model, only the two dummy variables for educational attainment and the variable of occupational status are significantly associated with earnings, while all others variables from the theoretical model are not.

Type of variable	Regressor	(1)	(2)	(3)	(4)	(5)	(6)
Independent variable	**Sexual orientation**	0.184* (0.082)	0.181* (0.082)	0.029 (0.076)	0.169* (0.083)	0.154* (0.064)	0.086 (0.066)
Control variable	**Migration background**	-	0.065 (0.089)	0.043 (0.080)	0.068 (0.089)	0.068 (0.069)	0.065 (0.068)
Human capital factors	**Middle level of education**	-	-	0.217* (0.086)	-	-	0.177* (0.074)
	High level of education	-	-	0.610* (0.087)	-	-	0.277* (0.080)
	Work experience	-	-	0.002 (0.002)	-	-	0.001 (0.002)
	Sometimes impeded by health status	-	-	0.002 (0.050)	-	-	- 0.022 (0.043)
	Often impeded by health status	-	-	- 0.188 (0.114)	-	-	- 0.115 (0.098)
Family factors	**Cohabiting**	-	-	-	- 0.060 (0.057)	-	- 0.070 (0.044)
	Children living at home	-	-	-	- 0.024 (0.055)	-	- 0.058 (0.043)
Occupational factor	**Occupational status**	-	-	-	-	0.016* (0.001)	0.014* (0.001)

Table 5. **Regressions on log earnings among women (N=339). The * indicates a significant relationship at the 95% level. Standard errors in brackets.**

In order to assess the association of these three variables with the difference in earnings, the strength of their association with earnings is multiplied with the difference between heterosexual and lesbian women in mean values for these variables. Table 6 hereunder presents the resulting estimates. It can be observed that heterosexual and lesbian women significantly differ in their endowment for educational attainment, but not significantly in their endowment for occupational status. Therefore, the study finds that that the generally higher education level of lesbian women is

associated with an earnings premium relative to heterosexual women. As a consequence, hypothesis 2B is confirmed, while the other hypotheses formulated for the endowments of women are rejected (see Appendix C).

Variable	Mean heterosexual women	Mean lesbian women	Difference in means (lesbian - hetero)	Association with log earnings	Association with relative earnings lesbian women
Middle level of education	0.381	0.189	- 0.192*	0.177	- 0.034
High level of education	0.507	0.811	0.304*	0.277	0.084
Occupational status	55.908	57.580	1.672	0.014	0.023

Table 6**. Calculation of the association of the mediating variables with the earnings of lesbian women relative to those of heterosexual women. Only those mediating variables that are significantly associated with earnings among women are included (see Table 5). The * indicates a that a difference in means is significant at the 95% level, calculated via a Welch's t-test (see Appendix A)**

Also among women, only two interaction terms were found to be significantly associated with earnings, after the same steps were followed as with the analysis of interaction terms for men. However, also for these two interactions, those of migration background with sexual orientation and of being often impeded by one's health status with sexual orientation, the subgroups were considered too small for further analysis. Consequently, the interactions were also excluded from the final regression model of women, meaning that the interactions could not be studied unfortunately.

4. Conclusion and Discussion

This Chapter consists of the Conclusion (Subchapter 4.1) and the Discussion (Subchapter 4.2). In the Conclusion, the study's research questions are answered on the basis of the results of Chapter 3. Thereafter, in the Discussion, these results will be put into a broader perspective of earlier research, validity and limitations of this research, and perspectives for future research.

4.1 Conclusion

In this study, the earnings of heterosexuals and homosexuals in the Netherlands are compared for a new sample of data. In order to examine the earnings of homosexuals relative to those of heterosexuals and the factors underlying any potential earnings difference, several steps have been taken. Below, the results will be summarized and used to answer the study's research questions step-by-step.

RQ1: *To what extent is there a difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019?*

The results of a Welch's t-test indicate that the earnings difference between heterosexual and homosexual men is not significant on the 95% level. Contrarily, the earnings difference between heterosexual and lesbian women is statistically significant. Thus, as an answer to RQ1, it has been found that without controlling for any other factors, there is no statistically significant difference in earnings between the heterosexual and homosexual men in this study, while lesbian women earn significantly more than heterosexual women.

RQ2: *To what extent can any difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019 be explained by human capital factors?*

From a regression of all variables in the theoretical model on earnings, it turns out that the variables of high level of education, work experience and both variables for impediment by health status are significantly associated with earnings among men, while middle level of education is not. Among women, both variables of educational attainment are significantly associated with earnings, while work experience and impediment by health status are not. The results of Welch's t-tests indicate homosexual men to be higher educated and to have more work experience than heterosexual men on average, while no significant differences in impediment by health status have been found. Among women, lesbians are found to be significantly higher educated than heterosexual women.

Answering RQ2, one can conclude that homosexual men are higher educated and have more work experience than their heterosexual counterparts, which increases their relative earnings, while

there is no significant endowment difference in impediment by health. For women, it can be concluded that lesbian women are generally higher educated than heterosexual women. This increases the earnings of lesbians relative to their heterosexual counterparts. The variables of work experience and impediment by health status do not play a significant role.

RQ3: *To what extent can any difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019 be explained by family factors?*

From the regression of all variables in the theoretical model on earnings, it appears that from the family variables, having children living at home is significantly associated with earnings among men, while it is not among women. Additionally, homosexual men have significantly less often children living at home. Cohabitation is not significantly associated with earnings for both men and women. Thus, answering RQ3, it can be concluded that the lower frequency of having children living at home among homosexual men is associated with a decrease in their earnings relative to heterosexual men, since having children living at home is positively associated with earnings among men. The factor of having children at home does not play a role in the earnings difference between heterosexual and lesbian women, and cohabitation is not significantly associated with earnings among both men and women.

RQ4: *To what extent can any difference in labour earnings between heterosexual and homosexual individuals in the Netherlands in 2019 be explained by occupational factors?*.

After having performed the regressions, it turns out that occupational status is significantly associated with earnings for both men and women. When assessing the endowments for occupational status, the homosexual men in the sample turn out to have a significantly higher occupational status than heterosexual men, while there is no significant difference in occupational status between heterosexual and lesbian women. As an answer to RQ4, the study finds that the higher average occupational status of homosexual men is associated with a relative earnings advantage over heterosexual men, while occupational status does not play a role among women.

All in all, combining all the different groups of variables of the theoretical model, two overall conclusions can be drawn from this study. Firstly, even though there is no significant difference in earnings between heterosexual and homosexual men, it seems that there are several underlying mechanisms that cancel each other out. While their larger work experience and higher occupational status are associated with higher earnings for homosexual men relative to heterosexual men, there is the opposing effect of having less often children living at home, associated with lower earnings

relative to heterosexual men. Secondly, the significantly higher earnings of lesbian women relative to heterosexual women is rather strongly associated with their generally higher education level.

4.2 Discussion

In this Subchapter, the study's results are first compared with the results of previous studies on the topic. Consequently, the context of the study is visited, discussing the external validity of its findings. Thereafter, the internal validity of the study is elaborated on. Finally, directions are provided for future research building on this study.

Relation to previous results

This study contributes to the scientific literature on earnings differences between heterosexuals and homosexuals by means of an analysis on a new sample of data. Compared with the previous two studies on this topic in the Netherlands, this study includes more variables to enable a further decomposition of any earnings differences. For men, the results of this study are in line with those of Buser et al. (2018), as they also found no significant earnings difference between heterosexual and homosexual men when they did not control for any factor other than age. Plug and Berkhout (2004), in contrast, did find a significant earnings penalty for homosexual men. For women, the results are in line with those by both previous studies in the sense that all three studies find lesbian women to earn significantly more than heterosexual women. While the previously mentioned studies have only controlled for education and one or two other variables (working hours in the case of Plug and Berkhout (2004) and age and level competitiveness in case of Buser et al. (2018)), this study shows various other factors to be relevant to include as well, such as occupational status and having children living at home.

Context and external validity

As for many other studies as well, the results of this study are place- and time-specific. The data for this study has been collected in July 2019, when the labour market was relatively tight. The labour economic conditions at the time of data collection are relevant, for previous research has suggested that the extent of labour market discrimination may be smaller in a period when the labour market for at least some occupations is tight (Baert et al., 2015). Under such conditions, employers in some occupations are namely struggling to find and keep qualified personnel and therefore may be less selective and discriminatory in their human resource management practices. If such discriminatory practices would otherwise translate in reduced earnings for homosexuals, any earnings differences between homosexuals and heterosexuals would be smaller in times of a tight labour market. Thus, it

may be possible that the documented earnings differences would have been higher under economically worse labour market conditions. This makes clear that the results should not be generalized to any context without a careful consideration of the time and place characteristics.

Internal validity and limitations

Even though a survey forms a relatively cost-effective data collection technique, it also comes with several disadvantages. Together with the cross-sectional research design, this is reflected in the various errors that may arise. Firstly, any sample, even if not biased, will slightly overestimate or underestimate the true population value randomly, so the outcomes will vary from sample to sample, which is called sample error. This type of error is difficult to measure and to prevent, and as it is known that in most cases, samples from a population tend to converge around one point and sample error is thus small (Dooley, 2001), this risk will need to be borne and taken into account in the interpretation of the results. That is, the results should not be considered as an absolute truth, but rather as an estimation of what is true. Next to sample error, there is also the chance of sample bias, meaning that the population is wrongly estimated by the sample (Dooley, 2001). Because a large part of the sample has been randomly drawn from the I&O Research panel, and self-registration for the panel is impossible, the risk of this type of bias affecting the results has been reduced to a large extent.

With respect to the composition of the group of respondents included in the analysis, men and higher-educated individuals are somewhat overrepresented relative to the overall Dutch working force, while elderly people and people without a migration background are heavily overrepresented. These groups are overrepresented in the whole I&O research panel as well, as younger people, people with a migration background and lower-educated individuals are harder to include in a panel and to incentivize to take part in surveys. In the regressions, variables have been included that make sure education level and migration background are controlled for, and the analyses have been conducted for men and women separately. Age has not been controlled for, because this correlated to a large extent with work experience. Because of these controls, the regression is less prone to sample bias than the descriptive statistics and comparisons of mean earnings.[4]

[4] In order to assess whether sample bias would influence the conclusions regarding the comparisons of mean earnings, the Welch's t-tests have also been conducted on a weighted sample. This sample has been weighted on the variables of education level, age group and region of residence in order to be representative of the Dutch working population. The weighting is based on data about the Dutch population from the 'Gouden Standaard'. The sample has not been weighted on having a migration background, as this would put an unfeasibly high weight on the relatively small number of respondents with a migration background. The Welch's t-tests on a reweighted sample lead to the same conclusions as the main analyses.

Apart from bias during the phase of sampling, bias and error may occur as well during the data collection phase. Firstly, the measurement may be unreliable, which is the case if people answer differently to the same questions at different points in time (Dooley, 2001). This cannot be checked, as the responses have been collected only one time for each respondent. In order to prevent data collection error as much as possible, the survey questions have been formulated in an as unambiguous and conceivable manner as possible. Besides data collection error, data collection bias may occur when the decision to actually take part in this particular survey among the sampled panel members is associated with other factors that sets apart the set of respondents from the general population. Taking this into account, the survey was presented to the sampled individuals as a general questionnaire on labour variables, and only asks questions about the potentially sensitive topics of sexual orientation and partnership toward the very end, in the hope that this would limit selection bias as much as possible.

Another form of data collection bias is in place when people do not provide honest answers, but socially desirable answers instead. As stated before, the distance created by conducting the survey online rather than face-to-face was supposed to take away this effect partly. Additionally, it was stressed at the beginning of the survey that the respondents' answers would be processed in an anonymous fashion and their answers would be treated confidentially. This was emphasized again right before posing the questions on the potentially sensitive topics of sexual orientation and partnership. Nevertheless, it may be that homosexual people who do not feel comfortable in enclosing their sexual orientation decided to falsely indicate to be heterosexual, or to not complete the questionnaire or skip the relevant questions more often, leading to an exclusion from the final set of analysis. If there is heterogeneity among homosexuals in their willingness to disclose their sexual orientation that is related to any other factors, this may bias the results. For example, if higher-educated homosexuals would be generally more open about their sexual orientation, which is not implausible, this may be have driven the higher education level reported by lesbian women relative to heterosexual women in this study, rather than them actually having a higher educational attainment. However, the risks that come with enclosing one's sexual orientation in an anonymous survey are low, so that the extent to which bias of this form is in place can be questioned too. Moreover, as explained in Chapter 2, there are reasons on the basis of theoretical arguments and empirical findings of previous studies to believe that lesbian women truly have a higher educational attainment on average. Therefore, the threat of bias of this form is deemed to be of a rather small nature, even though not impossible.

Now these potential threats to the internal validity of the study have been discussed, an important limitation related to the study's research design needs to be touched upon as well. By

means of this cross-sectional research design, no causal effects can be identified, as the study cannot control for third variables playing a role. Such confounding variables may include variables that are intentionally left out of the model, mentioned in Subchapter 1.4, but also any variables that were not considered. For example, the in this study documented association between education level and earnings among men may be driven by a confounding variable affecting both. This prevents the study from drawing any causal conclusions, but this goes for all studies on this topic since using (quasi-)experiments is difficult for this topic, if not impossible. The study's results are still useful, however, as long as they are correctly interpreted, because they indicate relationships (even if not causal) and point at directions for further research to investigate the underlying mechanism more closely.

Directions for further research

It is not well understood why the findings of the study are in place, as some findings contradict the hypotheses derived from the scientific literature on the topic. There may be plausible reasons, however, for the documented results. One reason for the generally larger work experience of homosexual men, for example, may be that they are somewhat older than the group of heterosexual men within the sample, without any apparent reason for this found age difference. It would be good for further research to investigate the nature of the found results in this study and the underlying mechanisms. Examples are the significant differences in work experience and occupational status between heterosexual and homosexual men and the significant differences in education level between heterosexual and homosexual men and between heterosexual and lesbian women.

Secondly, another way in which further research could proceed is by analyzing differences in household income between different-sex and same-sex couples in the Netherlands. This study, as well as the two previous scientific studies on this topic have focused on the level of the individual. An advantage of this approach is that it does not exclude singles. A disadvantage, however, is that paid labour and household labour are typically divided over household members, and income is typically pooled on the household level and shared by its members. Thus, earnings differences between sexual orientation groups on an individual level do not necessarily persist on the household level. A recent analysis on Dutch households by Statistics Netherlands (2019), which does not exclusively include labour income but also income from entrepreneurs, shows that couples consisting of two men have the highest pooled household income. Couples consisting of a man and a woman have an average pooled household income that is about as much as couples consisting of two women, but both types of couples earn substantially less than couples of two men. It would be interesting for a future study to decompose the household earnings differences in more detail.

Finally, further research could also benefit from a larger sample size, as some variables could not be included in the analysis given a lack of responses and small sample sizes in the different subgroups by gender and sexual orientation. This has prevented the study from conducting its planned analysis of interaction effects as well as from comparing the earnings of heterosexuals and homosexuals at various point in the earnings distribution, which would also be interesting for future research. Similarly, bisexual people have been excluded from the analysis given the small number of respondents identifying as such. Thus, in several ways, a dataset with a larger number of respondents would allow a study to analyze a broader population (including more subgroups) in more detail and could thereby contribute to a better understanding of earnings differences by sexual orientations.

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Appendix A: Additional tables for main analysis

The tables below present the results of the Welch's t-tests for those variables in the main analysis under Subchapter 3.2 that are significantly associated with earnings, for men and women in Tables A1 and A2 respectively. The results from these two Tables are used in Tables 4 and 6 of Subchapter 3.2.

Mediating variable	Mean heterosexual	Mean homosexual	t Statistic	Degrees of freedom	p-Value
High level of education	0.491	0.719	- 4.219	140.75	< 0.001
	(0.025)	(0.048)			
Work experience	26.150	29.192	- 2.196	148.801	0.030
	(0.672)	(1.211)			
Sometimes impeded by health status	0.230	0.281	- 0.981	124.591	0.329
	(0.021)	(0.048)			
Often impeded by health status	0.037	0.034	0.156	134.333	0.877
	(0.009)	(0.019)			
Children living at home	0.358	0.034	10.583	378.19	< 0.001
	(0.024)	(0.019)			
Occupational status	56.893	61.725	- 2.388	149.339	0.018
	(0.985)	(1.768)			

Table A1. **Welch's t-test of two independent samples with unequal variances for those mediating variables that are significantly associated with earnings among men (see Table 3).**

Mediating variable	Mean heterosexual	Mean homosexual	t Statistic	Degrees of freedom	p-Value
Middle level of education	0.381	0.189	2.698	51.032	0.009
	(0.028)	(0.065)			
High level of education	0.507	0.811	- 4.263	51.998	<0.001
	(0.029)	(0.065)			
Occupational status	55.908	57.580	- 0.544	47.387	0.589
	(1.083)	(2.880)			

Table A2. **Welch's t-test of two independent samples with unequal variances for those mediating variables that are significantly associated with earnings among women (see Table 5).**

Appendix B: Examination of outliers

From the box plots in Figures 4 and 5, we have observed various outliers in terms of earnings. Outliers have the potential to be influential cases, which disproportionately affect the results of the hypothesis testing or the regression analysis. For these potential effects, influential observations need to be dealt with. The first step is to examine for all outliers whether they are actually influential. A commonly used measure for influence, Cook's distance, is constructed for our sample. As a general rule of thumb, cases are considered to be influential when their value exceeds 4/N. The N and thus the threshold differs per subgroup that is analysed in this study, with a value of (4/405≈) 0,0099 for heterosexual men, (4/89≈) 0,0449 for homosexual men, (4/302≈) 0,0132 for heterosexual women, and (4/37≈) 0,108 for lesbian women. Taking these thresholds into account, 19 influential outliers were found among heterosexual men, 2 among homosexual men, 13 among heterosexual women and 4 among lesbian women. These outliers approximately correspond with the dots left and right to the box plots of Figures 4 and 5. For all these outliers, it was examined whether the self-reported income seems plausible in combination with the self-reported job title, job description and number of hours working, in order to reduce the possibility of outliers being the consequence of data entry errors. After a closer look at all outlying individuals in terms of earnings, it turned out that they all seem plausible or at least possible given the occupations and number of hours working related to these outliers. Therefore, they should not be removed, as outliers can occur due to natural variation in earnings. Instead, the analysis should be run without these outliers too, in order to assess whether the outliers affect the test outcomes and conclusions of this study. Therefore, in accordance with the procedure described above, the outliers were removed, leading to a sample size of 473 for men and 322 for women. Consequently, Welch's t-test for the comparison of mean earnings was again conducted. The results are presented in Table B1 below. As one can see, the mean earnings have slightly changed for all subgroups, but the conclusions that can be drawn from the test results still hold. That is, there is no significant difference in average earnings between heterosexual and homosexual men, but there is a statistically significant difference in average earnings between heterosexual and lesbian women, with lesbian women earning significantly more than heterosexual women on average.

	Mean	Standard Error	95% Confidence Interval	
Heterosexual men	2501.907	32.886	2437.249	2566.566
Homosexual men	2556.033	96.623	2363.953	2748.114
	t Statistic		**Degrees of freedom**	**p-Value**
Welch's t test	- 0.530		107.235	0.597
	Mean	**Standard Error**	**95% Confidence Interval**	
Heterosexual women	1835.421	39.375	1757.921	1912.921
Lesbian women	2311.848	102.875	2102.299	2521.398
	Welch's t Statistic		**Degrees of freedom**	**p-Value**
Welch's t test	- 4.325		42.579	< 0.001

Table B1. **Welch's t-test of two independent samples with unequal variances, influential outliers removed.**

Appendix C: Table of Tested Hypotheses

#	Hypothesis	Confirmed/rejected?
1a	Homosexual men have lower earnings than heterosexual men on average.	Rejected
1b	Lesbian women have higher earnings than heterosexual women on average.	Confirmed
2a	Homosexual men have a higher educational attainment on average, which increases their earnings relative to heterosexual men.	Confirmed
2b	Lesbian women have a higher educational attainment on average, which increases their earnings relative to heterosexual women.	Confirmed
3a	Homosexual men have less work experience on average, which decreases their earnings relative to heterosexual men.	Rejected
3b	Lesbian women have more work experience on average, which increases their earnings relative to heterosexual women.	Rejected
4a	Homosexual men have a lower health status on average, which decreases their earnings relative to heterosexual men.	Rejected
4b	Lesbian women have a lower health status on average, which decreases their earnings relative to heterosexual women.	Rejected
5a	Homosexual men typically cohabite less often, which decreases their earnings relative to heterosexual men.	Rejected
5b	Lesbian women typically cohabite less often, which increases their earnings relative to heterosexual women.	Rejected
6a	Homosexual men typically have less often children living at home, which decreases their earnings relative to heterosexual men.	Confirmed
6b	Lesbian women typically have less often children living at home, which increases their earnings relative to heterosexual women.	Rejected
7a	Homosexual men work in occupations with a lower status on average, which decreases their earnings relative to heterosexual men.	Rejected
7b	Lesbian women work in occupations with a higher status on average, which increases their earnings relative to heterosexual women.	Rejected

Table C1. Overview of confirmed and rejected hypotheses

Appendix D: Survey

The survey below (in Dutch) was composed for this study and conducted among members of the I&O research panel. On top of the introduction, questions and answer possibilities, it also shows the selection of respondents for each question and the referrals from one question to another. The latter information (selection and referrals) was not visible for respondents, as they did not fill out the survey on paper but online. This enabled the personalisation of the survey for each respondent, depending on the questions filled out, in order for him/her not to see questions that were not meant for him/her. In this way, it could be prevented that respondents filled out questions that were not relevant for them.

Welkom bij de vragenlijst over werk en inkomen. Met deze vragenlijst willen wij , in samenwerking met de Universiteit Twente, onderzoeken hoe werk en inkomen zich tot elkaar verhouden en welke andere factoren invloed zouden kunnen hebben op werk en inkomen. Uw antwoorden worden uitsluitend voor onderzoeksdoeleinden gebruikt. Ook worden uw gegevens volstrekt vertrouwelijk behandeld, niet gekoppeld aan uw naam en niet aan derden verstrekt.
De totale invulduur bedraagt ongeveer 10 minuten. Alvast bedankt voor uw deelname!

……

V0$_a$ Controlevraag huishoudsamenstelling (geen selectie)

Hoe is uw huishouden samengesteld?

a. ik woon alleen
b. Ik woon alleen (zonder partner) met kinderen
c. Ik ben gehuwd/woon samen zonder thuiswonende kinderen
d. Ik ben gehuwd/woon samen met thuiswonende kinderen
e. Ik woon bij mijn ouder(s)/verzorger(s)
f. Anders, namelijk: . . . (open veld)
g. Weet niet/wil niet zeggen

V0$_b$ Controlevraag werksituatie

Welke situatie met betrekking tot het verrichten van betaald werk is op dit het meest op u van toepassing?

a. Ondernemer met personeel
b. ZZP'er/freelancer
c. Werkzaam in loondienst (bedrijfsleven)
d. Werkzaam bij de overheid
e. Werkzaam bij de semi-overheid (onderwijs, zorg, politie, etc.)
f. Arbeidsongeschikt
g. Werkloos / werkzoekend / bijstand
h. Gepensioneerd of VUT
i. Studerend / schoolgaand
j. Huisvrouw / huisman
k. Anders, namelijk: . . . (open veld)

Vraag 1 (geen selectie)

In welk jaartal bent u begonnen met het verrichten van betaalde arbeid? (*Bijbaantjes naast studie, vakantiebanen en stages tellen niet mee*)

- Jaartal: . . . (schuifmaat; min = 1960, max = 2019)

Vraag 2 (geen selectie)

Hoeveel jaren en maanden heeft u in totaal **geen** betaalde arbeid verricht sinds u bent begonnen aan uw eerste betaalde baan (bijbaantjes, vakantiebanen en stages niet meegerekend)? Tel alleen aaneengesloten periodes van minimaal 3 maanden mee.

Bijvoorbeeld: indien u twee periodes van elk 8 maanden geen betaalde arbeid hebt verricht (= totaal 16 maanden = 1 jaar en 4 maanden), vul dan bij jaren '1' in en bij maanden '4'. Indien u in totaal 6 maanden geen betaalde arbeid hebt verricht, vul dan bij jaren '0' in en bij maanden '6'.

a. Ik heb al eens een periode van minimaal 3 maanden aaneengesloten geen betaalde arbeid verricht sinds ik ben begonnen met mijn eerste baan. De totale tijdsduur waarin ik geen betaalde arbeid heb verricht bedraagt:

- Jaren: . . . (schuifmaat; min = 0, max = 50)
- Maanden: . . . (schuifmaat; min = 0, max = 11) ➔ vraag 3

b. Ik heb nog nooit een periode van minimaal 3 maanden aaneengesloten geen betaalde arbeid verricht sinds ik ben begonnen met mijn eerste baan ➔ vraag 4

Vraag 3 (selectie: alleen deelnemers die bij vraag 2 kozen voor de eerste antwoordoptie)

Wat waren de redenen dat u gedurende deze periode(s) geen betaalde arbeid heeft verricht? U kunt meerdere antwoorden invullen.

a. Zorg voor thuiswonende kinderen
b. Zwangerschapsverlof
c. Lichamelijke gezondheidsklachten (ziekte, aandoening, letsel na ongeval, etc.)
d. Mentale gezondheidsklachten (burn-out, depressie, ziekte, aandoening, letsel na ongeval, etc.)
e. Ziekte/ongeval in de naaste omgeving
f. Ik was wel in staat en wilde gedurende deze periode(s) wel werken, maar had geen betaalde baan
g. Ik was wel in staat, maar wilde gedurende deze periode(s) niet werken, om andere redenen dan bovengenoemde (bijvoorbeeld sabbatical, nieuwe opleiding/omscholing, verbouwing, hobby's/vrijwilligerswerk, etc.)
h. Anders, namelijk: . . . (open veld)

Vraag 4 (geen selectie)

Hoe is over het algemeen uw gezondheid geweest gedurende uw werkzame leven?

a. Altijd goed ➔ vraag 6
b. Overwegend goed ➔ vraag 5
c. Niet goed/niet slecht ➔ vraag 5
d. Overwegend slecht ➔ vraag 5
e. Altijd slecht ➔ vraag 5

Vraag 5 (selectie: alleen deelnemers die bij vraag 4 niet voor de eerste antwoordoptie kozen)

In welke mate heeft uw gezondheid u belemmerd in uw werkzaamheden gedurende uw werkzame leven? Het gaat om gevallen waarbij u weliswaar wel betaalde arbeid verrichte, maar u zich tijdens de werkzaamheden van uw betaalde baan minder goed in staat voelde om deze uit te voeren.

a. (Bijna) nooit belemmerd
b. Af en toe belemmerd
c. Vaak belemmerd
d. (Bijna) altijd belemmerd

Vraag 6 (selectie: alleen deelnemers die bij de Controlevraag voor antwoordoptie twee, drie of vier kozen)

Hoe is de verdeling van tijd aan huishoudelijke taken binnen uw huishouden? Het gaat om onbetaalde arbeid die binnen uw huishouden wordt verricht voor uzelf en de andere personen binnen uw huishouden. Denk hierbij aan zorg voor eventuele kinderen, schoonmaken, boodschappen doen, koken, onderhoud van huis en tuin, etc.

a. Ik besteed veel minder tijd aan huishoudelijke taken dan de andere personen binnen mijn huishouden
b. Ik besteed iets minder tijd aan huishoudelijke taken dan de andere personen binnen mijn huishouden
c. Ik besteed ongeveer evenveel tijd aan huishoudelijke taken als de andere personen binnen mijn huishuiden
d. Ik besteed iets meer tijd aan huishoudelijke taken dan de andere personen binnen mijn huishouden
e. Ik besteed veel meer tijd aan huishoudelijke taken dan de andere personen binnen mijn huishouden

Vraag 7 t/m 13 gaan over de eigenschappen van uw baan. In het geval dat u meerdere banen heeft, denk dan bij het beantwoorden van de vragen aan uw belangrijkste baan, dus de baan waaraan u de meeste uren besteedt.

Vraag 7 (geen selectie)

Wat is uw huidige beroep/functie in maximaal 10 woorden?

a. . . . (open veld; max. 10 woorden)

b. Geen antwoord

Vraag 8 (geen selectie)

Wat zijn (in maximaal 100 woorden) de belangrijkste werkzaamheden die bij uw huidige beroep/functie horen?

- . . . (open veld; max. 100 woorden exclusief spaties)
- Geen antwoord

Vraag 9 (geen selectie)

Heeft u in uw huidige beroep een leidinggevende functie?

a. Nee, ik heb geen leidinggevende functie

b. Ja, ik heb een lagere leidinggevende functie (ik geef leiding aan andere werknemers die geen leidinggevende taken hebben en heb leidinggevenden boven mij)

c. Ja, ik heb een midden-managementfunctie (ik geef leiding aan ondergeschikte leidinggevenden, maar ik heb ook leidinggevenden (bijvoorbeeld directie) boven mij)

d. Ja, ik heb een hoge managementfunctie (ik geef leiding aan ondergeschikte leidinggevenden en draag als lid van de directie verantwoordelijkheid voor de gehele organisatie)

Vraag 10 (geen selectie)

Welke sector/branche valt uw werkgever onder? Indien u niet weet wat een sector/branche inhoudt, kunt u op het infobolletje achter de sector-/branchenaam klikken voor informatie over categorieën binnen de sector/branche en voorbeelden.

a. Landbouw, bosbouw en visserij

b. Winning van delfstoffen
c. Industrie
d. Productie en distributie van en handel in elektriciteit, aardgas, stoom en gekoelde lucht
e. Winning en distributie van water; afval- en afvalwaterbeheer en sanering
f. Bouwnijverheid
g. Groot- en detailhandel; handel in en reparatie van auto's
h. Vervoer en opslag
i. Logies-, maaltijd- en drankverstrekking
j. Informatie en communicatie
k. Financiële instellingen
l. Verhuur van en handel in onroerend goed
m. Advisering, onderzoek en overige specialistische zakelijke dienstverlening
n. Verhuur van roerende goederen en overige zakelijke dienstverlening
o. Openbaar bestuur, overheidsdiensten en verplichte sociale verzekeringen
p. Onderwijs
q. Gezondheids- en welzijnszorg
r. Cultuur, sport en recreatie
s. Overige dienstverlening

Vraag 11 (geen selectie)

In welke gemeente bent u werkzaam? Indien u voor uw werk veel reist, kies dan de gemeente waarin uw uitvalslocatie zich bevindt.

- … (keuze uit de lijst van gemeentes)

Vraag 12 (geen selectie)

Telt de organisatie waar u werkzaam bent meer dan één vestiging?

a. Ja ➔ vraag 12a

b. Nee ➔ vraag 12b

Vraag 12a (selectie: alleen respondenten die bij vraag 12 antwoordoptie 'a' kozen)

Hoeveel werknemers telt de vestiging van de organisatie waar u werkzaam bent? Het gaat alleen om het aantal werknemers van de vestiging waar u zelf werkzaam bent, niet om werknemers van andere vestigingen van dezelfde organisatie.

- . . . (open veld)

Vraag 12b (geen selectie)

Hoeveel werknemers telt de organisatie waar u werkzaam bent in totaal? Het gaat om het totaal van de gehele organisatie, inclusief eventuele werknemers in het buitenland.

- . . . (open veld)

Vraag 13 (geen selectie)

Wat voor soort dienstverband heeft u?

a. Vast dienstverband

b. Tijdelijk contract met uitzicht op een vast dienstverband

c. Tijdelijk contract

d. Anders, namelijk: . . . (open veld)

Vraag 14 (geen selectie)

Wat is het aantal uren dat u werkt volgens uw contract? Overwerkuren moet u niet meerekenen. In geval van meerdere banen, tel dan het aantal contracturen van uw banen bij elkaar op.

a. . . . uren per week volgens contract (schuifmaat; min. = 1, max. = 4)

b. geen aantal uren overeengekomen (nul-uren contract, oproepcontract, min-max contract)

Vraag 15 (geen selectie)

Hoeveel bedraagt uw nettoloon per maand? Dit is het bedrag dat u maandelijks in handen krijgt na aftrek van inkomensbelasting zonder toeslag van ploegendienst, overwerk, vakantiegeld, eindejaarsuitkering, bonus, etc. In geval van meerdere banen, tel dan de nettolonen van uw banen bij elkaar op.

a.

- Bedrag: € . . . per maand (schuifmaat; min = 0, max = 20.000) ➔ vraag 16

b. Weet ik niet ➔ vraag 15a

c. Wil ik niet zeggen ➔ vraag 16

Vraag 15a (selectie: alleen deelnemers die bij vraag 15 antwoordoptie 'b' (weet ik niet) kozen)

Kunt u een inschatting maken van uw maandelijkse nettoloon? Dit is het bedrag dat u in handen krijgt na aftrek van inkomensbelasting zonder toeslag van ploegendienst, overwerk, vakantiegeld, eindejaarsuitkering, bonus, etc. In geval van meerdere banen, tel dan de nettolonen van uw banen bij elkaar op.

a. Minder dan €1500 netto per maand

b. €1500 – 2000 netto per maand

c. €2000 - €2500 netto per maand

d. €2500 - €3000 netto per maand

e. €3000 - €3500 netto per maand

f. €3500 - €4000 netto per maand

g. €4000 - €4500 netto per maand

h. €4500 - €5000 netto per maand

i. Meer dan €5000 netto per maand

j. Wil ik niet zeggen

Vraag 16 (selectie: alleen deelnemers die bij Controlevraag $V0_a$ (over huishoudsamenstelling) antwoordoptie 'c' of 'd' kozen)

Wat is de arbeidssituatie van uw partner? (in het geval van meerdere banen, kies dan de baan waaraan uw partner de meeste tijd besteedt)

a. Werk in loondienst
b. Werk als zelfstandige/freelancer met personeel
c. Werk als zelfstandige/freelancer zonder personeel
d. Meewerkend partner
e. Geen betaald werk; wél op zoek
f. Geen betaald werk; niet op zoek

Vraag 17 (selectie: alleen deelnemers die bij Controlevraag $V0_a$ (over huishoudsamenstelling) antwoordoptie 'c' of 'd' kozen)

Hoeveel uur verricht uw partner gemiddeld per week betaalde arbeid volgens contract? Indien uw partner een contract heeft zonder aantal uren overeenkomen of indien uw partner als zelfstandige/freelancer werkt, maakt u dan a.u.b. een schatting van het gemiddeld aantal uren per week. In geval van meerdere banen, mag u het aantal uren bij elkaar optellen.

- . . . uren per week (schuifmaat; min.= 0 max. = 100)

Vraag 18 (selectie: alleen deelnemers die bij Controlevraag $V0_a$ (over huishoudsamenstelling) antwoordoptie 'c' of 'd' kozen)

Hoeveel bedraagt het netto arbeidsinkomen van uw partner per maand/jaar? Dit is het bedrag dat uw partner in handen krijgt na aftrek van belasting **zonder** toeslag van ploegendienst, overwerk, vakantiegeld, eindejaarsuitkering, bonus, etc. (als uw partner werkzaam is als zelfstandige/freelancer, wilt u dan een schatting maken van het inkomen na aftrek van belastingen en premies voor sociale verzekeringen?). In geval van meerdere banen, tel dan de nettolonen van uw partner bij elkaar op.

a.

- Eenheid: O Maand O Jaar
- Bedrag: € . . . per maand (schuifmaat; min = 0, max = 20.000)

€ . . . per jaar (schuifmaat; min = ; max =)

(*afhankelijk van bovenstaande keuze voor eenheid*) ➔ vraag 19

b. Weet ik niet ➔ vraag 18a

c. Wil ik niet zeggen ➔ vraag 19

Vraag 18a (selectie: alleen deelnemers die bij vraag 18 antwoordoptie 'b' (weet ik niet) kozen)

Kunt u een inschatting maken van het netto arbeidsinkomen van uw partner per maand? Dit is het bedrag dat uw partner in handen krijgt na aftrek van belasting **zonder** toeslag van ploegendienst, overwerk, vakantiegeld, eindejaarsuitkering, bonus, etc. (als uw partner werkzaam is als zelfstandige/freelancer, wilt u dan een schatting maken van het inkomen na aftrek van belastingen en premies voor sociale verzekeringen?). In geval van meerdere banen, tel dan de nettolonen van uw partner bij elkaar op.

a. Minder dan €1500 netto per maand

b. €1500 – 2000 netto per maand

c. €2000 - €2500 netto per maand

d. €2500 - €3000 netto per maand

e. €3000 - €3500 netto per maand

f. €3500 - €4000 netto per maand

g. €4000 - €4500 netto per maand

h. €4500 - €5000 netto per maand

i. Meer dan €5000 netto per maand

j. Wil ik niet zeggen

Vraag 19 (selectie: alleen deelnemers die bij Controlevraag $V0_a$ (over huishoudsamenstelling) antwoordoptie 'a', 'b', 'c' of 'd' kozen)

Hoeveel bedraagt het totale netto-inkomen van uw huishouden? Dit zijn de inkomens (arbeidsinkomen, uitkeringen, pensioen, dividend, inkomen uit verhuur, etc.), na aftrek van belasting, van alle volwassen leden van het huishouden bij elkaar opgeteld.

a.

- Eenheid: O Maand O Jaar

- Bedrag: € . . . per maand (schuifmaat; min = 0, max = ?)

  € . . . per jaar (schuifmaat; min = 0 ; max = ?)

  (*afhankelijk van bovenstaande keuze voor eenheid*) ➔ vraag 20

b. Weet ik niet ➔ vraag 19a
c. Wil ik niet zeggen ➔ vraag 20

Vraag 19a (selectie: alleen deelnemers die bij vraag 19 antwoordoptie 'b' (weet ik niet) hebben gekozen)

Kunt u een inschatting maken van het totale netto-inkomen van uw huishouden? Dit zijn de inkomens (arbeidsinkomen, uitkeringen, pensioen, dividend, inkomen uit verhuur, etc.), na aftrek van belasting, van alle volwassen leden van het huishouden bij elkaar opgeteld.

a. Minder dan €2000 netto per maand
b. €2000 - €3000 netto per maand
c. €3000 - €4000 netto per maand
d. €4000 - €5000 netto per maand
e. €5000 - €6000 netto per maand
f. €6000 - €7000 netto per maand
g. €7000 - €8000 netto per maand
h. Meer dan €8000 netto per maand
i. Wil ik niet zeggen

De volgende vragen hebben betrekking op de relationele sfeer.
U bent niet verplicht te antwoorden. Door te antwoorden geeft u uitdrukkelijk toestemming aan ons om deze gegevens alleen voor onderzoeksdoeleinden te gebruiken. De gegevens worden volstrekt vertrouwelijk behandeld en niet aan derden verstrekt.

Vraag 20 (selectie: alleen deelnemers die bij Controlevraag $V0_a$ (over huishoudsamenstelling) **niet** antwoordoptie 'c' of 'd' kozen)

Heeft u een relatie?

a. Ja ➔ vraag 21
b. Nee, maar ik heb wel eerder een relatie gehad ➔ vraag 22
c. Nee, en ik heb ook nooit eerder een relatie gehad ➔ vraag 23
d. Wil ik niet zeggen

Vraag 21 (selectie: deelnemers die bij vraag 20 voor antwoordoptie één kozen **en** deelnemers die bij Controlevraag $V0_a$ (over huishoudsamenstelling) antwoordoptie 'c' of 'd' kozen)

Wat is het geslacht van uw partner?

a. Man
b. Vrouw
c. Anders, namelijk:
d. Wil ik niet zeggen

Vraag 22 (selectie: alleen deelnemers die bij vraag 20 antwoordoptie twee kozen)

Wat was het geslacht van uw voormalige partner(s)?

a. Man (in geval van meerdere voormalige partners: voornamelijk/alleen man)
b. Vrouw (in geval van meerdere voormalige partners: voornamelijk/alleen vrouw)
c. Anders, namelijk: . . . (open veld)
d. Wil ik niet zeggen

Vraag 23 (geen selectie)

Tot welk geslacht voelt u zich romantisch/seksueel meer aangetrokken?

a. Ik voel me meer aangetrokken tot mannen
b. Ik voel me meer aangetrokken tot vrouwen
c. Ik voel me tot beide geslachten evenveel aangetrokken
d. Anders, namelijk: . . . (open veld)
e. Weet ik niet/wil ik niet zeggen

Dit is het einde van deze vragenlijst. Hartelijk dank voor uw medewerking. Klik op het pijltje naar rechts om uw antwoorden definitief in te dienen.

***** EINDE VRAGENLIJST *****