Social-Institutional Structures That Matter:
An Exploratory Analysis of Sexual/Gender Minority Status and Income in Japan

Daiki Hiramori

A thesis
submitted in partial fulfillment of the
requirements for the degree of

Master of Arts

University of Washington
2016

Committee:
Julie Brines
Jerald Herting
Marieka Klawitter

Program Authorized to Offer Degree:
Sociology

University of Washington

Abstract

Social-Institutional Structures That Matter:
An Exploratory Analysis of Sexual/Gender Minority Status and Income in Japan

Daiki Hiramori

Chair of the Supervisory Committee:
Associate Professor Julie Brines
Sociology

While most previous studies examining the effect of sexual orientation on earnings rely on lesbian women, gay men, and their heterosexual counterparts in Western societies, this paper argues that focusing on income disparities *within* sexual and gender minorities as well as *social-institutional structures* of a society is indispensable to the study of sexuality and gender stratification. Using the Survey on LGBT Issues in the Workplace Environment 2015, one of the only existing large-scale surveys on sexual and gender minorities in Japan, this study explores the association between sexual and/or gender minority status and income in Japan. The results show that there is a negative association between being a sexual and/or gender minority and income among both designated females at birth and designated males at birth. The results suggesting the lesbian premium found in Western economies are not observed in Japan. In addition, the findings indicate that the processes through which sexuality and gender stratification operates depend on various categories of sexual and gender minorities.

Acknowledgements

I would like to express my sincere gratitude to my chair, Professor Julie Brines, for her generous guidance and support throughout my research. I am also very grateful to Professors Jerald Herting and Marieka Klawitter for offering me thoughtful insights. My thanks go to Professor Aimée Dechter and the participants in the Master's Thesis Research Seminar. I wish as well to thank the wonderful members of the Gender Working Group in the Department of Sociology. Special thanks to Connor Gilroy for proofreading drafts of my thesis under great time pressure. Finally, my deep appreciation goes to Kenta Sekiyama and Yuya Higuchi, who have not only assisted me with finding literature available only in Japan but also who have given invaluable emotional support throughout the process of this research.

Introduction

Earnings inequality is one of the traditional themes in social stratification research. Until recently, however, sexual orientation as a factor determining one's earnings had not been well studied due to "discrimination against sexual minorities, lack of interest or knowledge, the absence of support for the work, and scarcity of appropriate models and data" (Klawitter 1998:55-6). Since Badgett (1995) published the seminal article on the effect of sexual orientation on earnings, a small but growing number of studies now have explored the association between sexual orientation and earnings. These studies generally show that gay men tend to earn *less* than their heterosexual counterparts, a phenomenon known as the gay penalty, while lesbian women tend to earn *more* than their heterosexual counterparts, a phenomenon known as the lesbian premium (Kamano 2009; Klawitter 2015).

Nevertheless, most of the previous research has not examined the *internal* complexity of various sexual or gender minorities in the analysis, and very few studies employ sexual minority status and gender minority status as foci of analysis simultaneously. Because of data limitations, the existing studies on sexual orientation and earnings typically compare gay men and lesbian women with their heterosexual counterparts only. However, Carpenter's (2005) research that employs self-identification of sexual orientation shows that bisexual women and men earn less than their heterosexual counterparts, while there is no statistical difference between gay men and heterosexual men, nor between lesbian women and heterosexual women. Furthermore, Hiramori (2015) reports that people with "other" sexual orientation earn less than heterosexual people in both the female-at-birth and male-at-birth samples in Japan.

In addition, most of these studies only take sexual orientation into account, and do not include transgender status as an axis of analysis, due to the scarcity of social surveys that

measure transgender status. Nevertheless, as Minter and Daley (2003) point out, discriminatory attitudes toward transgender people lead to discriminatory treatment in the hiring process, promotion, and training opportunities, as well as creating a hostile workplace for transgender individuals including little accommodation in terms of bathrooms or clothes-changing rooms. In Japan, Tabata and Ishida (2008) use a nonprobability mail survey method to gather data from the transgender population, and report that 20 percent of male-to-female (MtF) transgender people earn more than the national average yearly income, but none of the female-to-male (FtM) transgender people earn more than the national average[1]. As is the case with research on the effect of sexual orientation on earnings, however, much of the economic and workplace research on transgender people excludes the analysis of sexual orientation, and only provides a partial understanding of diverse sexual and gender minorities (e.g. Schilt 2006).

All of these results above suggest that there is a need to investigate the complex differences *within* sexual *and* gender minorities in the labor market to reveal fuller patterns of earnings disparity by various sexual and/or gender minority status. Moreover, almost all of these previous studies are limited to populations in Western countries. Thus, they fail to take into consideration that their theoretical propositions and results may rest on the *institutional features* of a specific society.

This paper uses the "Survey on LGBT Issues in the Workplace Environment 2015[2]" (LGBT Workplace Environment Survey 2015, hereafter) to examine the association between

---

[1] They note that this difference may be due to the sample compositional effect, because none of the MtF transgender people are in their teens or 20s, while none of the FtM transgender people are in their 50s and beyond. The average age for MtF transgender people is 43 years old, and the average age for FtM transgender people is 31 years old (Tabata and Ishida 2008:46-7). However, due to the small sample size (n=77), they do not conduct a three-way contingency table analysis between age, gender identity, and income.

[2] The Surveys on LGBT Issues in the Workplace Environment are designed and carried out by Nijiiro Diversity, in collaboration with the Center for Gender Studies at International Christian University.

being a sexual and/or gender minority and income in Japan[3]. Although this survey is a non-probability online survey, this dataset is unique in that it has detailed questions on LGBTQ (lesbian, gay, bisexual, transgender, or queer) status, which makes it possible to construct a complex classification of sexual and gender minorities. In addition, while previous research on the relationship between LGBTQ status and economic disparities is extremely limited in Japan, the few studies that have addressed this topic suggest that Japan differs from patterns observed in Western countries (Kamano 2009).

Although none of the existing studies in Japan employ representative surveys, the literature shows that lesbian women tend to earn *less* compared to heterosexual women, in contrast to the results in Western countries, where lesbian women are likely to earn *more* than heterosexual women (Kamano 2009; Hiramori 2015). Kamano (2009) points out that severe gender inequality in Japan creates a situation where even women who work in a similar way to men are not valued in the labor market. Given that, she claims that it is unlikely that lesbian women, who tend not to get married and have children, can gain more promotions than heterosexual women in Japan (Kamano 2009). This result illustrates how labor market structures in Japan depart from those observed in Western countries, and raises new questions about how social-institutional contexts may be linked to patterns of earnings disparity based on one's LGBTQ status.

In an attempt to consider the ways in which stratification systems in Japan differ from those in American society, Brinton (1988:305) proposes a "*human capital development system*" that takes into account how "the responsibility for human capital development is shared across

---

[3] Following the convention of commonly used social surveys in Japan, this survey uses income, instead of earnings, to measure one's economic resources. See the data and methods section for more detailed discussion on this issue.

the life cycle among social institutions and […] human relationships are structured within institutions" (Brinton 1988: 302). According to Brinton (1988), differences in the human capital development system account for the different patterns of gender stratification observed in the United States and in Japan. This suggests that the differences in human capital accumulation by LGBTQ status may be related to the distinct earnings differences by sexual and/or gender minority status observed in Japan. Hiramori's (2015) analysis, one of the few quantitative studies on LGBTQ status and income in Japan, shows that being lesbian, a gay man, bisexual, transgender, or having an "other" sexual orientation has a negative effect on income. Nevertheless, Hiramori (2015) only provides ad-hoc interpretations, and fails to discuss how theories of earnings disparities may explain these results.

In order to explore these earnings patterns in much greater detail than has been conducted in the past, I examine the following four research questions in this paper. First, is there an association between being a sexual and/or gender minority and income in Japan? Second, do differences in human capital acquisition mediate the relationship between LGBTQ status and income? Third, does labor market sorting or recruitment into different types of employment mediate the relationship between LGBTQ status and income? Fourth, does an association between being a sexual and/or gender minority and income persist after accounting for human capital and labor market factors?

The LGBT Workplace Environment Survey is the only survey in existence that permits analysis of the above set of questions for workers identified by detailed sexual and/or gender minority status in Japan. However, these data come from an online cross-sectional non-probability sample of Japanese respondents, limiting the generalizability of findings and the identification of the causal order of relationships. Given the extreme scarcity of quantitative

research on sexual and gender minorities in Japan, the purpose of this study is to explore the associations between LGBTQ status and income to provide a quantitative description of sexual and gender minorities in Japan[4]. Hence, the approach employed in this research may be best described as that of *quantitative portraits*[5].

Theoretical Background

Several theoretical explanations have been made in regards to the relationship between a worker's sexual orientation and their earnings. Among the most pertinent are the human capital theory developed by Gary S. Becker ([1964] 1994) and its elaboration, combined with an institutional cross-cultural perspective, into a theory of the "*human capital development system*" authored by Mary C. Brinton (1988:305).

Human Capital Theory

According to human capital theory, workers are paid based on their productivity, and their productivity is enhanced by the accumulation of human capital (Becker [1964] 1994; Mincer 1974; Schultz 1961). Becker (2002:3) defines human capital as the "knowledge, information, ideas, skills and health of individuals," and claims that "the economic success of individuals, and also whole economies, depends on how extensively and effectively people invest in themselves." In his seminal book *Schooling, Experience, and Earnings,* Mincer (1974) formalizes human capital theory by showing that logged earnings can be approximated by years

[4] In addition, quantitative social stratification research in Japan remains uninformed about minority populations in general, including resident Koreans in Japan (Kim 2003), the outcaste community, or *burakumin* (Bondy 2010), in addition to sexual and gender minorities (Kamano 2009; Hiramori 2015).
[5] In Japan, this type of research is often referred to as "quantitative monograph" (Ojima 2001:5).

of schooling, years of work experience, and the quadratic term of work experience. Mincer (1958:287) emphasizes, "the process of learning a trade or profession does not end with the completion of school. Experience on the job is often most essential part of the learning process."

Becker ([1981] 1993:x) applies this human capital theory to discuss the household division of labor, based on the "assumptions of maximizing behavior, stable preferences, and equilibrium in implicit or explicit markets." Under this assumption that the family is an efficient unit that maximizes the total household production, Becker ([1981] 1993) claims that coupled women sort themselves into household labor and coupled men specialize in paid market labor because of biological differences and the gender wage gap.

In an attempt to explain the lesbian premium and the gay penalty, previous studies (e.g. Black et al. 2003; Plug and Berkhout 2004) on the effect of sexual orientation on earnings apply human capital theory, Becker's specialization model in particular, to lesbian women and gay men, as stated by Badgett (2007):

> If gay men anticipate that they will partner with another man – and if the gay man assumes that his partner will also work in the labor force – then gay men will have less of an incentive than heterosexual men to invest in labor market human capital. Lesbians, on the other hand, will not expect to partner with a man and will make greater market-oriented human capital investments than will heterosexual women. Since gay men have less and lesbians more human capital than their heterosexual counterparts, gay men will earn less than heterosexual men and lesbians more than heterosexual women. (P.34-5)

However, empirical results do not fully support the predictions of the human capital model. While previous studies certainly indicate that lesbian women tend to have higher educational attainment than heterosexual women, these studies also find that gay men are likely to have higher educational attainment than heterosexual men (Baumle, Compton, and Poston

2009; Black et al. 2000; Laumann et al. 1994). This indicates that the model fails to predict patterns of human capital acquisition by gay men. In addition to the fact that the human capital model does not fit the empirical data well, there is another potential limitation of this model.

Human Capital Development System

One potential limitation of human capital theory is that differences in earnings are primarily reduced to differences in the level of productivity under this framework, as Mincer (1974) formulates that earnings are approximated by a function of human capital. However, cross-cultural research on earnings shows that the classical human capital model cannot explain different earnings patterns adequately. For example, Kalleberg and Lincoln (1988:124) compare the structure of earnings inequality in the United States and Japan, and point out, "The pivotal role of organizations in the Japanese stratification system implies that attributes of firms should have a profound effect on earnings inequality," while a worker's skills and knowledge are seen as crucial in determining one's earnings in the United States. In particular, their analysis indicates that work structures such as seniority-based earnings and promotion systems as well as internal job training account for the earnings distribution in Japan. This suggests that research on earnings inequality should take *institutional features* into account to better understand the disparity and its contributing factors.

In an attempt to explain why Japan is among one of the developed countries where there is stark gender inequality, Brinton (1988:305) proposes the concept of a "*human capital development system*" to refer to the ways in which women's and men's human capital accumulation is institutionally structured around gendered family, education, and labor market systems. This system consists of "(1) the social-institutional context of human capital

development and evaluation, reflected by the structure of the educational system and the labor market and (2) the structure of exchanges and investment, especially intergenerational ones, within the family as the supplier of labor" (Brinton 1988:305).

Gender Stratification in Japan

Using this framework, Brinton (1988) analyzes the education system in Japan and shows that one cannot assume that individuals can autonomously invest in education in a variety of stages in the life course in Japan, while such a restriction is less prevalent in the U.S. society. Brinton (1988) reports that the proportion of Japanese people in school drops sharply between the age of 22 and 23, indicating that progress through the educational system in Japan is embedded in strict age norms. Brinton (1988:313) writes, "There is strong social pressure in Japan to complete one's education 'on schedule.'" Recent data on the proportion of newly enrolled students in Japan confirm this trend, indicating that 94.8 percent of them are aged 19 or less (Ministry of Education, Culture, Sports, Science and Technology, Japan 2015). Given that little opportunity is provided to go back and resume the human capital accumulation process once people complete school in Japan, Brinton (1988) suggests that parents' early educational investment in children plays a crucial role in determining how much they can acquire human capital.

However, parental educational aspirations for their children are higher for sons than for daughters (Brinton 1988). Using student-mother paired data with an interdependence model that takes into consideration the contemporaneous relationship between mothers' aspirations and students' aspirations, a recent study by Fujihara (2009) shows that mothers' low educational aspirations for daughters, not daughters' low educational aspirations to themselves, are

significant in explaining the gender difference in the rate of college entrance between women and men. Combined with educational systems where parents play a decisive role in how much children can accumulate human capital and family systems where parents aspire higher education for sons than for daughters, the Japanese human capital development system functions to support strong gender stratification, even before students enter into the labor force in Japan.

In addition to educational systems and family systems, Brinton (1988) points out that employment systems also contribute to the persistence of greater gender disparity in Japan. One of the institutional features of the Japanese labor market is a strong firm internal labor market (Kalleberg and Lincoln 1988). According to Althauser and Kalleberg (1981:130), firm internal labor markets consist of groups of jobs within a firm, whose characteristics are described as "(1) a job ladder, with (2) entry only at the bottom, and (3) movement up this ladder, which is associated with a progressive development of knowledge or skill." However, because the average years of job retention are shorter among female workers than male workers in Japan, companies are less willing to offer training opportunities for female workers (Brinton 1993). Research repeatedly reports that continuous on-the-job training and low interfirm mobility contribute to the earnings structure in Japan (Kalleberg and Lincoln 1988; Mincer and Higuchi 1988).

Therefore, women in the labor force are structurally disadvantaged by the Japanese employment system that values continuous labor force participation, because the fact that many Japanese women are pressured to leave the labor force upon marriage and childbirth makes it difficult for them to have the same number of years of continuous work experience as men (Brinton 2001). The Fourteenth Japanese National Fertility Survey conducted by the National Institute of Population and Social Security Research, Japan (2011) shows that 30 percent of female workers who married between 2005 and 2009 exited the labor force upon marriage, and

62 percent of married female workers who gave birth between 2005 and 2009 left their job upon childbirth.

In relation to the barriers to career advancement for women, Shirahase and Ishida (1994:188) argue, "employment status and full-time/part-time distinction within occupations," compared to occupational gender segregation, account for the gender stratification in the Japanese labor market. Previous research indicates that women who return to the labor force after childbirth and childrearing are more likely to return to work as part-time workers, not full-time workers (Tanaka 1996), and these returnees tend to be in blue-collar work in Japan (Shirahase and Ishida 1994). In fact, Shirahase and Ishida (1994) show that when they exclude part-time workers from the analysis, the patterns of occupational gender segregation in Japan become similar to that in Britain and the Unites States, indicating that the high prevalence of female part-time workers in blue-collar work reduces the degree of sex segregation in Japan. A recent study by Chang and England (2011:1) compares the gender earnings gap in Japan, South Korea, and Taiwan, and concludes that the fact that many women are "non-regular (temporary, often part-time)" workers accounts for the persistent gender pay gap in Japan.

As Kim and Shirahase (2014) claim, previous studies on gender inequality in earnings in Western countries tend not to focus on the gender wage gap within an organization, due to the low contribution of within-job gender differences in earnings. Instead, these studies have focused more on occupational gender segregation, and claim that occupational segregation is salient among the determinants of the gender wage gap (Gauchat, Kelly, and Wallace 2012). The results in Japan above, however, underscore the importance of employment status in contributing to gender earnings inequality in Japan.

Sexuality Stratification in Japan

While these previous studies on gender stratification help to understand what I will hereafter refer to as *sexuality stratification*, or stratification by sexual orientation or transgender statuses that are recognized as normative or non-normative, it is important to stress that sexuality stratification is not just a reflection of gender stratification, but it is a distinct stratification structure that closely interacts with gender stratification. In addition, it should be noted that, following the argument of Brinton (1988), sexuality stratification in Japan is likely to exhibit a different pattern from sexuality stratification in Western societies. Although research on sexuality stratification is extremely limited, the following features of sexual stratification in Japan can be inferred from previous gender stratification research and other pioneering studies on sexual and gender minorities.

First, although Brinton (1988) assumes that parents can distinguish sons and daughters so that they can invest their children differently, it is difficult for them to clearly distinguish whether their children belong to sexual and/or gender minorities. This is one of the most important differences between potential mechanisms of gender stratification and those of sexuality stratification in Japan. In fact, one online survey in the Kanto region (Greater Tokyo Area), Japan reports that among those who disclosed their sexuality to someone, 13 percent of non-heterosexual women and 13 percent of non-heterosexual men disclose their sexual minority status to their mother between when they went to elementary school and when they went to high school. The disclosure rates for transgender people show a somewhat different trend. The survey reports, among those with "gender dysphoria," 58 percent of males at birth and 31 percent of females at birth disclose their transgender status by high school, suggesting that transgender people are more compelled to disclose their transgender status (Inochi Respect. White Ribbon

Campaign 2014).

Also, the results of this survey indicate that half of non-heterosexual women and men as well as females at birth with "gender dysphoria" recognize the possibility of their LGBT status between the 6th grade and 10th grade, indicating that they notice their sexual orientation or transgender status during adolescence. Among males at birth with "gender dysphoria," more than half recognize the possibility of their LGBT status before they graduate from elementary school (i.e. the 6th grade in Japan) and 25 percent of them realize it even before they enter elementary school (i.e. less than 7 years old), suggesting that they notice their "gender dysphoria" before adolescence. (Inochi Respect. White Ribbon Campaign 2014).

The results above imply that, if different levels of human capital accumulation among people of different sexual orientation were observed in Japan, this is not likely to be related to different patterns of parental investing in education based on whether their children are heterosexual or non-heterosexual. For transgender people, current research cannot answer whether parents invest their children differently based on the transgender status, or transgender people themselves choose to pursue a different level of education, because more than one third of transgender children disclose their transgender status to their mother. Nevertheless, it should be noted that one could argue that this is an overestimate, given the nature of sampling of this survey.

It should also be noted that 68 percent of the non-heterosexual and transgender respondents of the online survey above report physical violence, verbal abuse, sexual violence, or neglect and exclusion from the group, and among those who suffered from violence, 72 percent of them experience bullying for multiple years. Overall, these patterns of violence and identity formation as a sexual and/or gender minority may contribute to sexual and/or minority

students' decisions to withdraw from homophobic and transphobic educational systems. In particular, such a tendency toward withdrawal might be stronger among transgender people whose gender assigned at birth is male, who are more likely to recognize the possibility of their transgender status at the early stage of education.

Second, recent literature on the effect of sexual orientation on earnings suggests that gender atypicality in occupational preference among homosexual people is one of the explanations for the lesbian premium and gay penalty in Western countries (Carpenter 2008). In particular, a small but growing number of studies in the United States show that lesbian women tend to be in occupations that are traditionally filled with men, and gay men tend to be in female-dominated occupations (Baumle et al. 2009; Ueno, Roach, and Peña-Talamantes 2013). However, given that the earnings disparity between Japanese women and men is less dependent on occupational sex segregation compared to the United States, and much more affected by employment status, the significance of cross-gender occupational preference among lesbian women and gay men in the United States might not be relevant in Japan. Rather, one might expect that, as Shirahase and Ishida (1994) claim about gender inequality, sexuality stratification in Japan may be best illustrated by segregation by employment status.

As discussed above, there are reasons to believe that sexuality stratification in Japan is distinct from gender stratification in Japan. At the same time, the Japanese pattern appears to differ from sexuality stratification in Western societies. Hence, examining Japanese sexuality stratification should illustrate the significance of employing sexuality, in addition to gender, as a category of analysis, while taking social-institutional contexts into account.

Empirical Literature on Sexual Orientation, Transgender Status, and Income

This section describes previous empirical research on the relationship between sexual orientation and income as well as between transgender status and income.

Homosexuality and Income

While the majority of the previous research in Western countries suggests that lesbian women earn more than heterosexual women (Klawitter 2015), the few studies investigating this topic in Japan do not follow this pattern. Based on interviews with 22 lesbian women (11 lesbian couples), Kamano (2009) reports that, although lesbian women in Japan are more likely to be employed than heterosexual women, these lesbian women have histories of more irregular (i.e. temporary and part-time) employment than heterosexual female workers. In addition, she traces the life course of the interviewees, and points out that only three lesbian women in her sample have continuously worked at the same workplace or in the same occupation. Furthermore, she observes that three lesbian women have an experience of (heterosexual) marriage.

Therefore, Kamano's (2009) qualitative analysis suggests that lesbian women's life course in Japan is diverse, contrary to the prevalent assumption that lesbian women's employment is more continuous due to lessened expectations around marriage and childbirth. In an attempt to explain this economic hardship observed among lesbian women in Japan, Kamano (2009) discusses the possibility that being a lesbian woman in Japan does not affect earnings prospects positively, as observed in Western countries. She suggests that this is due to the fact that "strong women" are not highly valued in Japan, because gender norms in Japan are very rigid. She adds that it is less likely for employers in Japan to think of lesbian women who are unmarried and have no children as a positive signal. Rather, her interviews indicate how being a lesbian woman in a school setting or the workplace compels lesbian women in Japan to drop out

from school or to leave a job (Kamano 2009). In fact, using the "Survey on LGBT Issues in the Workplace Environment Survey 2014," the 2014 version of the same survey employed in the current analysis, Hiramori's (2015) quantitative analysis shows that lesbian women tend to earn less than heterosexual women. For gay men, Hiramori (2015) finds a disadvantage for gay men compared to their heterosexual counterparts, which is similar to the trend in Western countries.

Bisexuality and Income

Because the majority of the previous research on the effect of sexual orientation on earnings employs U.S. Census data and uses same-sex partners as a proxy for lesbian/gay status, or employs other social surveys and uses same-sex sexual behavior as an indicator of lesbian/gay status, there exist an even smaller number of studies on the effect of bisexuality on earnings. Nevertheless, research on bisexuality shows the complex nature of the relationship between sexual orientation and earnings. Carpenter (2005) reports that both bisexual women and men tend to earn less than their heterosexual counterparts, but the results depend on the selection of the control variables and some analyses do not yield a significant difference between bisexual people and heterosexual people.

In Japan, Hiramori's (2015) analysis suggests that bisexual women and men tend to earn less than heterosexual people, following the general results found in Carpenter's (2005) study. In an attempt to explain factors associated with the lower income of bisexual women compared to lesbian women found in the descriptive statistics of the LGBT Workplace Environment Survey 2015, the dataset used in the current study, Sugiura[6] proposes bisexual

[6] Ikuko Sugiura, an associate professor of sociology at Wako University, was invited as a talk guest at the "Report Meeting on the LGBT Workplace Environment Survey: The Power of Data for the Improvement

women's "minority within minority" status as one of the possible accounts for this disparity. Overall, these studies illustrate the peculiar economic disadvantage of the bisexual population, suggesting that it is indispensable to include various sexual orientations as classification in order to understand the relationship between sexual orientation and earnings comprehensively.

Transgender Status and Income

Although more studies on the effect of sexual orientation on earnings have been conducted recently, research on the effect of transgender status on earnings is extremely limited. Nevertheless, the few studies on this topic suggest the economic hardship of transgender population. Using the National Transgender Discrimination Survey, a large-scale online and questionnaire survey of transgender people in the U.S., Grant et al. (2011) report that 15 percent of transgender people have a household income of less than $10,000. In Japan, Hiramori's analysis (2015) shows that both transgender people whose gender assigned at birth was female and transgender people whose gender assigned at birth was male tend to earn less than their non-transgender (cisgender, hereafter) counterparts (i.e. cisgender women and cisgender men, respectively).

Regarding earnings inequality as it affects the transgender population in Japan, Matsushima (2013) reports that 18.3 percent of those with "gender dysphoria" had no income, using a dataset collected through mailing, email, and online survey methods. In addition, she shows that 93.2 percent of her sample whose gender assigned at birth was female earn less than the national average earnings, while 69.4 percent of those whose gender assigned at birth was

---

of the Workplace Environment in Tokyo 2015," held on September 5, 2015, at Musashino Public Hall, Tokyo, Japan.

male earn less than the average. Based on these results and the earnings distribution stratified by gender from the National Tax Agency Japan data, Matsushima (2013) concludes that gender assigned at birth instead of one's gender identity shapes the amount of one's income.

Japanese Local Transgender Category: X-gender

Prior quantitative research on transgender people in Japan focuses on gender assigned at birth and pays little attention on gender identity (Hiramori 2015; Matsushima 2013), but it is important to note that there is a new gender identity category called "X-gender" in Japan. The term X-gender is generally defined as "a gender that is neither male nor female, or, depending on the definition, both" (Dale 2012: paragraph 1), although the definition varies by individual. Since the late 1990s, the term X-gender has been used in LGBTQ community in Japan (Dale 2012), and it is now common for introductory books on LGBT issues to have an explanation of X-gender status (e.g. Yanagisawa, Muraki, and Goto 2015).

Nevertheless, little research has focused on the particularity of the experience of X-gender people. According to Dale[7], because they do not necessarily want to make a transition from their gender assigned at birth to the opposite gender, X-gender people are less likely to go through gender reassignment surgery than binary transgender people such as female-to-male (FtM) transgender people and male-to-female (MtF) transgender people. Also, the descriptive statistics from the LGBT Workplace Environment Survey 2015 indicate that a little over one third of female-to-X (FtX) transgender people and male-to-X (MtX) transgender people disclose their transgender status in the workplace, while about 60 percent of FtM transgender people and

[7] Personal conversation with S. P. F. Dale, an adjunct assistant professor at Hitotsubashi University, at the 75th Annual Conference of the Association of Asian Studies, April 1, 2016.

MtF transgender people disclose their transgender status in the workplace (Nijiiro Diversity and the Center for Gender Studies at International Christian University 2015).

Although one could argue that these characteristics of X-gender people situate these people in a better economic position compared to binary (FtM and MtF) transgender people, Dale's (2013) research, one of the few studies on X-gender population, suggests that her interviewees try to avoid any social interactions in the workplace that might lead to the disclosure of their "difference" from cisgender people. In fact, many of Dale's (2013) interviewees are *freeters*, or "young people who were engaged in unstable forms of employment, such as temporary or part time work," (Kosugi 2006: paragraph 1) who are not married women or students. This suggests that X-gender people's desire to avoid disclosure at the workplace may contribute to employment instability among X-gender people in Japan, unlike the expectation that low rates of disclosure at the workplace and preference for gender reassignment surgery among X-gender people should indicate a better economic position for these people.

In addition, Kamano's (2015) analysis shows that Japanese college students are more tolerant of "women who behave like a man" than "men who behave like a woman," suggesting that gender nonconformity among men is more likely to be regulated than that among women. Therefore, it is expected that FtM transgender people are likely to be in a better economic situation than FtX transgender people. In fact, Schilt's (2006) qualitative analysis shows that FtM transgender individuals gain authority as men after the gender transition. On the other hand, MtF transgender people are expected to experience economic hardship more severely than MtX transgender people.

Given the fact that one of the purposes of this paper is to show a fuller picture of the relationship between sexual and/or gender minority status and income, I will take the category

X-gender into consideration and construct an account that explains the importance of including X-gender when analyzing the relationship between transgender status and income, with a focus on how binary transgender (FtM and MtF) status and non-binary transgender (FtX and MtX) status are related to income and other related labor market outcomes in a different way.

Research Questions

Below are the research questions that I propose in this study. Note that this paper is not a hypothesis-testing study, and the aim of this paper is to quantitatively explore the socio-economic realities of sexual and gender minorities in Japan.

1. Is there an association between being a sexual and/or gender minority and income in Japan?
2. Do differences in human capital acquisition mediate the relationship between LGBTQ status and income?
3. Does labor market sorting or recruitment into different types of employment mediate the relationship between LGBTQ status and income?
4. Does an association between being a sexual and/or gender minority and income persist after accounting for human capital and labor market factors?

Data and Methods

Data

This study uses cross-sectional data from the LGBT Workplace Environment Survey 2015. This online survey was conducted by Nijiiro Diversity, a non-profit organization based in Osaka, Japan and the Center for Gender Studies at International Christian University, Tokyo, Japan, between February 2015 and March 2015. The survey was distributed using various social

networking services such as Twitter, Facebook, and Mixi (a Japanese SNS), as well as the mailing lists of sexual minority organizations, fliers, and through the clients of Nijiiro Diversity. As the first organization promoting LGBT inclusion and diversity in the workplace, Nijiiro Diversity delivers lectures for companies, government entities, and other groups. During the period of survey, attendees of these lectures were invited to take this survey voluntarily[8]. The total number of respondents is 2,154, including those who did not complete the questionnaire. This survey is targeted for "those who have work experience in Japan, including irregular employment. Unfortunately, those who have never worked in Japan cannot take this survey. Both sexual and gender minorities as well as non-minority individuals are eligible to take this survey." Those who are currently not working are asked to provide information on the most recent workplace, and those who have multiple workplaces are asked to provide information on the main workplace. For those who are currently working in a foreign country, they are asked to provide information on the most recent workplace in Japan. In the analysis below, I focus on those who are currently working and between the ages of 18-59[9], leaving 1,584 respondents in the sample.

Dependent Variable

Income

Respondents were asked to 'Provide your current annual income. If you have been working for less than one year, please give an estimate of your income for this year.' The choices

[8] Given that many clients of Nijiiro Diversity are large companies, socioeconomic status of non-minority (cisgender-heterosexual) respondents in the sample may be higher than the average in Japan.

[9] Kawaguchi (2011) suggests that the sample should be restricted to workers who are less than 60 years old, when applying Mincerian functions to the data in Japan.

are (1) ¥0 ~ ¥999,999 (2) ¥1,000,000 ~ ¥1,999,999 (3) ¥2,000,000 ~ ¥2,999,999 (4) ¥3,000,000 ~ ¥3,999,999 (5) ¥4,000,000 ~ ¥5,999,999 (6) ¥6,000,000 ~ ¥9,999,999 (7) ¥10,000,000 or above. Although there is no official poverty line defined by the government in Japan, Ministry of Health, Labour and Welfare, Japan (2010) reports that the poverty line as defined by the Organisation for Economic Cooperation and Development is ¥1,250,000. The mean personal income is ¥2,050,000 (Ministry of Health, Labour and Welfare, Japan 2014). 'Don't know' and 'Don't want to answer' as well as no answer were treated as missing and excluded from the analysis[10]. Due to the skewness in the data, I treat this variable as an ordinal categorical variable in the analysis.

This question includes income from resources other than earnings, and therefore might not be suitable for the analysis of earnings. However, because major social science surveys in Japan such as the Social Stratification and Mobility Survey and the Japanese General Social Survey use income as an indicator of wealth, instead of earnings, the questionnaire used in this survey follows this trend for comparability[11]. According to the Comprehensive Survey of Living Conditions conducted by the Ministry of Health, Labour and Welfare, Japan (2014), 72.2 percent of the total household income is earnings on average, 21.0 percent of the total household income

---

[10] Preliminary data analysis shows that younger females at birth are significantly more likely to be missing than older females at birth, while the relationship between age and whether the respondent has a missing value for income is not significant at the .05 level for the male-at-birth sample. Similarly, females at birth who have lower educational attainment are significantly more likely to be missing than those who have higher educational attainment, but this relationship is not found in the male-at-birth sample. However, no evident patterns are observed for the relationship between sexual orientation (one of the main two independent variables in the analysis) and whether the respondent has a missing value for income in both of the female and male samples, as well as for the relationship between transgender status (the other main independent variable) and whether the respondent has a missing value for income.

[11] Nishimura (2004) uses the Social Stratification and Mobility Survey as well as the Japanese General Social Survey to conduct a path analysis of the effects of education, occupation, and job position on income. Also, see Nagamatsu (2004) for a similar treatment of income in her analysis of earnings structure with variables of skills.

is pension, and 2.9 percent of the total household income is property income. On the other hand, among the households with individuals aged 65 or more only (and unmarried people under 18), 18.3 percent of the total household income is earnings, 67.6 percent of the total household income is pension, and 7.6 percent of the total household income is property income (Ministry of Health, Labour and Welfare, Japan 2014).

Table 1. Frequency Distribution of Income: LGBT Workplace Environment Survey, 2015

	Female Sample		Male Sample	
	Frequency	Valid Percent	Frequency	Valid Percent
¥0-¥999,999	63	8.0	19	3.2
¥1,000,000-¥1,999,999	170	21.3	71	12.1
¥2,000,000-¥2,999,999	197	24.7	111	18.8
¥3,000,000-¥3,999,999	143	17.9	101	17.3
¥4,000,000-¥5,999,999	141	17.8	136	23.3
¥6,000,000-¥9,999,999	63	7.9	102	17.5
¥10,000,000 or above	20	2.5	44	7.8
Don't Know (missing)	10		5	
Don't Want to Answer (missing)	17		10	
No Answer (missing)	95		66	
Total	919	100.0	665	100.0

Independent Variables

This paper uses sexual orientation and transgender status as main independent variables. Reviewing the existing research on the effect of sexual orientation on earnings, Badgett (2007) addresses the methodological issues pertaining how to measure one's sexual orientation. Laumann et al. (1994) show that sexual behavior, sexual attraction, and self-identification constitute different dimensions of sexuality. In labor market research, one way to measure sexuality is to use sexual behavior and classify an individual as LGB (lesbian, gay, or

bisexual) if they have more same-sex sexual behavior than opposite-sex sexual behavior (e.g. Badgett 1995). Another oft-used method is to use the Census and regard people who are coupled with a same-sex partner as LGB (e.g. Baumle et al. 2009). This method can identify neither bisexual population nor single sexual minority population.

While these previous studies use representative surveys so that the results are generalizable, they illustrate only a partial picture of diverse sexual and gender minorities. Using the advantage of the LGBT Workplace Environment Survey 2015, which contains detailed information on gender identity, sexual orientation, and gender assigned at birth, this paper takes diverse gender and sexuality into account. Furthermore, by taking into consideration the variations *within* sexual and gender minorities, this study shows that not all sexual and gender minority statuses are related to income in the same way, and illustrates the significance of including a detailed classification of sexual orientation and transgender status for a fuller understanding of gender and sexuality stratification as a whole.

Measures of sexual orientation and transgender status are derived from three questions regarding one's gender identity, sexual orientation, and gender assigned at birth. Below are the three questions used to estimate a respondent's sexual orientation and transgender status.

Gender Identity

Respondents were asked to 'Provide your gender identity.' The choices are woman, man, X-gender or neutral, and other.

Sexual Orientation

Respondents were asked to 'Provide the gender of people you are attracted to.' The choices are women, men, both (women and men), don't care about gender, not

applicable (not attracted to any person), and other.

Gender Assigned at Birth

Respondents were asked to 'Provide your gender indicated in your family registration or birth certificate.' The choices are female or male.

Sexual Orientation Variable

Based on a cross-classification of gender identity and gender of people a person is attracted to, five dummy variables "heterosexual," "homosexual," "bisexual," "asexual," and "other" are created. The category "heterosexual" is set as the base category. Each category is generated using the criteria shown in Table 2a. Non-answers are treated as missing. Table 2b shows the frequency distribution of sexual orientation by gender assigned at birth. It indicates that among females at birth, more people are classified as bisexual than homosexual, while among males at birth, more people are classified as homosexual than bisexual. Moreover, there are more people with other sexual orientation in the female sample than the male sample. These results suggest that females at birth in the sample are more likely to identify themselves as sexuality categories that are more fluid than such sexual orientations as same-sex orientation. This gender difference suggests the ways in which people have sexual desire is socially constructed by gender (Ehara 2001).

Table 2a. Gender Identity and Sexual Orientation: LGBT Workplace Environment Survey, 2015

		Gender Identity		
		Woman	Man	X-gender, neutral, or other
Sexual Orientation	Women	Women attracted to women[2]	Men attracted to women[1]	X-gender people or people with neutral or other gender attracted to women[5]
	Men	Women attracted to men[1]	Men attracted to men[2]	X-gender people or people with neutral or other gender attracted to men[5]
	Both / don't care	Those who are attracted to both women and men / don't care[3]		
	Not applicable	Those who are not attracted to any person[4]		
	Other	Those who answer "other"[5]		

[1]Heterosexual, [2]Homosexual, [3]Bisexual, [4]Asexual, [5]Other

Table 2b. Constructed Categories for Sexual Orientation: LGBT Workplace Environment Survey, 2015

	Female Sample		Male Sample	
	Frequency	Valid Percent	Frequency	Valid Percent
[1]Heterosexual	234	25.5	114	17.1
[2]Homosexual	234	25.5	390	58.6
[3]Bisexual	315	34.3	112	16.8
[4]Asexual	39	4.2	16	2.4
[5]Other	97	10.6	33	5.0
Total	919	100.0	665	100.0

Transgender Status Variable

Three dummy variables for transgender status, "cisgender," "binary transgender," and "X-gender," are created. The dummy variable "binary transgender" indicates either a man whose gender assigned at birth is female (FtM transgender people, or transgender men) or a woman whose gender assigned at birth is male (MtF transgender people, or transgender women). The

category "cisgender" is designated for persons whose gender identity aligns with gender assigned at birth, and set as the base category. Table 3a shows the coding of this variable. Non-answers are treated as missing. Table 3b shows the frequency distribution of transgender status by gender assigned at birth.

Although this survey is a non-probability survey, the patterns for transgender status are different from those observed in Western countries. De Cuypere et al. (2007) review previous studies on the prevalence of transgender population in Western European countries as well as the United States, Australia, and Singapore, and report that all of the research shows that there are more MtF transgender people than FtM transgender people. The male/female ratios are estimated to be between 2.5:1 and 6.1:1 (De Cuypere et al. 2007)[12]. However, Table 3b below indicates an opposite pattern. It shows that the percentage of FtM transgender people in the female sample is similar to that of MtF transgender people in the male sample. Also, the total percentage of FtM and FtX transgender people in the female sample is higher than that of MtF and MtX transgender people in the male sample.

Discussing the reasons why there are many FtM transgender people in Japan, Mitsuhashi (2012) claims that the Japanese GID (Gender Identity Disorder) Special Law induces lesbian women to identify as FtM transgender. Also, the invisibility of female same-sex sexuality in Japanese society (Horie 2015) may induce cisgender lesbian women to resort to identifying as transgender. In addition, Mitsuhashi (2012) mentions the fact that the gay community and MtF community were already segregated before late 1990s, when the concept of GID became popular in Japan, while the lesbian community and FtM community were less segregated.

---

[12] In Poland, Godlewski (1988) as well as Dulko and Imielinski (2004) reports that there are more FtM transgender people than MtF transgender people, a similar pattern to the trend in Japan.

Moreover, the results show that there are more X-gender people in the female sample compared to FtM transgender people, while this pattern is not observed in the male sample. As is seen in the relationship between sexual orientation and gender assigned at birth, this may suggest that females at birth are more likely to identify themselves as a fluid category, such as X-gender. Also, this could be a result of the strong gender inequality in Japan, where women suffer so much from being women that they may want to refuse the feminine gender role expected by society.

Table 3a. Gender Identity and Gender Assigned at Birth: LGBT Workplace Environment Survey, 2015

		Gender Identity		
		Woman	Man	X-gender, neutral, or other
Gender Assigned at Birth	Female	Designated females identifying as women[1]	Designated females identifying as men[2]	Designated females identifying as X-gender, neutral, or other gender[3]
	Male	Designated males identifying as women[2]	Designated males identifying as men[1]	Designated males identifying as X-gender, neutral, or other gender[3]

[1]Cisgender, [2]Binary Transgender, [3]X-gender

Table 3b. Constructed Categories for Transgender Status: LGBT Workplace Environment Survey, 2015

	Female Sample		Male Sample	
	Frequency	Valid Percent	Frequency	Valid Percent
[1]Cisgender	656	71.4	537	80.8
[2]Binary Transgender	87	9.5	69	10.4
[3]X-gender	176	19.2	59	8.9
Total	919	100.0	665	100.0

Control Variables

Various control variables are used in the analysis to account for differences in human capital accumulation and for labor market factors. In particular, age in years (and its squared term), education, industry, occupation, and employment status are used. In addition, partnership status is included as a control variable.

Education is measured in terms of four categories for highest degree completed[13]: High school (reference), Junior and technical college (Junior college, hereafter), University, and Graduate school. The industry variable consists of eight dummy variables: Finance, Insurance, and Real estate (FIRE; reference), Manufacture, Distribution, IT and media, Education, Medical, Public, and other. Occupation consists of six categories: Managerial (reference), Professional, Clerical, Sales, Blue collar, and other. Employment status consists of three categories: Permanent (reference), Temporary, Part-Time[14]. Partnership status is measured by the question 'Do you have a particular partner?' and those who answered 'Yes' are coded as 1.

Based on human capital theory, I expect that age and education are positively associated with income. Also, I expect that industry, occupation, and employment status are associated with income, based on labor market theories. In particular, I expect that workers in the FIRE industry have higher income than those in other industries, that workers in managerial position earns more than those in other occupations, and that permanent employees earn more than those who have an irregular (i.e. temporary or part-time) job.

---

[13] Kawaguchi (2011) points out that highest degree earned should be used as an estimate of educational attainment, rather than years of education, when applying Mincerian earnings functions to the datasets in Japan.

[14] It should be noted that, in Japan, the category "part-time" "include[s] not only those who work short hours but may also include employees who work nearly as many hours as full-time workers"(Brinton 1993:136). Therefore, the category "part-time" in the Japanese context refers to a distinct employment status, not the amount of work hours.

In addition, although this study does not have any formal hypotheses, I do not expect to find the results suggesting the existence of the lesbian premium observed in Western countries. Also, following Shirahase and Ishida (1994), I expect to find a greater importance of employment status and a lesser importance of occupation in accounting for different earnings by sexual orientation and transgender status in Japan.

Analytical Strategy

Reflecting the fact that labor market trajectory is highly gendered, the sample of this analysis is divided into females at birth and males at birth, following the methods used by Matsushima (2013) and Hiramori (2015), as well as most of the previous research on the effect of sexual orientation on earnings (e.g. Badgett 1995). First, I start the analysis by describing whether human capital accumulation and employment status depends on one's sexual and/or gender minority status. Then, I explore the differences of income by 1) sexual orientation, 2) transgender status, and 3) both sexual orientation and transgender status, using ordered logit regression analysis (Research Question 1).

Next, the variables age, age-squared, and partnership are introduced to the analysis. Because the average age for cisgender heterosexual people is higher than that of sexual and gender minorities, age is used as a variable to account for the sample compositional effect, and it, along with its squared term, is used to capture the relationship between work experience and income. Then, education is added to the analysis to see whether differences in the possession of human capital explain income disparities (Research Question 2).

I then shift the focus of the analysis to labor market factors, and enter industry, occupation, and employment status separately to see which labor market factor may explain

income differences, with the control variables of age, age-squared, and partnership included in the analysis (Research Question 3).

After these analyses, I turn to the fourth research question about the remaining direct association between sexual and/or gender minority status and income after accounting for human capital and labor market factors (Research Question 4). The results of the equivalent OLS regression analysis are reported in the appendix. However, they are not substantially different from the patterns of estimates in ordered logit regression analysis[15].

Results

Below are the results of the analysis. Given that this is a non-representative survey and the sample size of some sexuality classifications is small, using the standard methods of statistical inference is not entirely appropriate. Hence, although I indicate statistical significance in the tables showing the results, most of the discussion below focuses on descriptive patterns, rather than the statistical significance of hypothesis tests.

Bivariate Analysis

Table 4 and 5 depict respondents' highest degree completed by sexual orientation (Table 4) and by transgender status (Table 5). Table 4 indicates that both lesbian women and gay men tend to have a similar educational attainment to their heterosexual counterparts, unlike the existing literature in Western countries, where lesbian women and gay men tend to have higher education (Carpenter 2008). For example, a little less than 60 percent of lesbian women and

[15] Because income is measured categorically in the survey, the midpoint of each category is used as an estimate of the respondent's income for OLS regression. I follow a procedure suggested by Ligon ([1989] 1994) to estimate the mean income of the open-ended top category.

about 70 percent of gay men have a college degree or more, compared to about 60 percent of heterosexual women and a little more than 70 percent of heterosexual men. Among bisexual women, slightly more than half of the respondents have a college degree or more, and a little less than 60 percent of bisexual men have a college degree or more, suggesting that bisexual people, men in particular, are less likely to accumulate human capital, measured by educational attainment. For asexual people, the results indicate that many asexual females-at-birth have lower educational attainment than females with other sexual orientations. However, at the same time, a little less than one fifth of asexual females-at-birth have completed graduate school. On the other hand, the percentage of asexual males-at-birth who have completed high school is similar to other minority sexual orientations except for "other." Also, many asexual males-at-birth have a college degree compared to people with other sexual orientations, though these results should be interpreted with caution. In addition, it should be noted that there is more dispersion in educational attainment among heterosexual women compared to lesbian women. For males at birth, there is less dispersion in educational attainment among gay men compared to heterosexual men, although the results are mixed.

Table 4. Highest Degree Completed by Sexual Orientation for Females-at-Birth and Males-at-Birth: LGBT Workplace Environment Survey, 2015

		Sexual Orientation					
		Heterosexual	Homosexual	Bisexual	Asexual	Other	Total
Female at Birth	High School	18.3%	15.9%	20.0%	32.4%	23.8%	19.4%
	Junior College	22.5	26.4	28.6	5.9	23.8	25.0
	University	46.0	51.0	45.4	44.1	41.7	46.5
	Graduate School	13.1	6.7	6.1	17.6	10.7	9.0
	Total	100%	100%	100%	100%	100%	100%
	N	213	208	280	34	84	819
Male at Birth	High School	11.7%	15.0%	17.6%	18.8%[16]	31.3%	15.8%
	Junior College	15.5	14.7	25.5	0.0	12.5	16.2
	University	51.5	54.0	45.1	68.8	43.8	51.9
	Graduate School	21.4	16.4	11.8	12.5	12.5	16.2
	Total	100%	100%	100%	100%	100%	100%
	N	103	341	102	16	32	594

Female Sample: χ^2: 24.852*
Cramer's V: 0.101*

Male Sample: χ^2: 21.084*
Cramer's V: 0.109*

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

The sample description in Table 5 shows that both binary (FtM and MtF) transgender people and X-gender people tend to have lower educational attainment than cisgender people in the female and the male samples. For example, about 60 percent of cisgender women have a college degree or more, compared to only about 40 percent of FtM transgender people and a little less than half of FtX transgender people. Among males at birth, about 70 percent of cisgender people have a college degree or more, while only a little more than half of MtF transgender people and about 60 percent of MtX transgender people have the same educational attainment. Also, the comparison between binary transgender people and X-gender people suggests that binary transgender people tend to have lower human capital acquisition, compared to X-gender

[16] Among asexual males-at-birth, 3 people have completed high school, 11 people have completed university, and 2 people have completed graduate school.

people both in the female-at-birth and male-at-birth samples. However, there are more FtM transgender people who have a high school diploma than FtX transgender people. This difference is not observed in the male sample. In addition, cisgender women are more clustered in the category "University," while FtM transgender people and FtX transgender people are more sparsely distributed. This trend is also found in the male-at-birth sample, although the pattern is less obvious than in the female-at-birth sample.

Table 5. Highest Degree Completed by Transgender Status for Females-at-Birth and Males-at-Birth: LGBT Workplace Environment Survey, 2015

		Transgender Status			
		Cisgender	Trans (Binary)	Trans (X-gender)	Total
Female at Birth	High School	15.6%	32.1%	26.8%	19.4%
	Junior College	24.0	26.2	28.0	25.0
	University	50.3	39.3	36.3	46.5
	Graduate School	10.0	2.4	8.9	9.0
	Total	100%	100%	100%	100%
	N	578	84	157	819
Male at Birth	High School	13.8%	22.4%	25.5%	15.8%
	Junior College	15.0	23.9	16.4	16.2
	University	53.4	44.8	47.3	51.9
	Graduate School	17.8	9.0	10.9	16.2
	Total	100%	100%	100%	100%
	N	472	67	55	594

Female Sample: χ^2: 27.635***
Cramer's V: 0.130***

Male Sample: χ^2: 14.099*
Cramer's V: 0.109*

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table 6 and 7 depict respondents' employment status by sexual orientation (Table 6) and by transgender status (Table 7). In Japan, being a irregular worker means that the company sees these workers as secondary, and "part-time and temporary workers in Japan enjoy less job

security, legally and in practice, than regular full-time workers," (Houseman and Osawa 2003:189) who have an implicit lifetime contract with the company. Following this observation, I will refer to part-time and temporary employment as instances of precarious employment. Also, "companies became increasingly selective in their investment in developing the skills of permanent employees, while little investment was made in skill-building for temporary or part-time employees" (Kosugi 2006: paragraph 16). Therefore, these three categories form a hierarchy of employment status, where permanent workers come at the top and part-time workers come at the bottom in Japan.

Table 6 indicates that both lesbian women and gay men tend to obtain a similar employment status to their counterparts, unlike the previous research by Kamano (2009), where she found that partnered lesbian women in Japan tend to report more irregular employment than heterosexual female workers. For example, a little less than 70 percent of lesbian women and about 75 percent of gay men are currently permanent workers, compared to a little less than 70 percent of heterosexual women and a little less than 80 percent of heterosexual men. Among bisexual women, about 57 percent of the respondents hold permanent work, whereas over 60 percent of bisexual men hold permanent jobs, suggesting that bisexual people, women in particular, are more likely to choose to, or be compelled to, hold a precarious employment status.

In addition, the trend for employment status is similar to that for educational attainment among lesbian women and gay men, suggesting that their human capital accumulation may be associated with the type of employment that they secure. On the other hand, the relationship between human capital accumulation and employment status among bisexual people is more complex, indicating that the extent to which their human capital can be transferred to employment status depends on whether the bisexual person is female or male.

Table 6. Employment Status by Sexual Orientation for Females-at-Birth and Males-at-Birth: LGBT Workplace Environment Survey, 2015

		Sexual Orientation					
		Heterosexual	Homosexual	Bisexual	Asexual	Other	Total
Female at Birth	Permanent	68.4%	67.1%	56.8%	56.4%	57.7%	62.5%
	Temporary	17.1	16.7	16.5	17.9	26.8	17.8
	Part-time	14.5	16.2	26.7	25.6	15.5	19.7
	Total	100%	100%	100%	100%	100%	100%
	N	234	234	315	39	97	919
Male at Birth	Permanent	78.9%	75.6%	63.4%	50.0%[17]	69.7%	73.2%
	Temporary	14.0	13.8	19.6	25.0	15.2	15.2%
	Part-time	7.0	10.5	17.0	25.0	15.2	11.6%
	Total	100%	100%	100%	100%	100%	100%
	N	114	390	112	16	33	665

Female Sample: χ^2: 23.171**
Cramer's V: 0.112**

Male Sample: χ^2: 14.663 †
Cramer's V: 0.105 †

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

The sample description in Table 7 shows that, for female and male samples, both binary transgender people and X-gender people are more likely to hold irregular employment than are cisgender people. For example, about a quarter of FtM transgender people, FtX transgender people, and MtF transgender people are currently part-time workers, while about 17 percent of cisgender women and 9 percent of cisgender men are currently part-time workers.

Also, for the female sample, the comparison between FtM transgender people and FtX transgender people indicates that FtX transgender people are more likely to be temporary workers than FtM transgender people; however, the percentages of part-time workers among FtM transgender people and FtX transgender people are similar. Similarly, in the male sample, MtX transgender people are more likely to be temporary workers than MtF transgender people.

[17] Among asexual males-at-birth, eight people are permanent workers, four people are temporary workers, and four people are part-time workers.

On the other hand, MtF transgender people are more likely to follow part-time work, compared to MtX transgender people.

Overall, the results suggest that among transgender people, FtX transgender people tend to have more precarious work than FtM transgender people, and MtF transgender people tend to have more precarious work (especially part-time employment) than MtX transgender people. While binary transgender people in general tend to have lower educational attainment than X-gender people, the results above suggest that human capital theory cannot fully explain the disparities of employment status, and hint that there are structural constraints that make it difficult to transfer one's human capital into employment status.

Table 7. Employment Status by Transgender Status for Females-at-Birth and Males-at-Birth: LGBT Workplace Environment Survey, 2015

		Transgender Status			
		Cisgender	Trans (Binary)	Trans (X-gender)	Total
Female at Birth	Permanent	66.9%	57.5%	48.3%	62.5%
	Temporary	16.0	17.2	25.0	17.8
	Part-time	17.1	25.3	26.7	19.7
	Total	100%	100%	100%	100%
	N	656	87	176	919
Male at Birth	Permanent	76.4%	59.4%	61.0%	73.2%
	Temporary	14.9	14.5	18.6	15.2
	Part-time	8.8	26.1	20.3	11.6
	Total	100%	100%	100%	100%
	N	537	69	59	665

Female Sample: χ^2: 22.462*** Cramer's V: 0.111***

Male Sample: χ^2: 24.387*** Cramer's V: 0.135***

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Multivariate Analysis

In this section, I discuss the results of modeling income as a function of sexual

orientations and transgender status, and then explore how these relationships may be mediated by human capital accumulation and job characteristics. Tables 8 shows the results for sexual orientation only model, transgender status only model, and sexual orientation and transgender status model for females at birth. Model 1 indicates that lesbian women, bisexual women, asexual women, and women with "other" sexual orientation all tend to earn less than heterosexual women. Model 2 shows that both FtM transgender people and FtX transgender people have lower income than cisgender women. When both sexual orientation and transgender status are taken into consideration simultaneously, both sexual and gender minorities earn less than the majority. Table 9 shows a similar pattern of estimates for males at birth. Gay men, bisexual men, and asexual men all earn less than heterosexual men, and MtF transgender people and MtX transgender people earn less than cisgender men.

Table 8. Ordered Logistic Regression of Income on Sexual Orientation and Transgender Status (Females-at-Birth, Cut Points Omitted): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 1		Model 2		Model 3	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Orientation	Heterosexual	-----	-----			-----	-----
	Homosexual	-.343*	.174			-.523**	.181
	Bisexual	-1.080***	.167			-1.114***	.179
	Asexual	-.697*	.328			-.600 †	.347
	Other	-.770**	.233			-.383	.312
Trans Status	Cisgender			-----	-----	-----	-----
	Transgender			-.466*	.210	-.769***	.219
	X-gender			-.717***	.164	-.638**	.227
N=		797		797		797	
McFadden R^2		.016		.008		.023	
Model -2LL		145.207		86.041		255.986	
Model χ^2		45.904***		21.948***		64.375***	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table 9. Ordered Logistic Regression of Income on Sexual Orientation and Transgender Status (Males-at-Birth, Cut Points Omitted): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 1		Model 2		Model 3	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Orientation	Heterosexual	-----				-----	-----
	Homosexual	-.397*	.202			-.575**	.207
	Bisexual	-.969***	.252			-.771**	.265
	Asexual	-1.461**	.479			-1.204*	.510
	Other	-.748*	.364			-.285	.517
Trans Status	Cisgender			-----	-----	-----	-----
	Transgender			-.983***	.235	-.985***	.257
	X-gender			-.774**	.255	-.705 †	.402
N=		584		584		584	
McFadden R^2		.010		.011		.018	
Model -2LL		128.390		89.293		221.220	
Model χ^2		22.114***		23.796***		37.763***	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Tables 10 (female-at-birth sample) and 11 (male-at-birth sample) show the results for the model with age, age-squared, and partnership, as well as the model with educational attainment as an indicator of human capital added to the previous model, based on human capital theory. Model 4 for the female sample shows that most of the disparities by sexual orientation except for bisexuality are explained by age and partnership status[18]. On the other hand, while age, age-squared, and partnership status partly explain transgender people's disadvantage, both of the coefficients for binary transgender and X-gender suggest that there is still much to be explained by other factors. Model 5 for the female sample shows an interesting result, indicating that educational attainment partly explains income disparities among cisgender, binary transgender, and X-gender people.

Model 4 for the male sample shows that most of the disparities by sexual orientation

[18] An additional analysis using the model that only contains age and age-squared indicates that, in fact, age is the primary mediator of this relationship. A similar pattern is also found in the male sample.

are explained by age, age-squared, and partnership status. On the other hand, age, age-squared, and partnership status do not explain the transgender people's disadvantage well. In fact, the magnitude of the differences becomes larger when age is included in the model, suggesting that MtF transgender people and MtX transgender people earn less than cisgender men after accounting for age. Model 5 for the male sample shows a similar pattern as the female sample. Introducing education as a control variable lowers the magnitude of the coefficients for both MtF transgender people and MtX transgender people.

Table 10. Ordered Logistic Regression of Income on Sexual Orientation, Transgender Status, and Human Capital Variables (Females-at-Birth, Cut Points Omitted): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 4		Model 5	
		Coefficients	S.E.	Coefficients	S.E.
Orientation	Heterosexual	-----	-----	-----	-----
	Homosexual	-.234	.188	-.182	.190
	Bisexual	-.560**	.189	-.552**	.190
	Asexual	.068	.364	.057	.369
	Other	-.123	.322	-.260	.325
Trans Status	Cisgender	------	-----	-----	-----
	Transgender	-.530*	.227	-.259	.230
	X-gender	-.586*	.232	-.334	.236
Age		.123***	.010	.121***	.010
$(Age)^2$		-.004***	.001	-.003***	.001
Partnership		.506***	.140	.549***	.141
Education	High School			-----	-----
	Junior College			.844***	.204
	University			1.724***	.191
	Graduate School			2.076***	.280
N=		778		776	
McFadden R^2		.090		.128	
Model -2LL		832.503		2107.668	
Model χ^2		249.045***		354.072***	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table 11. Ordered Logistic Regression of Income on Sexual Orientation, Transgender Status, and Human Capital Variables (Males-at-Birth, Cut Points Omitted): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 4		Model 5	
		Coefficients	S.E.	Coefficients	S.E.
Orientation	Heterosexual	-----	-----	-----	-----
	Homosexual	-.249	.215	-.172	.216
	Bisexual	-.426	.273	-.267	.275
	Asexual	-.631	.546	-.801	.551
	Other	.490	.550	.562	.554
Trans Status	Cisgender	------	-----	-----	-----
	Transgender	-1.028***	.264	-.851**	.266
	X-gender	-.885*	.440	-.802 †	.441
Age		.108***	.010	.116***	.010
$(Age)^2$		-.004***	.001	-.003***	.001
Partnership		.434***	.156	.490**	.157
Education	High School			-----	-----
	Junior College			.063	.272
	University			1.141***	.228
	Graduate School			1.716***	.283
N=		571		568	
McFadden R^2		.088		.119	
Model -2LL		1357.984		1584.858	
Model χ^2		184.081***		247.386***	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Tables 12 (female-at-birth sample) and 13 (male-at-birth sample) show the results for the model with age, age-squared, and partnership, as well as the model with industry, occupation, and employment status as indicators of labor market factors. Models 6 through 8 for the female sample show that neither industry nor occupation explains the income disparity well, except that the income difference between lesbian women and heterosexual women is partly explained by occupation, which suggests that lesbian women are less likely to be assigned higher occupational positions than heterosexual women in the sample. The results indicate that one's employment status explains income disparities both between sexual minorities and the majority as well as

between gender minorities and the majority.

Models 6 through 8 for the male sample exhibit a somewhat different pattern. Similar to the female sample, employment status partly explains income difference between transgender individuals and cisgender individuals. However, when employment status is introduced in the analysis, the income disparity between sexual minorities and the majority becomes large, indicating that gay men and bisexual men tend to earn even less than heterosexual men after accounting for employment status.

Table 12. Ordered Logistic Regression of Income on Sexual Orientation, Transgender Status, and Labor Market Variables (Females-at-Birth, Cut Points Omitted): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 6		Model 7		Model 8	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Orientation	Heterosexual	-----	-----	-----	-----	-----	-----
	Homosexual	-.256	.189	-.208	.190	-.209	.192
	Bisexual	-.576**	.190	-.585**	.192	-.558**	.193
	Asexual	.054	.367	-.024	.367	.075	.374
	Other	-.147	.324	-.152	.324	-.396	.333
Trans Status	Cisgender	-----	-----	-----	-----	-----	-----
	Transgender	-.472*	.229	-.460*	.234	-.412 †	.233
	X-gender	-.563*	.234	-.542*	.235	-.145	.242
Age		.117***	.010	.107***	.010	.100***	.010
$(Age)^2$		-.004***	.001	-.004***	.001	-.003***	.001
Partnership		.472***	.141	.439**	.141	.532***	.144
Education	High School						
	Junior College						
	University						
	Graduate School						
Industry	FIRE	-----	-----				
	Manufacture	-.523	.330				
	Distribution	-1.399***	.332				
	IT media	-.795*	.320				
	Education	-.893**	.341				
	Medical	-.928**	.319				
	Public	-1.085**	.362				
	Other	-1.635***	.324				
Occupation	Managerial			-----	-----		
	Professional			-1.145**	.343		
	Clerical			-1.710***	.352		
	Sales			-2.160***	.358		
	Blue Collar			-2.323***	.434		
	Other			-2.511***	.421		
Employment	Permanent					-----	-----
	Temporary					-1.614***	.190
	Part-time					-3.868***	.252
N=		778		778		778	
McFadden R^2		.105		.114		.207	
Model -2LL		2332.102		2215.795		1810.616	
Model χ^2		290.579***		315.148***		575.012***	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table 13. Ordered Logistic Regression of Income on Sexual Orientation, Transgender Status, and Labor Market Variables (Males-at-Birth, Cut Points Omitted): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 6		Model 7		Model 8	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Orientation	Heterosexual	-----	-----	-----	-----	-----	-----
	Homosexual	-.105	.220	-.084	.218	-.371 †	.218
	Bisexual	-.354	.276	-.349	.276	-.533 †	.278
	Asexual	-.634	.551	-.507	.551	-.691	.559
	Other	.775	.557	.550	.555	.099	.560
Trans Status	Cisgender	-----	-----	-----	-----	-----	-----
	Transgender	-.812*	.268	-.908**	.267	-.676*	.271
	X-gender	-1.005*	.444	-.701	.444	-.594	.448
Age		.112***	.010	.100***	.010	.097***	.010
$(Age)^2$		-.004***	.001	-.003***	.001	-.003**	.001
Partnership		.433**	.157	.369*	.157	.392*	.158
Education	High School						
	Junior College						
	University						
	Graduate School						
Industry	FIRE	-----	-----				
	Manufacture	-.253	.469				
	Distribution	-1.333**	.473				
	IT media	-.010	.453				
	Education	-.191	.475				
	Medical	-1.590**	.484				
	Public	-.624	.482				
	Other	-1.273**	.489				
Occupation	Managerial			-----	-----		
	Professional			-.808**	.301		
	Clerical			-1.020**	.323		
	Sales			-2.036***	.332		
	Blue Collar			-2.035***	.393		
	Other			-2.246***	.415		
Employment	Permanent					-----	-----
	Temporary					-2.018***	.228
	Part-time					-3.640***	.337
N=		571		571		571	
McFadden R^2		.117		.121		.175	
Model -2LL		1704.468		1626.328		1353.168	
Model χ^2		243.403***		251.281***		363.965***	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Tables 14 show the results for the full model with control variables, human capital factors, and labor market factors. Model 9 for the female sample indicates that there is a statistically significant association between bisexuality and income disadvantage after accounting for human capital and labor market factors. Also, people with "other" sexual orientation tend to earn less, compared to heterosexual people, although the coefficient is not statistically significant. However, the results suggest that income disparity between most of the sexual and gender minorities and the majority can be explained largely by human capital accumulation and labor market sorting factors.

Model 9 for the male sample shows that bisexual men tend to earn less compared to heterosexual men, though the coefficient is not statistically significant. Although the coefficients for asexual people and people with "other" sexual orientation indicate that they tend to earn less, it should be noted that only 2.4 percent of males at birth are asexual and 5.0 percent of males at birth are people who have "other" sexual orientation. The results for transgender people in the male sample show a different pattern. While education and labor market sorting largely explain income disparity between cisgender people and transgender people in the female-at-birth sample, both binary (MtF) transgender people and MtX transgender people tend to earn less compared to cisgender men after accounting for these factors. This may suggest that transitions from "female" to "male" or "X-gender" are qualitatively different from those from "male" to "female" or "X-gender." Also, the fact that there is little difference between binary transgender people and X-gender people suggests that what determines one's income is gender assigned at birth, rather than gender identity, when human capital and labor market variables are taken into account.

Table 14. Ordered Logistic Regression of Income on Sexual Orientation, Transgender Status, Human Capital Variables, and Labor Market Variables for Females-at-Birth and Males-at-Birth (Cut Points Omitted): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 9 (Female)		Model 9 (Male)	
		Coefficients	S.E.	Coefficients	S.E.
Orientation	Heterosexual	-----	-----	-----	-----
	Homosexual	-.149	.196	-.174	.227
	Bisexual	-.591**	.198	-.322	.285
	Asexual	-.081	.382	-.842	.571
	Other	-.499	.338	.402	.574
Trans Status	Cisgender	-----	-----	-----	-----
	Transgender	-.179	.245	-.431	.280
	X-gender	.014	.248	-.507	.458
Age		.096***	.011	.104***	.011
$(Age)^2$		-.004***	.001	-.003***	.001
Partnership		.482**	.147	.420**	.162
Education	High School	-----	-----	-----	-----
	Junior College	.560**	.215	.101	.284
	University	1.201***	.208	.953***	.245
	Graduate School	1.475***	.301	1.644***	.312
Industry	FIRE	-----	-----	-----	-----
	Manufacture	-.544	.345	-.381	.493
	Distribution	-.943**	.346	-1.045*	.500
	IT media	-1.147***	.343	-.232	.476
	Education	-1.139**	.372	-.285	.506
	Medical	-1.193***	.336	-1.545**	.514
	Public	-1.527***	.375	-.755	.501
	Other	-1.302***	.338	-1.067*	.521
Occupation	Managerial	-----	-----	-----	-----
	Professional	-1.024**	.360	-.870**	.322
	Clerical	-1.566***	.362	-.715*	.336
	Sales	-1.571***	.372	-.947**	.361
	Blue Collar	-1.527**	.464	-1.248**	.415
	Other	-1.664***	.437	-1.296**	.441
Employment	Permanent	-----	-----	-----	-----
	Temporary	-1.578***	.196	-2.160***	.241
	Part-time	-3.525***	.258	-3.393***	.345
N=		776		568	
McFadden R^2		.244		.231	
Model -2LL		2080.672		1576.315	
Model χ^2		675.133***		478.640***	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Discussion and Conclusion

While economic and sociological research examining the effect of sexual orientation on earnings has expanded recently, most of the existing literature covers only a part of diverse sexual and gender minorities. Typically, data on same-sex couples are used to approximate the earnings difference between homosexual people and heterosexual people (e.g. Waite and Denier 2015). In particular, the number of studies that utilize transgender status as a focus of analysis is extremely limited. Furthermore, the fact that most of the previous research has been conducted in Western countries has made it difficult to consider the possibility that their theories and observations may be specific to the labor market structures found in Western societies and the gendered structures of these markets. Therefore, this paper explores the association between various sexual and/or gender minority statuses and income in Japan, employing the LGBT Workplace Environment Survey 2015. Overall, the survey results suggest that there are income disparities *within* sexual and gender minorities, and there is a difference between the patterns observed in Western countries and those in Japan. Although the results for this exploratory analysis are mixed, the general findings can be classified into five points.

First, unlike Western countries, where lesbian women earn *more* than heterosexual women, the general results indicate that lesbian women in Japan earn *less* than heterosexual women. Much of the income difference between these two groups is apparently due to the difference in human capital accumulation. In fact, the analysis (Table 4) indicates that lesbian women have slightly lower educational attainment on average, another different result from the existing research, as previous literature in Western countries reports that lesbian women have higher educational attainment than heterosexual women (Black et al. 2000). At the same time, lesbian women in Japan are slightly more likely to be in a part-time job than heterosexual women

(Table 6). In addition, a multivariate analysis of income indicates that human capital acquisition explains income disparity between lesbian women and heterosexual women more than labor market sorting (Tables 10 and 12). This suggests that lesbian women in Japan are less likely to have higher educational attainment, which leads to a lower job position in the labor market, contributing to the lower income among lesbian women.

While there can be several possible explanations as to why lesbian women in Japan are less likely to have higher educational attainment, one motive would be that because the labor market structure in Japan is highly gendered, they might think that they cannot get promoted and be considered as "one of the guys" in the workplace. It may be possible to say that gendered constraints in the labor market make women choose to invest less in their education, as Correll (2004) illustrates how gendered macro belief systems constraint one's career preferences. In fact, one survey for non-heterosexual women reports that one lesbian woman thought that she had to be economically independent because of her sexual minority status (Seiishiki Chosa Group 1998). This shows the situation where lesbian women want to seek out economic independence, but the highly gendered "*human capital development system*" (Brinton 1988:305) in Japan makes it difficult for these women to pursue higher education. In addition to this burden as a woman, as Kamano (2009) claims, lesbian women may suffer from heteronormative social institutions at various stages in life, suggesting that the Japanese human capital development system is also stratified by sexuality. Although it is impossible to decide what kind of explanation is plausible based on the evidence, heterosexism in the educational system might be one possible factor that accounts for why lesbian women attain less education than do heterosexual women. To sum up, the results for lesbian women indicate the importance of taking into consideration the peculiarity of the ways in which gender and sexuality stratification in the Japanese labor market interact

with each other to disadvantage lesbian women's human capital acquisition, when researchers study the relationship between sexual orientation and earnings in Japan.

Second, the results for gay men, compared to heterosexual men, are more consistent with the existing literature in Western countries, where gay men tend to earn less. Contrary to the results for lesbian women, the multivariate analysis shows that labor market factors (except for employment status) explain the income disparity more than educational attainment, suggesting that income differences can be explained more by the fact that gay men tend to be in low-paying industries and lower occupational positions than their counterparts (Tables 11 and 13).

Third, the results for bisexual women and men are also similar to those observed in previous research (Carpenter 2005). Both women and men tend to earn less than their heterosexual counterparts. One difference between bisexual women and bisexual men is that while education and, to a lesser extent, labor market factors explain the majority of the income difference between bisexual men and heterosexual men, other factors not considered in the models appear to explain the income disparity between bisexual women and heterosexual women (Table 14). In addition, compared to gay men, whose lower income is explained primarily by labor market sorting, the income difference between bisexual men and heterosexual men is explained more by education, indicating that the mechanism through which gay men and bisexual men receive lower income is different, though they both tend to have lower income than heterosexual men (Tables 11 and 13). This suggests the possibility that the processes through which the income disparity occurs are different *within* various sexual minorities.

Fourth, the results for asexual women and men illustrates a gender difference, where asexual women tend to suffer less than other sexual minorities, such as lesbian women and bisexual women, while asexual men tend to suffer more than other sexual minorities, such as gay

men and bisexual men (Table 14). Although the sample size for asexual people in this survey is extremely low, this suggests that the ways in which being an asexual person is interpreted depend on one's gender. Sugiura (2015:8) writes, "male sexual desire is considered as 'strong' and 'active,' while female sexual desire is considered as 'thin' and 'passive'" in contemporary Japanese society. Although she originally makes this statement in order to show how difficult it is to observe lesbian women's desire and subjectivity, this assertion supports the present results among asexual people as well. In other words, one could argue that asexual women do not suffer from income disparity as much as other sexual minority women, because women in general are not supposed to be outspoken about their sexuality. On the other hand, it may be said that asexual men are more likely to have lower income compared to other sexual minority men, because men are supposed to have high sexual interest (toward women). Although asexual people constitute only a small portion of the general population, studying this small group sheds light on another way in which gender may interact with sexuality to stratify labor market outcomes.

Fifth, the results for transgender indicate that both binary (FtM and MtF) transgender people and X-gender people tend to earn less than cisgender people. Although the results are mixed, the general patterns suggest that FtM transgender people earn more than FtX transgender people and MtF transgender people earn less than MtX transgender people (Tables 10 through 13). While it is assumed that both FtM transgender people and MtF transgender people have lower income because of their transgender status, FtM transgender people may gain authority as men, as Schilt (2006) shows, and this could compensate some of the negative relationship between income and transgender status for FtM transgender people. On the other hand, MtF transgender people lose male authority because they identify themselves as women and behave

as women accordingly, which leads to an income disadvantage as a transgender person and as a woman.

In addition, among the three labor market factors (industry, occupation, and employment status), it seems that employment status explains income disparity between transgender people and cisgender people best (Tables 12 and 13). That is to say, transgender people are more likely to be in a temporary and part-time position, which leads to lower income among transgender individuals. Discussing X-gender people and the workplace, Dale (2013:241) writes, the interviewees "admit that they try as far as possible to avoid socializing unless necessary" so that "they keep to themselves in order to avoid revealing themselves as being 'different' from anyone else in the company." This withdrawal from social contact at the workplace may be seen as one factor associated with the higher rates of precarious position among transgender people. Needless to say, it should be noted that this seeming preference of transgender people may be derived from the structural constraints that make them withdraw from the workplace.

Given the above points, these *quantitative portraits* of sexual and gender minorities in Japan shows the usefulness of applying a social-institutional perspective on pathways through educational and labor market structures as well as the need to incorporate diverse sexual and gender minorities for developing a fuller depiction of sexuality and gender stratification. At the same time, however, this paper faces some methodological limitations. One major limitation is that the dataset employed in this study uses a purposive sampling method to recruit respondents from various sexual and gender minorities. Also, most of the sexual/gender majority respondents are recruited at the corporate lectures on LGBT issues in the workplace by Nijiiro Diversity, and it should be noted that the companies interested in LGBT issues in the workplace in Japan tend

to be liberal. Therefore, these respondents are more likely to have higher educational attainment and higher income than the national average. Although the LGBT Workplace Environment Survey is the only large-scale quantitative survey on LGBT and economic/workplace situation available in Japan, given that this is not a probability sample, the results should not be overgeneralized. In addition, because the survey asks mainly about workplace issues, this study does not fully account for the role of intrahousehold decisions in determining one's earnings.

Therefore, in the future, it is important to include questions about sexual and/or gender minority status in governmental surveys or other representative social surveys in Japan to statistically analyze the differences between sexual and gender minorities and the majority. In addition, new data collection is needed to contextualize these disparities. Because most of the current studies use existing census or surveys, they can neither directly test their theoretical propositions, nor are they able to incorporate differences *within* sexual and gender minorities. Moreover, cross-cultural comparative work examining the role of social-institutional contexts in shaping sexuality and gender stratification is extremely scarce. Future research should take these issues into consideration to better understand the origins and operations of sexuality and gender stratification across societies.

References

Althauser, Robert P. and Arne L. Kalleberg. 1981. "Firms, Occupations, and the Structure of Labor Markets: A Conceptual Analysis." Pp. 119-49 in *Sociological Perspectives on Labor Markets*, edited by I. Berg. New York: Academic Press.

Badgett, M. V. Lee. 1995. "The Wage Effects of Sexual Orientation Discrimination." *Industrial and Labor Relations Review* 48(4):726-39.

Badgett, M. V. Lee. 2007. "Discrimination Based on Sexual Orientation: A Review of the Literature in Economics and beyond." Pp. 19-43 in *Sexual Orientation Discrimination: An International Perspective*, edited by M. V. L. Badgett and J. Frank. New York: Routledge.

Baumle, Amanda K., D'Lane Compton, and Dudley L. Poston Jr. 2009. *Same-Sex Partners: The Social Demography of Sexual Orientation*. Albany: State University of New York Press.

Becker, Gary S. [1981] 1993. *A Treatise on the Family*. Enlarged ed. Cambridge, MA: Harvard University Press.

Becker, Gary S. [1964] 1994. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. 3rd ed. Chicago: University of Chicago Press.

Becker, Gary S. 2002. "The Age of Human Capital." Pp. 3-8 in *Education in the Twenty-First Century*, edited by E. P. Lazear. Palo Alto: Hoover Institution Press.

Black, Dan, Gary Gates, Seth Sanders, and Lowell Taylor. 2000. "Demographics of the Gay and Lesbian Population in the United States: Evidence from Available Systematic Data Sources." *Demography* 37(2):137-54.

Black, Dan A., Hoda R. Makar, Seth G. Sanders, and Lowell J. Taylor. 2003. "The Earnings Effects of Sexual Orientation." *Industrial and Labor Relations Review* 56(3):449-69.

Bondy, Christopher. 2010. "Understanding *Buraku* Inequality: Improvements and Challenges." *Contemporary Japan* 22:99-113.

Brinton, Mary C. 1988. "The Social-Institutional Bases of Gender Stratification: Japan as an Illustrative Case." *American Journal of Sociology* 94(2):300-34.

Brinton, Mary C. 1993. *Women and the Economic Miracle: Gender and Work in Postwar Japan.* Berkeley: University of California Press.

Brinton Mary C. 2001. "Women's Labor in East Asian Economies." Pp. 1-37 in *Women's Working Lives in East Asia*, edited by M. C. Brinton. Stanford: Stanford University Press.

Carpenter, Christopher S. 2005. "Self-Reported Sexual Orientation and Earnings: Evidence from

California." *Industrial and Labor Relations Review* 58(2):258-73.

Carpenter, Christopher S. 2008. "Sexual Orientation, Work, and Income in Canada." *Canadian Journal of Economics* 41(4):1239-61.

Chang, Chin-Fen and Paula England. 2011. "Gender Inequality in Earnings in Industrialized East Asia." *Social Science Research* 40(1):1-14.

Correll, Shelley J. 2004. "Constraints into Preferences: Gender, Status, and Emerging Career Aspirations." *American Sociological Review* 69(1):93-113.

Dale, S. P. F. 2012. "An Introduction to *X-Jendā*: Examining a New Gender Identity in Japan." *Intersections: Gender and Sexuality in Asia and the Pacific* 31. Retrieved April 21, 2016 (http://intersections.anu.edu.au/issue31/dale.htm).

Dale, Sonja. 2013. "Mapping 'X': The Micropolitics of Gender and Identity in a Japanese Context." PhD dissertation, Department of Global Studies, Sophia University.

De Cuypere, G., M. Van Hemelrijck, A. Michel, G. Heylens, R. Rubens, P. Hoebeke, and S. Monstrey. 2006. "Prevalence and Demography of Transsexualism in Belgium." *European Psychiatry* 22(3):137-41.

Dulko, S. and C. Imielinski. "The Epidemiology of Transsexualism in Poland." *Journal of Psychosomatic Research* 56(6):637.

Ehara, Yumiko. 2001. *Gender Chitsujo (Gender Order)*. Tokyo, Japan: Keiso Shobo.

Fujihara, Sho. 2009. "Gendai Kokosei to Hahaoya no Kyoiku Kitai: Sogoizon moderu wo mochiita Oyako Doji Bunseki" (Educational Expectations of Japanese Senior High School Students and Mothers: Simultaneous Analysis of Student-Mother Dyadic Data with Interdependence Model). *Sociological Theory and Methods* 24(2):283-99.

Gauchat, Gordon, Maura Kelly, and Michael Wallace. 2012. "Occupational Gender Segregation, Globalization, and Gender Earnings Inequality in U.S. Metropolitan Areas." *Gender & Society* 26(5):718-47.

Godlewski, Julian. 1988. "Transsexualism and Anatomic Sex Ratio Reversal in Poland." *Archives of Sexual Behavior* 17(6):547-8.

Grant, Jaime M., Lisa A. Mottet, and Justin Tanis, Jack Harrison, Jody L. Herman, and Mara Keisling. 2011. "Injustice at Every Turn: A Report of the National Transgender Discrimination Survey." Washington: National Center for Transgender Equality and National Gay and Lesbian Task Force. Retrieved April 21, 2016

(http://www.thetaskforce.org/downloads/reports/reports/ntds_full.pdf).

Hiramori, Daiki. 2015. “Shokuba ni okeru Seiteki Mainoriti no Konnan: Shunyu oyobi Kinzoku Iyoku no Tahenryo Kaiseki” (Challenges of Sexual and Gender Minorities in the Workplace: Multivariate Analyses of Income and Willingness to Continue Working). *Gender and Sexuality: Journal of the Center for Gender Studies, ICU* 10:91-118.

Horie, Yuri. 2015. *Lesbian Identities* (in Japanese*)*. Kyoto, Japan: Rakuhoku Shuppan.

Houseman, Susan and Machiko Osawa. 2003. “The Growth of Nonstandard Employment in Japan and the United States: A Comparison of Causes and Consequences.” Pp. 175-214 in *Nonstandard Work in Developed Economies: Causes and Consequences*, edited by S. Houseman and M. Osawa. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Inochi Respect. White Ribbon Campaign. 2014. *LGBT no Gakko Seikatsu ni Kansuru Jittai Chosa (2013) Kekka Hokokusho (Results Report of the Survey of LGBT people’s School Life 2013)*. Retrieved April 21, 2016 (http://endomameta.com/schoolreport.pdf).

Kalleberg, Arne L. and James R. Lincoln. 1988. “The Structure of Earnings Inequality in the United States and Japan.” *American Journal of Sociology* 94 (Supplement: Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure):S121-53.

Kamano, Saori. 2009. “The Reality of the Work and Economy of Lesbian (Couples).” Presented at the Annual Meeting of the Women’s Studies Association of Japan, June 27, Tokyo, Japan.

Kamano, Saori. 2012. “Seiteki Shiko wa Shunyu ni Kanren shiteiru noka: Beikoku no Kenkyu Doko no Rebyu to Nihon ni okeru Kenkyu no Teian” (Is Sexual Orientation Associated with Income? Review of Research Trends in the United States and Suggestions of Research in Japan). *Journal of Queer Studies Japan* 5:63–81.

Kamano, Saori. 2015. “On Challenges of LGBT people and the Family.” Presented at the 7th Workshop of Japan Alliance for LGBT Legislation, July 27, Tokyo, Japan.

Kawaguchi, Daiji. 2011. “Minsa Gata Chingin Kansu no Ninon no Rodoshijo heno Tekio” (Applying the Mincer Wage Equation to Japanese data). RIETI Discussion Paper Series 11-J-026. Retrieved May 9, 2016 (http://www.rieti.go.jp/jp/publications/dp/11j026.pdf).

Kim, Myungsoo. 2003. “Ethnic Stratification and Inter-Generational Differences in Japan: A Comparative Study of Korean and Japanese Status Attainment.” *International Journal of Japanese Sociology* 12(1):6-16.

Kim, Young-Mi and Sawako Shirahase. 2014. “Understanding Intra-Regional Variation in Gender Inequality in East Asia: Decomposition of Cross-National Differences in the Gender Earnings Gap.” *International Sociology* 29(3):207-26.

Klawitter, Marieka M. 1998. “Why Aren't More Economists Doing Research on Sexual Orientation?” *Feminist Economics* 4(2): 55–59.

Klawitter, Marieka. 2015. “Meta-Analysis of the Effects of Sexual Orientation on Earnings.” *Industrial Relations: A Journal of Economy and Society* 54(1):4–32.

Kosugi, Reiko. 2006. “Youth Employment in Japan’s Economic Recovery: ‘Freeters’ and ‘NEETs.’” *Asia-Pacific Journal: Japan Focus* 4(5). Retrieved May 9, 2016 (http://apjjf.org/-Kosugi-Reiko/2022/article.html).

Laumann, Edward O., John H. Gagnon, Robert T. Michael, and Stuart Michaels. 1994. *The Social Organization of Sexuality: Sexual Practices in the United States.* Chicago: University of Chicago Press.

Ligon, Ethan. [1989] 1994. “The Development and Use of a Consistent Income Measure for the General Social Survey.” GSS Methodological Report No. 64. National Opinion Research Center, University of Chicago.

Matsushima, Toshie. 2013. “Seibetsu Iwa wo Motsu Hitobito no Jittai Chosa: Keizai Jokyo, Ningen Kankei, Seishinteki Mondai ni tsuite” (A Survey of People with Gender Dysphoria: Impact of Financial Status, Human Relationship, and Psychological Problem). *Bulletin of Human Science, Bunkyo University* 34:185–208.

Mincer, Jacob. 1958. “Investment in Human Capital and Personal Income Distribution.” *Journal of Political Economy* 66(4):281-302.

Mincer, Jacob. 1974. *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research.

Mincer, Jacob and Yoshio Higuchi. 1988. “Wage Structures and Labor Turnover in the United States and Japan.” *Journal of the Japanese and International Economies* 2:97-133.

Ministry of Education, Culture, Sports, Science and Technology, Japan. 2015. *Gakko Kihon Chosa (Basic School Statistics).* Retrieved May 9, 2016 (http://www.mext.go.jp/component/b_menu/other/__icsFiles/afieldfile/2015/12/25/1365622_3_1.pdf).

Ministry of Health, Labour and Welfare, Japan. 2010. *Kokumin Seikatsu Kiso Chosa*

(Comprehensive Survey of Living Conditions). Retrieved May 9, 2016 (http://www.mhlw.go.jp/toukei/saikin/hw/k-tyosa/k-tyosa10/2-7.html).

Ministry of Health, Labour and Welfare, Japan. 2014. *Kokumin Seikatsu Kiso Chosa (Comprehensive Survey of Living Conditions)*. Retrieved May 9, 2016 (http://www.mhlw.go.jp/toukei/saikin/hw/k-tyosa/k-tyosa14/dl/03.pdf).

Minter, Shannon and Christopher Daley. 2003. "Trans Realities: A Legal Needs Assessment of San Francisco's Transgender Communities." Retrieved April 21, 2016 (http://www.nclrights.org/wp-content/uploads/2013/07/transrealities0803.pdf).

Mitsuhashi, Junko. 2012. "Nihon de FtM (Female to Male) ga Oi nowa…" (The reasons why there are many FtM (Female to Male) in Japan are…). *Zokuzoku Tasogare Nikki* Blogs. Retrieved May 9, 2016 (http://junko-mitsuhashi.blog.so-net.ne.jp/2012-10-19-1).

Nagamatsu, Namie. 2004. "Gino Hensu wo mochiita Shotoku Kettei Kozo no Bunseki" (Analysis of Earnings Structure with Variables of Skills). *Sociological Theory and Methods* 23(1):93-89.

National Institute of Population and Social Security Research, Japan. 2011. The Fourteenth Japanese National Fertility Survey in 2010: Highlights of the Survey Results on Married Couples. Retrieved May 9, 2016 (http://www.ipss.go.jp/site-ad/index_english/nfs14/Nfs14_Couples_Eng.pdf)

Nijiiro Diversity and the Center for Gender Studies at International Christian University. 2015. *Survey on LGBT Issues in the Workplace Environment 2015*. Retrieved May 9, 2016 (http://www.nijiirodiversity.jp/wp-content/uploads/2015/09/8bc6e53c70cf397d41ea9e88a898dfa4.pdf).

Nishimura, Yukimitsu. 2004. "Shunyu ni okeru Kyoiku, Shokugyo, Yakushoku no Koka" (Education, Occupation, Hierarchy and Income in Japan: An Investigation of Life-Long Employment Using JGSS). *JGSS Research Series* 3:135-47.

Ojima, Fumiaki. 2001. "Kenkyu no Mokuteki to Chosa no Gaiyo" (Purpose of Research and Overview of the Survey). Pp. 1-17 in *Gendai Kokosei no Keiryo Shakaigaku (Quantitative Sociology of Contemporary High School Students)*, edited by F. Ojima. Kyoto, Japan: Minerva Shobo.

Plug, Erik and Peter Berkhout. 2004. "Effects of Sexual Preferences on Earnings in the Netherlands." *Journal of Population Economics* 17(1):117-31.

Schilt, Kristen. 2006. “Just One of the Guys?: How Transmen Make Gender Visible at Work.” *Gender & Society* 20(4):465-90.

Seiishiki Chosa Group, ed. 1998. *310 Nin no Seiishiki: Iseiaisha dewanai “Onna” tachi no Anketo Chosa (Sexual Attitudes of 310 Individuals: A Survey of Non-Heterosexual “Women”)*. Tokyo, Japan: Nanatsumori Shokan.

Shultz, Theodore W. 1961. “Investment in Human Capital.” *American Economic Review* 51(1):1-17.

Shirahase, Sawako and Hiroshi Ishida. 1994. “Gender Inequality in the Japanese Occupational Structure.” *International Journal of Comparative Sociology* 35(3):188-206.

Sugiura, Ikuko. 2015. “‘Josei Doseiai’ Gensetsu wo Meguru Rekishiteki Kenkyu no Tenkai to Kadai” (Discourse of ‘Female Homosexuality:’ Advances and Issues in Historical Research). *Bulletin of the Faculty of Human Studies, Wako University* 8:7-26.

Tabata, Fumiaki and Hitoshi Ishida. 2008. “Seibetsu ni Iwakan wo Kakaeru Hitobito wa Tokureiho wo Do Uketometa noka: Dai 2 Ji Ryoteki Chosa no Kekka wo Motoni” (How Did People with Gender Dysphoria React to the Special Law: Findings from the Second Quantitative Survey). Pp. 37-79 in *Seidoitsuseishogai: Jenda, Iryo, Tokureiho (Gender Identity Disorder: Gender, Medicine, and the Special Law)*, edited by H. Ishida. Tokyo, Japan: Ochanomizu Shobo.

Tanaka, Sigeto. 1996. “Sengo Nihon ni okeru Seibetsu Bungyo no Dotai: Josei no Shokuba Shinshutsu to Niju no Shoheki” (The Changing Sexual Division of Labor in Postwar Japan: The Double Barrier against Employment of Women). *Japanese Journal of Family Sociology* 8:151-61.

Ueno, Koji, Teresa Roach, and Abráham E. Peña-Talamantes. 2013. “Sexual Orientation and Gender Typicality of the Occupation in Young Adulthood.” *Social Forces* 92(1):81-108.

Waite, Sean and Nicole Denier. 2015. “Gay Pay for Straight Work: Mechanisms Generating Disadvantage.” *Gender & Society* 29(4):561-88.

Yanagisawa, Masakazu, Maki Muraki, and Junichi Goto. 2015. *Shokuba no LGBT Dokuhon* (*LGBT in the Workplace Reader)*. Tokyo, Japan: Jikkyo Kyoiku Shuppan.

Appendix[19]

Table A1. OLS Regression of Income on Sexual Orientation and Transgender Status (Females-at-Birth): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 1		Model 2		Model 3	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Constant		5.824***	.050	5.683***	.031	5.905***	.055
Orientation	Heterosexual	-----	-----			-----	-----
	Homosexual	-.121 †	.071			-.188*	.073
	Bisexual	-.424***	.067			-.435***	.071
	Asexual	-.276*	.134			-.246 †	.140
	Other	-.308**	.095			-.184	.126
Trans Status	Cisgender			-----	-----	-----	-----
	Transgender			-.212*	.087	-.316***	.088
	X-gender			-.287***	.067	-.216*	.091
N=		797		797		797	
Adjusted R^2		.050		.024		.068	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table A2. OLS Regression of Income on Sexual Orientation and Transgender Status (Males-at-Birth): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 1		Model 2		Model 3	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Constant		6.153***	.074	6.050***	.034	6.224***	.076
Orientation	Heterosexual	-----				-----	-----
	Homosexual	-.143 †	.085			-.203*	.086
	Bisexual	-.345***	.105			-.241*	.110
	Asexual	-.569*	.200			-.428*	.211
	Other	-.358**	.152			-.113	.215
Trans Status	Cisgender			-----	-----	-----	-----
	Transgender			-.369***	.097	-.372***	.106
	X-gender			-.347**	.106	-.325 †	.167
N=		584		584		584	
Adjusted R^2		.023		.034		.042	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

[19] The unstandardized regression coefficients are presented in the tables in this appendix.

Table A3. OLS Regression of Income on Sexual Orientation, Transgender Status, and Human Capital Variables (Females-at-Birth): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 4		Model 5	
		Coefficients	S.E.	Coefficients	S.E.
Constant		4.953***	.088	4.568***	.094
Orientation	Heterosexual	-----	-----	-----	-----
	Homosexual	-.032	.188	-.017	.064
	Bisexual	-.180**	.189	-.171**	.064
	Asexual	.025	.364	.025	.123
	Other	-.056	.322	-.088	.108
Trans Status	Cisgender	------	-----	-----	-----
	Transgender	-.169*	.227	-.071	.077
	X-gender	-.170*	.232	-.083	.078
Age		.042***	.010	.039***	.003
$(Age)^2$		-.002***	.001	-.001***	.000
Partnership		.150**	.140	.152**	.047
Education	High School			-----	-----
	Junior College			.274***	.067
	University			.547***	.061
	Graduate School			.638***	.091
N=		778		776	
Adjusted R^2		.256		.340	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table A4. OLS Regression of Income on Sexual Orientation, Transgender Status, and Human Capital Variables (Males-at-Birth): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 4		Model 5	
		Coefficients	S.E.	Coefficients	S.E.
Constant		5.268***	.106	4.931***	.121
Orientation	Heterosexual	-----	-----	-----	-----
	Homosexual	-.069	.078	-.052	.074
	Bisexual	-.102	.099	-.056	.085
	Asexual	-.189	.198	-.215	.189
	Other	.133	.199	.170	.190
Trans Status	Cisgender	------	-----	-----	-----
	Transgender	-.322***	.095	-.248**	.091
	X-gender	-.310 †	.159	-.268 †	.152
Age		.038***	.003	.038***	.003
$(Age)^2$		-.001***	.000	-.001***	.000
Partnership		.170**	.056	.181***	.054
Education	High School			-----	-----
	Junior College			.055	.094
	University			.374***	.077
	Graduate School			.542***	.095
N=		571		568	
Adjusted R^2		.259		.323	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table A5. OLS Regression of Income on Sexual Orientation, Transgender Status, and Labor Market Variables (Females-at-Birth): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 6		Model 7		Model 8	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Constant		5.335***	.129	5.607***	.147	5.471***	.076
Orientation	Heterosexual	-----	-----	-----	-----	-----	-----
	Homosexual	-.021	.066	-.019	.065	-.061	.055
	Bisexual	-.166*	.066	-.181**	.066	-.168**	.055
	Asexual	.038	.128	-.013	.126	.014	.106
	Other	-.025	.112	-.056	.111	-.162 †	.093
Trans Status	Cisgender	-----	-----	-----	-----	-----	-----
	Transgender	-.137 †	.080	-.129	.080	-.099 †	.066
	X-gender	-.172*	.081	-.152 †	.080	-.002	.067
Age		.039***	.003	.035***	.003	.026***	.003
$(Age)^2$		-.001***	.000	-.001***	.000	-.001**	.000
Partnership		.131**	.049	.122*	.048	.124**	.041
Education	High School						
	Junior College						
	University						
	Graduate School						
Industry	FIRE	-----	-----				
	Manufacture	-.153	.115				
	Distribution	-.462***	.115				
	IT media	-.265*	.111				
	Education	-.336**	.119				
	Medical	-.280*	.111				
	Public	-.384**	.126				
	Other	-.542***	.112				
Occupation	Managerial			-----	-----		
	Professional			-.356**	.115		
	Clerical			-.516***	.118		
	Sales			-.682***	.119		
	Blue Collar			-.698***	.145		
	Other			-.781***	.140		
Employment	Permanent					-----	-----
	Temporary					-.424***	.052
	Part-time					-1.019***	.052
N=		778		778		778	
Adjusted R^2		.287		.306		.509	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table A6. OLS Regression of Income on Sexual Orientation, Transgender Status, and Labor Market Variables (Males-at-Birth): LGBT Workplace Environment Survey, 2015

Independent Variable		Model 6		Model 7		Model 8	
		Coefficients	S.E.	Coefficients	S.E.	Coefficients	S.E.
Constant		5.553***	.176	5.742***	.140	5.649***	.096
Orientation	Heterosexual	-----	-----	-----	-----	-----	-----
	Homosexual	-.018	.076	-.008	.074	-.087	.067
	Bisexual	-.087	.095	-.089	.093	-.105	.086
	Asexual	-.169	.189	-.140	.187	-.119	.171
	Other	.208	.192	.127	.188	-.004	.173
Trans Status	Cisgender	-----	-----	-----	-----	-----	-----
	Transgender	-.254**	.092	-.279**	.090	-.179*	.083
	X-gender	-.327*	.153	-.220	.151	-.168	.138
Age		.037***	.003	.034***	.003	.028***	.003
$(Age)^2$		-.001***	.000	-.001***	.000	-.001**	.000
Partnership		.152**	.054	.121*	.053	.134**	.049
Education	High School						
	Junior College						
	University						
	Graduate School						
Industry	FIRE	-----	-----				
	Manufacture	-.166	.162				
	Distribution	-.548***	.162				
	IT media	-.099	.156				
	Education	-.162	.164				
	Medical	-.595***	.166				
	Public	-.327*	.166				
	Other	-.508**	.168				
Occupation	Managerial			-----	-----		
	Professional			-.246*	.100		
	Clerical			-.381***	.107		
	Sales			-.692***	.108		
	Blue Collar			-.662***	.130		
	Other			-.787***	.137		
Employment	Permanent					-----	-----
	Temporary					-.561***	.066
	Part-time					-1.008***	.084
N=		571		571		571	
Adjusted R^2		.322		.345		.445	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

Table A7. OLS Regression of Income on Sexual Orientation, Transgender Status, Human Capital Variables, and Labor Market Variables for Females-at-Birth and Males-at-Birth: LGBT Workplace Environment Survey, 2015

Independent Variable		Model 9 (Female)		Model 9 (Male)	
		Coefficients	S.E.	Coefficients	S.E.
Constant		5.835***	.147	5.896***	.176
Orientation	Heterosexual	-----	-----	-----	-----
	Homosexual	-.033	.053	-.019	.064
	Bisexual	-.159**	.053	-.056	.079
	Asexual	.037	.102	-.121	.158
	Other	-.150 †	.089	.076	.160
Trans Status	Cisgender	-----	-----	-----	-----
	Transgender	-.039	.065	-.086	.078
	X-gender	.020	.065	-.113	.128
Age		.020***	.003	.027***	.003
$(Age)^2$		-.001*	.000	-.001**	.000
Partnership		.102**	.039	.121**	.045
Education	High School	-----	-----	-----	-----
	Junior College	.149**	.056	.016	.079
	University	.310***	.054	.234***	.068
	Graduate School	.366***	.080	.412***	.085
Industry	FIRE	-----	-----	-----	-----
	Manufacture	-.105	.093	-.173	.137
	Distribution	-.207*	.093	-.331*	.139
	IT media	-.275**	.092	-.148	.132
	Education	-.280**	.100	-.179	.140
	Medical	-.260**	.090	-.450**	.142
	Public	-.391***	.100	-.284*	.139
	Other	-.307***	.090	-.348*	.144
Occupation	Managerial	-----	-----	-----	-----
	Professional	-.268**	.095	-.224*	.089
	Clerical	-.386***	.095	-.231*	.093
	Sales	-.391***	.098	-.292**	.100
	Blue Collar	-.326**	.121	-.402***	.115
	Other	-.427***	.115	-.407**	.122
Employment	Permanent	-----	-----	-----	-----
	Temporary	-.377***	.050	-.522***	.063
	Part-time	-.887***	.053	-.859***	.080
N=		776		568	
Adjusted R^2		.558		.533	

† p<.1; * p<.05; ** p<.01; *** p<.001 (two-tailed tests).