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Sexed Propensities and Gendered Penalties?: An Analysis of the Economic Outcomes of Transgender People

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Abstract

Recent research has indicated the adverse economic outcomes of transgender people. The titular question of this paper refers to the effect on gendered economic outcomes that differences related to sex assigned at birth has for a sample of transgender individuals that is plausibly correlated with being at an early stage of their gender affirmation processes (e.g. social or medical transition). For this group of plausibly early-in-transition transgender individuals, I hypothesize and test a theory that draws the following account: assigned female at birth (AFAB) transgender individuals encounter significant economic penalties as a result of labour market decisions (i.e. industry sorting) that align with their same-sexed cisgender women counterparts. Similarly, I argue that the significant economic penalties experienced by assigned male at birth (AMAB) transgender individuals are driven by factors related to their transgender status. I find some significant evidence in support of the sex-differentiated labour market decisions as a driver of the adverse economic outcomes of the AFAB transgender individuals in my sample; closing a given industry's overall wage gap by 1 cent on the dollar is associated with a roughly 4% increase in income for AFAB transgender workers. The extent of the traditional gender wage gap in an AFAB transgender worker's chosen industry has significant consequences, suggesting the enduring role that traditional gender norms play in determining the economic outcomes of AFAB transgender people.

I conduct a replication of Carpenter, Lee, and Nettuno's (2022) study on the economic outcomes of transgender people that uses data from the Census Bureau's Household Pulse Survey (HPS). After estimating with the inclusion of more recent data, I find results that imply different understandings; I now find adverse outcomes for AMAB transgender individuals relative to cisgender men, where there were previously none. The titular question thus addresses mechanisms that help understand this new finding.

Keywords: Transgender, Gender Identity, Gender Minority, Economic Outcomes, Discrimination, Transition, Industry Wage Gap

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1. Introduction

In 2020, the Supreme Court of the United States held a landmark ruling in *Bostock v. Clayton County* that protects against employer discrimination on the basis of sexual orientation or gender identity.[1] While this represented a monumental achievement for LGBTQ people, the broad literature on the gender wage gap suggests that differential labour market outcomes do not owe solely to employer discrimination, and we have yet to understand the impact that his ruling has had on the economic outcomes of transgender people. The term transgender, broadly defined, refers to individuals, "whose gender identity and/or gender expression or behavior differ from their sex assigned at birth or differ from gender-cultural norms attached to their sex assigned at birth" (Carpenter, Lee and Nettuno, 2022, 1).[2] Individuals who identify with their sex assigned at birth are referred to as cisgender.

The economic experiences of transgender people are a nascent area of research, and studying transgender labour market experiences is important to generally understanding how to better support the wellbeing of a vulnerable population that has only recently begun to gain recognition in policymaking. This paper begins with a replication of Carpenter, Lee, and Nettuno's (2022) study on the economic outcomes of transgender people that uses data from the Census Bureau's Household Pulse Survey (HPS). After estimating with the inclusion of more recent data from June 2022 to February 2023, I find results that imply different

[1] As Carpenter, Lee, and Nettuno (2022, 1) explain, "sexual orientation and gender identity are distinct concepts; all individuals have one or more sexual orientations and one or more gender identities. Sexual minorities include individuals who are attracted to and/or have sex with individuals of the same sex; these individuals are generally referred to as lesbians, gay men, and bisexual individuals. Gender identity refers to one's sense of being male, female, both, or neither. Gender minorities are individuals whose current gender does not match their sex assigned at birth. Gender minorities can have any sexual orientation, and indeed most surveys, including the Household Pulse, show that most gender minorities identify as heterosexual. Similarly, sexual minorities can have any gender identity, and the vast majority of sexual minorities identify as cisgender."

[2] Carpenter et al. (2022, 1) further explain, "Transgender and gender non-conforming individuals may include transsexuals, androgynous people, cross-dressers, genderqueers, and other gender non-conforming people who identify as transgender. Some, but not all, of these individuals may desire to undergo medical and/or legal sex changes. Transgender individuals whose gender identity does not match their sex assigned at birth and who desire to change from one sex to another are sometimes referred to as 'MTF' (for individuals who transition from male to female) or 'FTM' (for individuals who transition from female to male). There is a wide variance in the use of these labels; for example, 'MTF' can be used by individuals who are assigned male at birth and identify as a woman but have not taken steps to change their gender expression."

understandings; I now find adverse outcomes for a specific sub-group of transgender individuals who were assigned male at birth (AMAB) relative to cisgender men, where there were previously none.

The title of this paper refers firstly to the question of whether transgender individuals who were assigned female at birth (AFAB) fare worse in their economic outcomes than AMAB transgender individuals. More specifically, I compare differences for samples of AFAB and AMAB transgender workers who are plausibly likely to be at an earlier stage of their gender affirmation processes (e.g. social or medical transition). I find evidence that transgender AFAB individuals experience outcomes similar to cisgender women, but so do transgender AMAB individuals. In light of these penalties, I hypothesize that AFAB individuals experience more effects related to their transgender status, and AMAB individuals experience more traditional gender wage gap effects related to their female sex assigned at birth.

The title of this paper also refers to the question of why this is so, and I posit that sexed propensities are at play. That is, this sample of AFAB transgender individuals suffer penalties because they behave in the labour market in ways that are similar to cisgender women, a view that I find some support for.

I test for the effect of industry traditional gender wage gaps (i.e. the average male–female gap within a given industry), or essentially the effect of sex-differential distributions across industries with varying average wage levels. The large and significant interaction effect that I find for the AFAB now Transgender group is consistent with the notion that this group is harmed by industry segregation to a greater degree than AMAB now transgender individuals, for which I find a small and insignificant interaction effect. I thus maintain the idea that sex-based sorting into industries with comparatively larger traditional gender wage gaps is associated with adverse economic outcomes for this sample of AFAB transgender workers;

closing a given industry's overall wage gap by 1 cent on the dollar is associated with a roughly 4% increase in income for this group.

Although it is difficult to generalize the experiences of, for example, AFAB transgender individuals, the main findings of this paper suggest that traditional gender norms play an important role in determining their economic outcomes. Importantly, these results do **not** invalidate the identities of these transgender individuals, but merely descriptively suggests that sex assigned at birth in a cisgender-normative world has influential effects.[3] These results are indifferent to the role of employer discrimination, leaving open several explanations for exactly how labour market behaviour traditionally associated with cisgender women contributes to the adverse economic outcomes of AFAB transgender workers.

The paper is organized in the following way. Section 2 is comprised of a substantial literature review that first introduces theories of discrimination, and then summarizes the discrimination literature on Sexual Orientation and Gender Identity (SOGI). Section 3 outlines the paper's research methods, describing the data and empirical approach that I draw from Carpenter et al. (2022). Section 4, compares my replication study with key findings from Carpenter et al. (2022), and small discrepancies are evaluated with attention to possible explanations. Section 5 extends this study by discussing the robustness of the original results to alternate specifications and the inclusion of more recent data; I find significant discrepancies concerning results for the AMAB now transgender group, which I discuss in section 6.1 and test new explanations for in section 6.2. A summary of my main hypothesis and results can be found in section 6.3. Section 7 discusses results from additional analyses that I conduct in order to investigate the interaction effects of different variables. Section 8 concludes this paper by discussing the main results in a broader context. Section 10 reports all main result tables,

[3] For example, a male-identifying transgender individual who (for whatever reasons) has not taken steps to socially or medically transition is likely to be read by others as female, opening the individual up to discrimination on the basis of perceived womanhood.

including the replicated results tables, replicated results with the updated data, main results from hypothesis testing, and additional analysis. Alternative specifications can be found in the appendix.

2. Literature Review

The research conducted in this paper falls into a broad literature on socioeconomic outcomes research with regards to demographic characteristics. While this literature has initially focused on racial discrimination, it has since expanded to gender discrimination (i.e. the traditional gender wage gap), and Sexual Orientation & Gender Identity (SOGI) discrimination, or LGBTQ discrimination. This section presents a cursory glance at some of the theory and findings of these literatures, which serves as the background in theorizing and understanding the main findings of this paper. More directly relevant literature for these purposes are discussed in section 6.1.

2.1 Discrimination

Studying the socioeconomic outcomes of transgender people can most readily be related to the sizable literature on labour market discrimination, which dates back to Gary Becker's (1971[1957]) seminal contribution of a canonical model in which perfectly competitive markets eliminate employer prejudicial discrimination-based wage differences. Beckerian taste-based models of discrimination suggest that discrimination might occur with labour market frictions, such as the inefficient allocation of black workers to less prejudiced employers (Lang & Spitzer, 2020). This example falls into one category of economic discrimination that is explained through prejudice or personal preferences (Lang & Spitzer, 2020). The other broadly recognized model of discrimination is statistical discrimination, which refers to discrimination that occurs due to valid statistical inference in situations where

a characteristic (e.g. gender or race) is correlated with an unobservable or imperfectly observable trait affecting productivity; these expectations on the part of employers thus factor into hiring decisions in order to adversely affect the general population of a certain social identity, regardless of whether individuals actually possess lower productivity traits (Lang & Spitzer, 2020).

As Lang and Spitzer (2020) note, economic disparities across a certain demographic may be attributed to discrimination (as in the two models above), but disaggregating outcome inequalities from other potential sources such as innate characteristics is a more difficult undertaking. One common empirical strategy in estimating discrimination-based wage differences is through the Oaxaca-Blinder decomposition which estimates a residual portion of a demographic wage gap not attributed to productivity characteristics (Rodgers, 2009).

Finally, while a predominant focus in the economic literature on discrimination has been the labour market (and more recently, the criminal justice system), Lang and Spitzer (2020) astutely point out that discrimination occurs across an array of domains that can often be interlocking; for example, discrimination in medical treatment (what is a salient issue for transgender people) could plausibly, through adverse health outcomes, negatively impact worker productivity and ultimately contribute to labour market disparities and discrimination.

The economic literature on discrimination is beneficial in understanding the socioeconomic outcomes of transgender people, as noted by Carpenter et al. (2020), as general discrimination against transgender people in society in domains such as the workplace, labour market, housing, and education may contribute to adverse socioeconomic outcomes. This view would correspond to traditional models of LGBTQ+ discrimination, noted later.

2.2 SOGI Outcomes

There is already a well-established literature applying economic theories of discrimination to the gender wage gap, which Blau and Kahn (2017) review comprehensively. The literature studying the effects of sexual orientation discrimination is relatively newer, and has been growing rapidly since Badgett's (1995) foundational article that applied empirical strategies from the race and gender discrimination literatures to survey data that studied lesbian, gay and bisexual (LGB) individuals. A consensus within the growing body of LGB earnings literature highlights an earnings penalty for gay men and an earnings premium for lesbians, controlling for observable characteristics; Klawitter (2014) conducts a meta-analysis across thirty-one sexual orientation studies to come to similar conclusions.

Rodgers (2009) highlights some methodological issues associated with studying sexual orientation, which is exacerbated by the paucity of available data in the first place. First, defining sexual orientation and being LGB or heterosexual poses a challenge when constructing standard empirical measures that should be context dependant; for example, limited data and survey methodology might preclude self-identity measures when behavioural measures are important within the context of a health-related study. This issue presses the need for better informed data collection and survey methodology. Second, stigma associated with LGB identification may bias the sample of sexual minorities downwards, which Coffman et al. (2017) find some evidence in support of; the issue of misreporting may also be a source of endogeneity bias when correlated with economic variables, such as income. Other sources of endogeneity might include voluntary disclosure, and the concern that sexual identity and behaviour itself might be correlated to one's socioeconomic situation.

While often considered to be within the same category of SOGI, the economic literature on transgender status is much more limited in comparison to that of sexual orientation, which may be related to public awareness and acceptance. The available data and research are limited

by similar kinds of methodological issues for an even sparser pool of available data. Carpenter et al. (2020) summarize the existing body of very limited research on transgender status and socioeconomic outcomes, which can be categorized as either those that closely study the effect on earnings, or a representative study of the population.

There have been a few studies on transgender status' effect on earnings, starting with Schilt and Wiswall (2008) who surveyed a limited and non-random sample of transgender individuals at transgender conferences and online. They used this data to find that after medical transition, there was a significant loss of nearly one third in earnings for MTFs (male-to-female) while FTMs (female-to-male) experienced either no change or small increases in earnings. The authors discuss these results in the context of testing theories of gender discrimination in the workplace, interpreting this as evidence against unobserved human capital related explanations (omitted variables) for gender wage disparities. For example, the authors' evidence does not support notions that childhood gender socialization affects labour market preferences. Instead, they take their evidence as supporting explanations that rely on employer discrimination. One interesting finding that Schilt and Wiswall (2008) support with ethnographic and survey comments is that MTFs face many more difficulties with openly transitioning than FTMs. The authors find that the MTFs in their limited sample transition on average 10 years later than FTMs, which suggests strategic decisions about avoiding workplace losses and discrimination, in line with some accounts of those who live as women outside of work, but continue working as men.

Geijtenbeek and Plug (2018) conduct a similar study using a larger administrative dataset in the Netherlands, identifying transgender individuals with gender changes in administrative registry. Given administrative requirements for gender changes, the individuals identified are those who are far along (past a 4-year transition window) in their medical transitions, having gone through hormone replacement therapy (HRT) and sex reassignment

surgery. The authors maintain the same directional findings as with Schilt and Wiswall (2008), but further decompose a penalty related to transition (consistent with LGBTQ+ models of discrimination) and a penalty related to gender (as with traditional gender wage gaps); they thus suggest that MTFs experience exacerbated losses as women in the workplace, whereas the transition penalty for FTMs wipe out any premiums associated with working as men. Finally, while Cerf Harris (2015) does not study effects on earnings, he proposes a strategy to identify individuals likely to be transgender through name and sex code changes in administrative records; this paper highlights issues with current survey methods in transgender identification and potential workarounds to investigate such questions given the data limitations.

In light of such limitations, there have been very few representative studies on the socioeconomic outcomes of the transgender population to date. Papers in this category are unable to study the within-person effects of transitions or changes in gender expression, as the current representative studies lack the requisite data. Conron et al. (2012) used the Massachusetts Behavioral Risk Factor Surveillance System to find estimates of higher likelihoods of unemployment and poverty for transgender adults compared to cisgender adults. Carpenter et al. (2020) used data from the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS), in which 35 states ask questions related to transgender status to find negative socioeconomic outcomes (lower household incomes, greater unemployment, and greater poverty rates) for transgender people in comparison to similar cisgender counterparts. This study, along with the several others following it mentioned hereafter, is one of the first in the literature to include genderqueer non-binary people, thus broadening the scope to gender minorities writ large. The same data has also been studied by Mann (2021) to find the policy impacts of removing surgical requirements for reassigning gender on birth certificates increases the employment of FTMs, with no effects on MTFs and genderqueer non-binary people.

Other studies on large samples of transgender individuals have been conducted using non-representative surveys, such as the 2015 United States Transgender Survey (USTS) which uses non-probability sampling methods (convenience sampling). Shannon (2021) studies these data in order to find similar results; transgender people in the survey sample were found to have significantly lower incomes than otherwise similar individuals in the American Community Survey. Shannon interprets some of the results using data on transition timelines to conclude that earnings tended to line up more with their cisgender counterparts the younger an individual transitioned, supporting conclusions on the cisgender pay gap from Schilt and Wiswall (2008) and Geijtenbeek and Plug (2018).

Finally, this paper is closely modelled after a study by Carpenter et al. (2022), which uses the Census Bureau's Household Pulse Survey (HPS), which improves on the BRFSS data initially used by Carpenter et al. in 2020 by being the first nationally representative data on transgender and other gender minorities in the US. The data also improves on survey methodology by asking directly about both sex assigned at birth and current gender identity, an approach recommended as best practices. The socioeconomic effects studied also introduce the first estimates on social safety net usage to the transgender literature, as well as intersectional effects with race/ethnicity.

Following a replication of Carpenter et al.'s (2022) study, this paper conducts additional analysis of the sex-differentiated mechanisms behind the penalties I observe with AFAB and AMAB now transgender individuals. This paper draws on economic literatures that study the traditional gender wage gap, the limited existing research on the economic outcomes of transgender people, and other scholarship that help inform aspects of transgender individuals' experiences. Ultimately, the findings from my main results complement both the literatures on the traditional wage gap, as well as the nascent literature on the economic outcomes of transgender people.

3. Research Methods

3.1 Data Discussion

Following Carpenter et al. (2022), this paper draws on the Census Bureau's Household Pulse Survey (HPS) which is an ongoing project that began in April 2020 as a means of quickly collecting and disseminating data on the social and economic effects of the pandemic. Notably, beginning in July 2021, the survey started to ask respondents questions about both their sex assigned at birth and their current gender identification, which allows for the identification of transgender people alongside their cisgender counterparts.

The HPS is an online survey that recruits respondents across the United States via email, SMS, or both when available. This contact information is sourced from the Census Master Address File amongst other supplemental sources. Sampling weights based on other data from the American Community Survey (ACS) on regional demographic characteristics are provided to improve population representativeness and adjust for non-response bias; these person weights are employed in all estimations throughout this paper's replication and extension. Thus, one advantage of the HPS is the data's national representativeness, whereas other surveys that have identified transgender people were limited to select states. The data used in this paper expands the sample size used by Carpenter et al. (2022), broadening from phases 3.2 to 3.4 (representing the period from July 2021 to May 2022) and further including phases 3.5 to 3.7 (representing the period from June 2022 to February 2023). The replication using the expanded data could in one sense be seen as serving a robustness check, although as I note later, systematic differences with the time varying survey population might preclude me from viewing this as a simple expansion of the sample size.

Possible responses to the question, "What sex were you assigned at birth, on your original birth certificate?" are 'male' or 'female'. The subsequent question, "Do your currently describe yourself as male, female, or transgender?" allows for the responses of 'male',

'female', 'transgender', or 'None of these'. According to responses to the first question, individuals are designated as either assigned female at birth (AFAB) or assigned male at birth (AMAB). Viewing respondents' sex assigned at birth in relation to their current gender identity allows me to identify them as either cisgender or one of three gender minority categories. For example, an AFAB individual could either be a cisgender woman, AFAB now male, AFAB now transgender or AFAB now 'none of these'. Respondents whose answers to both questions are corresponding (i.e. responding to both as male or female) can simply be coded as cisgender, whereas those whose answers to both questions differ can be identified as transgender or gender minorities. In anticipation of mistaken identification due to accident or confusion, the HPS asks those individuals whose answers do not correspond a follow up question that asks: "Just to confirm, you were assigned (chosen sex) at birth and now you describe yourself as (chosen gender identity). Is that correct?" This follow-up thus gives respondents the opportunity to confirm or correct their previous response, reducing false non-cisgender identifications in the dataset.

Referring to these non-cisgender individuals would be consistent with a predominantly adopted definition for the category 'transgender' which refers to individuals whose gender identity does not correspond with the sex assigned to them at birth. While this classification would align semantically with the academic and colloquial usage, I refer only to those individuals who select the category of 'transgender' as such. I instead refer to all individuals whose sex assigned at birth does not align with their current gender identity as non-cisgender or as gender minorities.

As Carpenter et al. (2022) argue, those who described their current identity as 'None of these' could possibly represent individuals who identify as non-binary or genderqueer, which are terms that describes individuals whose gender identity and/or expression does not align exclusively with either male or female. This category could also represent individuals who, for

cultural or other reasons, do not associate with the preceding categories of 'male', 'female', or 'transgender'. In any case, the authors demonstrate that this group have systematically different outcomes in comparison to other non-cisgender groups. Gender and Sexuality Studies scholar Kadji Amin (2022) writes that the contemporary rise of non-binary identification is associated with a dichotomization of gender identity (internal, psychic, or felt understandings of gender) and gender expression (e.g. choice of appearance, and bodily comportment). In this way, contemporary discourse emphasizes that non-binary identity has no one look, and is valid regardless of expression (e.g. a non-binary person could presents in ways that traditionally correspond to their sex assigned at birth). Thus, while non-binary identification could be accompanied with aspects of social and/or medical transition, more increasingly do not modify aspects of their appearance or presentation; Amin (2022) thus distinguishes non-binary identity with transgenderness by emphasizing the latter's desire to transition in ways that conform to socially legible categories. Following this view, my paper focuses most discussions about medical and social transition to those non-cisgender respondents who selected the categories 'male', 'female', or 'transgender'. In fact, given the common definition of transgender, it is likely that the category of 'transgender' within the HPS data includes some non-binary individuals, who may or may not take measures to transition in ways comparable to binary transgender individuals (e.g. MTF or FTM individuals). Ultimately, this paper does not explore mechanisms for the significant and consistently adverse outcomes of the 'none of these' gender category, and a number of explanations not limited to LGBTQ status related discrimination could be responsible.

Carpenter et al. (2022) argue that one way to interpret the distinction between those non-cisgender individuals who selected a traditional gender category (male or female) and those who opted for the label 'transgender' is that the former group is correlated with individuals who are, "furthest along in their process of gender affirmation, including social,

medical/surgical, and/or legal steps." This account is made more plausible when considering that respondents likely intentionally selected into these categories over 'transgender' even after being asked a follow-up (confirmation) question. While cultural norms and individual preferences may vary how this categorization manifests across respondents, the authors interpret their results as being consistent with this narrative. While my paper attempts to revise but ultimately maintain this account, data limitations on the extent of respondents' transitions (if at all) preclude any conclusive understandings about the different populations that these gender categories are tracking.

Another consistent narrative could be that the distinction between non-cisgender respondents who select 'male' or 'female' as opposed to 'transgender' is that the former groups are correlated with individuals who—despite identifying as a gender opposite to their sex assigned at birth—either do not openly identify as transgender or prefer not to emphasize their transgender status as a result of stigma or cultural norms. This narrative could be consistent with the first one about the extent of transition given that non-identification as transgender is likely to be related to one's ability to 'pass' as non-transgender, or their current gender identity.[4] Perhaps in this way, a better way to think about the (unobserved) underlying factor that differentiates the non-cisgender 'male' or 'female' and 'transgender' groups in terms of their correlation with my outcome variables is their ability to pass. Again, the limited data does not allow me to validate any of these hypotheses conclusively – in sections 5.2 and 5.3, I discuss and attempt to test these hypotheses.

[4] The phenomenon of 'passing' or the ability to 'pass' as non-transgender or the one's current gender identity refers to whether a transgender individual is socially read by others to be non-transgender or as their current gender identity. How a transgender individual is socially perceived entails how they are viewed and treated by others. Feminist and trans philosopher Talia Mae Bettcher (2014) argues that, "discrimination is predicated on being interpreted in a particular way." Thus, the phenomenon of passing, while not a desire held by all transgender individuals, is a salient issue not simply because of its potential bearing on an individual's gender affirmation, but also its bearing on their potential to be discriminated against. As a result, 'passing' is a notable topic in the theorizing of trans oppression, and in trans discourse and politics.

In terms of assessing the outcomes of these non-cisgender individuals, the HPS data provide responses to an array of demographic information, socioeconomic and wellbeing indicators. Carpenter et al. (2022) focus on five socioeconomic outcomes, but I draw on other outcome variables, the data for which are sourced either from the same HPS data or outside sources, all of which I discuss in sections 5 and 6. Most prominently, employment status is constructed based on responses to a question asking about whether any paid/for-profit work was undertaken in the last 7 days. Total household income is also reported within intervals, which is used to assess income directly as well as infer poverty status based on federal thresholds. Discrepancies in my paper's replication that likely originate from how the income and poverty variables are manipulated are later discussed in section 4. Indicators for Medicaid receipt and Supplemental Nutrition Assistance Program (SNAP) receipt are both employed as social safety net uptake. Finally, responses of sometimes or often not having enough to eat to a question asking about household food sufficiency is used to measure food security outcomes.

While the first two outcomes (employment status, household income) align most with the traditional measures of labour market outcomes in the discrimination and labour economics literature, the other indicators for poverty, food insecurity, and social safety net uptake are also relevant to explore other dimensions beyond questions of labour market outcomes. Of course, these outcomes are correlated with each other, and the underlying intuition behind the kinds of discrimination theories I explore in this paper takes labour market outcomes as driving the other outcomes explored. The causal direction need not necessarily be so, and of course other kinds of market and social outcomes are likely to have significant bearing as well, such as discrimination that occurs in housing and financial markets (see Badgett, Carpenter, and Sansone, 2021 for a review of the experimental literature on LGBTQ housing discrimination). However, testing the extent and disaggregated effects of these underlying mechanisms are beyond the scope of my paper.

Additionally, the nature of the Census data is such that respondents are asks questions not just about themselves, but of their household. For example, the indicators for income, poverty status, and food insecurity reflect outcomes for the household, and the indicators for Medicaid and SNAP extend to uptake by anyone in the household. Since non-cisgender status is identified at the level of the respondent, the data does not capture those non-cisgender individuals who live in households where the respondent was cisgender. These considerations allow me suspect that my estimates are lower bounds on the outcomes for non-cisgender individuals at the individual level.[5]

One final data limitation to note is the reporting of total household incomes within intervals. The lack of granularity has the obvious effect on income being measured with error, and my estimates being less precise. Measuring bounded intervals also raises concerns about intra- and inter- income bracket effects. The first worry is that my models do not capture unobserved effects on incomes within a given interval (e.g. consider that a certain characteristic moves a household up or down within an income bracket, but not to the extent that they are moved into a different bracket altogether). The second concern is that my estimates exaggerate those effects that push households into different income brackets. Considering the (presumably) arbitrarily drawn demarcations for income, the concern is thus that effects that result in smaller movements in income are not captured and those that cause larger movements are exaggerated.

3.2 Empirical Approach

Carpenter et al. (2022) estimate linear probability models for their binary outcome variables, as well as employ interval regressions for their models predicting household income

[5] Despite this, considering the household level of analysis is relevant in many ways. For example, non-cisgender status could have a bearing on the household bargain for consumption and the division of labour, and in this view, household level considerations cannot be divorced from the analysis of non-cisgender individuals.

brackets. Following Carpenter et al. (2022), the first regression specification pools the three non-cisgender categories together to estimate for various outcome variables:

(1) $Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2(AMAB\_not\_Cisgender)_i + \beta_3(Cisgender\_Woman)_i + \beta_4(AFAB\_not\_Cisgender)_i + \varepsilon_{it}$

Here, Yi represents the various socioeconomic outcomes, Xi is a vector of demographic characteristic controls, as well as state and survey week fixed effects.[6] The remaining 3 variables are dummies that when combined with the excluded category of Cisgender Men collectively represent the entire sample across gender identities.

The second specification breaks out the not cisgender categories into the three possible gender minority categories discussed above. Again following Carpenter et al. (2022), the model is specified as:

(2) $Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2(Cisgender\_Woman)_i + \beta_3(AFAB\_now\_Male)_i + \beta_4(AFAB\_now\_Transgender)_i + \beta_5(AFAB\_now\_None)_i + \beta_6(AMAB\_now\_Female)_i + \beta_7(AMAB\_now\_Transgender)_i + \beta_8(AMAB\_now\_None)_i + \varepsilon_{it}$

I also include models that estimate on restricted samples including, for example, only either AFAB or AMAB individuals amongst other combinations in order to compare sex differentiated effects. These other models are specified in similar ways, including those dummies that relevantly describe the various gender categories within the sample.

My replication of the original paper follows all specifications specified in the original paper. All estimates, including descriptive statistics and regression models, utilize the household person weights as sampling weights, and all errors are estimated as Huber-White Robust standard errors. All regression models in section 10 are estimated using linear

[6] These control variables include dummy indicators for sexual orientation ('Gay or Lesbian', 'Bisexual', 'Something Else', 'I don't know', and a dummy for missing responses), race/ethnicity ('White Hispanic', 'Black non-Hispanic', 'Black Hispanic', 'Asian', and 'Mixed or Other Race'), education ('Less than High School', 'Some College', 'Bachelors Degree', and 'Graduate Degree'), marital status ('Married/Partnered' and a dummy for non-response), urban status (whether the respondent lives in one of the 15 largest MSAs), and continuous variables for age, age squared, the number of household adults.

probability models, except for regressions for the outcome "Log of household income" which always uses an interval regression. Similarly, all regression specifications employ the following controls as specified in the original paper: demographic indicators for sexuality, race/ethnicity, education, age, marital status, urban status, number of household adults, as well as fixed effects for survey week and state. The gender category of Cisgender Men (unless specified) is always the baseline or reference category. In regards to the control variables, the groups Straight (for sexuality), White Non-Hispanic (for race), High School (for education), and Not Married (for marital status) are always the omitted category. With the survey week and state fixed effects, the baseline category is always the last week within the sample (e.g. the dummy for Week 45 or Week 54) and the dummy for California. Manipulating the baseline category does not change the overall model but merely its interpretation, and so this should not be a consequential decision. Coding for each indicator was replicated as closely as possible based on what was specified in the original paper.

There are some multicollinearity concerns with some of these demographic controls, particularly with the indicators for minority sexual orientation which Carpenter et al. (2022) and I find are consistently the strongest predictors for non-cisgender status. Tables 2a and 2b indicate that minority sexual orientation is significantly and positively associated with a greater likelihood of identifying as non-cisgender. While most studies, including Carpenter et al. (2022), indicate that the majority of gender minorities identify as heterosexual, we still have reason to be concerned that multicollinearity amongst these demographic controls could lead to imprecise estimates. Beyond potentially larger standard errors for the relevant coefficients, if some unobservable characteristic underlies both minority gender identity status and minority sexual orientation status, small changes in the effect that these two indicators (partially) capture could be magnified as a result of redundancy.

In addition to the replication (table numbers without any asterisks, in correspondence with the original paper) and re-estimation of the original sample with updated data (table numbers denoted with a single asterisk), I modify a few aspects of the econometric specifications in section 10 (Tables 3**–6***) in order to show that my results are robust to alternative specifications. Namely, in place of linear probability models (LPM), I estimate logistic regression models. One reason I do this is because LPM estimates are not constrained within a unit interval, which raises theoretical issues that LPM coefficient results may be biased and inconsistent. Further, I estimate logistic models as opposed to probit models given the former's functional form; the logit curve's flatter slopes at the extremes (as the curve gets closer to 0 or 1) allows for more precise estimates for outcomes with much lower probabilities, as is the case here.

4. Replication Study

While I ultimately conclude that my replication should be taken as provisionally supporting the results in the original paper, minor discrepancies exist between the original study and my replication throughout all results. These minor discrepancies are likely driven by minor differences in the sample data such as the total number of observations, which produce slightly different estimates. For example, the count of observations for Cisgender Women in the original study reports N = 344,969, whereas my replication study uses data with a count of 340,739 for Cisgender Women.

While I am unable to ascertain the exact cause of differences in the data, I suspect that the public use files available from the Census Bureau have been updated over time with revisions to errors with previously public data, owing to the experimental nature of the Household Pulse Survey. For example, during the time of conducting this replication study, I observed one such revision that remains undocumented. Using a webpage archive resource, I

am able to quote the note addressing this update: "*Note: The public use files for Weeks 34 and 38 were removed to correct a found issue. These weeks will be re-released after the files have been corrected*" (U.S. Census Bureau 2023). Based on this example, I conclude that the minor differences between original and replication estimates that run throughout all results are due to minor underlying differences in the data used. In light of these minor data differences, the discrepancies discussed in the remainder of this section are restricted to major differences and possible other explanations unlikely to have been caused by minor data revisions.[7]

All table numbers in section 10.1 follow those of the original paper, and can be directly compared to the corresponding tables presented by Carpenter et al. (2022). Tables 1a and 1b report descriptive statistics for individuals assigned female at birth and individuals assigned male at birth respectively. Weighted means and standard deviations for various demographic and outcome variables are segmented across five gender categories (including the general not-cisgender category as well as its 3 segmented categories) for both groups of sex assigned at birth. The descriptive statistics here yield the same implications as Carpenter et al. (2022) on observed characteristic differences across gender categories; namely that non-cisgender individuals are younger, more likely to be sexual minorities, and likelier to present adverse socioeconomic outcomes.

One notable difference is in the vastly differing N counts, for which my replication reports fewer observations across the board. This discrepancy is very likely explained by a difference in methodology; while my table reports weighted means for the restricted sample across all variables (i.e. for the same restricted sample which excludes any NA observations for any of the variables), the original table presents weighted means with different samples for

[7] While notable differences in estimates have been tested with an alternative sample that drops weeks 34 and 38, no substantial reversals in differences were found. In fact, estimate magnitudes and significance levels often differed much more with the alternative sample, likely owing to the drop in sample size. Without access to the original data used by Carpenter et al. (2022), the source of discrepancies cannot be directly tested for.

each variable. This is made clearer as estimating weighted means with samples restricted only by the variable in question yields estimates that are closer to the original.

Another major discrepancy can be observed for weighted mean estimates of household income. Replicated average household income estimates are higher by several thousand across the board, and this discrepancy appears throughout all results. This is likely due to a discrepancy in how the variable has been coded, arising from an ambiguity in methodology. In both the original and replication studies where income is estimated, the midpoint of each interval for household income is used, except for the highest category which is rightward censored. While the original paper notes that this highest category is coded as the 80th percentile of annual household income, I interpreted this as an erroneous methodology as the 80th percentile is below the lower (leftward) boundary of highest category. To illustrate, household income is coded into eight categories where the lowest bracket is "less than $25,000" and the two highest brackets are "$150,000 – $199,999" and "$200,000 and above" respectively. Given that the 80th percentile of household income is around $150,000, it makes little sense to code the midpoint of the highest bracket of "$200,000 and above" as such.

Instead, I use the 95th percentile of annual household income on the basis that it is a rough median of the interval of household incomes that equal/exceed $200,000 (roughly the 90th percentile). Alternatively, coding this highest income category as the 80th percentile yielded average income estimates that were much closer to the original paper's, likely confirming that the highest income category was erroneously coded. This discrepancy potentially explains other discrepancies with models estimating the outcome of household income in this replication, and the refreshed results discussed in section 5.

One other complication that arose during my replication process was a discrepancy with how the mean and coefficient estimates for the outcome variable "Participates in SNAP" was encoded. The original paper notes that the indicator is coded based on responses to a question

that asks whether the respondent or anyone in their household used benefits through SNAP in the past 7 days. The inconsistency arises from two questions in the HPS that ask about SNAP use/receipt; the first asks about whether SNAP was used to meet spending needs in the last 7 days (found in the HPS data as SPND_SRC9), whereas the second asks whether anyone in the household has received benefits from SNAP in the last 2 weeks (found in the HPS data as SNAP_YN). While it would seem that the original paper's diction would refer to SPND_SRC9, my replication process was only able to produce results in alignment through a combination of these variables depending on the estimation.

The results presented in my replication tables employ SNAP_YN for the mean estimates in 1a* and 1b* as well as all regression estimates in Tables 4*, 5*, and 6*, but the means of the SNAP outcomes presented in the latter three tables employ SPND_SRC9. The discrepancy can be observed in the original paper by simply, for example, comparing under column 2 of Table 1a, the weighted mean for SNAP (for the sample of AFAB non-cisgender individuals) with the mean of outcome under column 5 of Table 6. The former prints 0.212 whereas the latter prints 0.165 as their means of the SNAP outcome for what is supposedly a comparable sample; this discrepancy was best addressed by using a different underlying variable in my replication (SNAP_YN for the former and SPND_SRC9 for the latter). For comparability, I continue to use these specifications throughout my paper.

Despite these major discrepancies, the main conclusions drawn in the original paper remain supported by my replication's results. A general pattern holds that replication estimates for coefficients do not vary by any large degree, and where there is noticeable discrepancy, the coefficients are not statistically significant in both the original and replication results. Further, where replication coefficient significance levels differ, replication significance levels are typically greater (as denoted by the presence of more accompanying asterisks)—this is consistent with the notion that my estimates are more precise as a result of corrections/revisions

to the data, as noted with the data-related minor discrepancies. Thus, the implications noted in Carpenter et al. (2022) should be taken as provisionally supported by the results of this replication.

5. Robustness (Refreshed Results)

The refreshed results in section 10.2 presents the same model specifications as in section 10.1, but simply extends the data to include more recent survey waves. I also estimate results on this updated data using logistic models in place of LPMs, which can be found in the appendix (section 11). In Table 6*** of the appendix, I present alternatively coded race specifications to better disambiguate Hispanic or Latinx from other race categories; the results in Table 6*** should thus be compared to that of Table 6**. Overall, these alternative specification models indicate that my refreshed results are robust to alternative specifications. I thus remain using LPMs for my refreshed results, main results, and additional analyses for comparability to the original results.

We can consider the refreshed results as effectively increasing the sample size studied, but a potential concern could arise. Especially given the background of the COVID-19 Pandemic, temporal effects should be considered when comparing survey weeks. In other words, individuals in survey weeks 34–45 (HPS Waves 3.2–3.4) may be systematically different from individuals in survey weeks 46–54 (HPS Waves 3.5-3.7). Conducting a balance test between the two groups shows statistically significant differences for some of the minority gender categories and demographic characteristics like age, some of the sexuality categories, and some of the education status categories amongst others. However, because the new data is essentially tracking a time-varying population, and since we can chalk up these significantly different characteristics to time varying factors, the inclusion of survey week fixed effects should capture and control for this. Even so, the new sample may be distorted if sampling

methods vary across time; changing survey methodology or underlying propensities to respond would result in capturing an entirely different population.

One potential concern is that, given the experimental nature of the HPS, sampling methods are varying with newer waves, which is what potentially happened beginning in week 48. For example, in the periods following week 48, the Census Bureau began experimenting with different outreach messaging and framing in order to reduce outreach costs and effectiveness. The Census Bureau tested different variants of SMS messages with shortened URL lengths, and also removed email addresses from domains that were expected to bounce back in order to improve email deliverability and coverage. These changes are arguably likely to affect what kinds of respondents are more likely to be represented in the sample.[8] One other concern is whether the effect of time itself varies our representation of the population; given that the HPS is conducted during the COVID-19 pandemic, a highly volatile period, we might also suspect that the underlying population is radically changing with time in ways that our week fixed effects cannot capture.

While the direct effect of these changes (if any) cannot be directly tested for, estimating the same specifications as in Tables 4 and 5 with only the new data from survey weeks 46–54 produce qualitatively similar results.[9] These results can be found in the appendix under Tables 4*** and 5***. Given this, I interpret the refreshed results under the assumption that the same population is being sampled. In this view, the updated data provides more precise estimates as they are estimated on an expanded sample size.

[8] For example, the literature on nudge theory would predict that differential messaging or framing has a bearing on individual behaviour (see: Thaler and Sunstein, 2021 for a comprehensive overview of how the decision environment can influence individual behaviour).

[9] Most notable discrepancies occur with the outcome variables of Medicaid, SNAP, and food insecurity. This may be a reflection of changes with the HPS questions concerning these outcomes (e.g. asking about these outcomes in greater detail). While I have coded responses to match those expressed in the earlier weeks of data, the different framing of these questions may lead to distorted results here. While no one outcome in this study is considered as normatively more important, the employment, income, and poverty outcomes are certainly more relevant to my main results in section 6. Given this, excluding these other outcomes do not change the conclusions that follow from my main results.

Thus, we should expect that increasing the sample size has the general effect of finding more statistical significance, providing us with more confidence given that the results do not change. Results in Table 3* exemplifies how similar results can be interpreted with more confidence; while the main conclusion that non-Cisgender individuals are significantly less likely to be employed continues to hold, changes in significance levels can be observed in model 2's disaggregated results. In column 1, whereas the coefficient for AFAB now Male was originally insignificant, Table 3* reports statistical significance. Similarly, Column 3 now reports statistical significance for both AMAB individuals who now identify as female and transgender. Table 3** thus shows, in contrast to the original results, that employment penalties are significant for all three non-cisgender AMAB individuals. While our interpretation of the results may change in light of previously insignificant results that are significant in the refreshed results, we should generally expect that when coefficients remain similar, we are able to become more confident of these estimates.

That said, the refreshed results exhibit some significant differences from the original results in ways that implicate new understandings. That is, changes in significance levels as a result of including the new data are not always in the direction we should anticipate; the refreshed estimates are not always "confirming" conclusions drawn in the original paper as greater in effect or more statistically significant. For example, in the bottom panel of Table 4*, I find significant penalties (where there were originally no significant results) for AMAB individuals who identify as transgender in comparison to otherwise similar cisgender men for likelihood of employment, household incomes, likelihood of being below federal poverty guidelines, and likelihood of having Medicaid. Similarly, for the group AMAB now 'None of these,' previously significant household income penalties are now no longer significant and less than half of its original coefficient size, and previously significantly greater likelihoods of poverty are no longer observed. This would imply that for non-cisgender AMAB individuals

in comparison to their cisgender male counterparts, those who selected transgender face more significant penalties than those who selected "None of these" — a notable departure from general conclusions drawn in Carpenter et al. (2022).

The effects of race in the bottom panel of table 6* are now significantly adverse for the outcome of income across all race categories, where it was previously only significant for the Hispanic category. This suggests that the effect of not being white for AMAB non-cisgender individuals is associated with significant wage penalties. The results indicate that white AMAB non-cisgender individuals have markedly better income outcomes than other comparable race/ethnicity groups. This is an interesting finding given that it is consistent with a view from intersectional studies that, for example, the interplay of race and gender is such that marginalized intersections of both these dimensions produce outcomes that are markedly different from experiences of marginalization in just one of these dimensions (Parent, DeBlaere, and Moradi 2013). For example, one implication of the intersectional view could be that expressions of gender non-conformity are only socially permissible for the most privileged identities—the results here seem to be consistent with this notion when it comes to income.

Further discrepancies in Table 5* with the AMAB now transgender group complicate some of Carpenter et al.'s (2022) discussion of economic outcomes in relation to the transition process. The authors discuss that Table 4's results indicate that this group experiences no significant differences in socioeconomic outcomes when compared to cisgender men, but Table 5 suggests that they fare better than cisgender women, as evidenced by the statistical significance for some outcome variables. They interpret this as supporting a story that an AMAB individual selecting 'transgender' as opposed to 'female' corresponds to an earlier stage in medical or societal transition, and/or how their gender identification (as opposed to sex assigned at birth) is socially perceived. In this view, further progress in transition or gender affirmation would correspond with socioeconomic outcomes that are closer to that of cisgender

women. In other words, one explanation for why little to no significant differences were originally observed between AMAB now transgender and cisgender men (in Table 4) would be that the AMAB now transgender category tracks a group that is "not as far along in their transition process," implying that socially observable characteristics that matter for socioeconomic outcomes are closer to that of cisgender men (Carpenter et al. 2022, 12).

However, the refreshed results indicate a different pattern for the AMAB now transgender group. As mentioned previously, in Table 4*, I observe statistically significant differences to cisgender men across four outcomes where they were originally insignificant. In Table 5*, AMAB now transgender individuals are only significantly different to cisgender women in their lower likelihoods to participate in SNAP, whereas they were originally observed to have higher household incomes, and lower likelihoods of being under federal poverty guidelines (as well as greater likelihoods to be food insecure). Notably, the coefficient for the outcome "log of household income" more than halves from what was originally 0.204 at a less than 1% significance level to now (in the refreshed results) 0.078 with no statistical significance. The refreshed results seem to fail to support the original story that AMAB individuals who select "Transgender" are not as far along in their transition or gender affirmation Despite this, the analogue of the story mentioned above still holds for AFAB individuals; that is, AFAB now transgender individuals were far more similar to cisgender women, but fared significantly worse than cisgender men.

To put this in simpler terms, the refreshed results from Tables 4* and 5* can be summarized by the following conclusions (only the first sentence in italics changes in the refreshed results): *the AMAB now transgender group experiences worse outcomes than cisgender men, and experiences similar outcomes to cisgender women.* The AFAB now transgender group experiences similar outcomes to cisgender women, and worse outcomes than cisgender men. The AMAB now female group experiences worse outcomes than cisgender

men, and similar outcomes to cisgender women. The AFAB now male group experiences better outcomes than cisgender women, and similar outcomes as cisgender men. While the AFAB now transgender group could be said to exhibit patterns closer to that of their cisgender women counterparts, the same cannot be said for the AMAB now transgender group in comparison to cisgender men. This presents the question: why do AMAB now transgender individuals experience worse outcomes than their same-sexed cisgender counterparts, but AFAB now transgender individuals experience similar outcomes as their same-sexed cisgender counterparts?

6. Discussion (Refreshed Results)

6.1 Theorizing Potential Mechanisms

One way we could read this is to maintain the narrative that Carpenter et al. (2022) posit, but qualify it by hypothesizing a different experience for AMAB individuals. The consistency of my refreshed results with the original results in most other ways gives me no reason to immediately dismiss the narrative that individuals who identify as 'transgender' are earlier in their transitions. Also recall that this group could also include non-binary individuals who may or may not take any steps to socially or medically transition—this could also be consistent with the kinds of mechanisms I discuss for individuals who are early in their transition processes. Although the data precludes me from drawing conclusions about who these categories consist of, in this section I formulate hypotheses that hinge on this earlier in transition interpretation. If these hypotheses are supported by additional testing, this could then be taken as partial support for the earlier in transition interpretation for individuals who identify as 'transgender'.

Suppose that those non-cisgender individuals who select the categories "Male" or "Female" are indeed further along in their social/medical transitions or gender affirmation than

those that select “Transgender”. When the original authors conclude that the AFAB now transgender group’s outcomes are closer to cisgender women than men, and that the AMAB now transgender group’s outcomes are closer to cisgender men than women, the implication is that the AFAB now transgender group experience something like a female penalty, and the AMAB now transgender group experience something like a male premium. They might argue that the AMAB now transgender group face similar outcomes as cisgender men as a result of being socially perceived as male. This could be happening for whatever reasons; perhaps they are not publicly out about their transgender identities, or perhaps they are being perceived as male by others despite their public identity.

However, in light of the refreshed results, AMAB non cisgender individuals do not necessarily benefit from gender premiums (in terms of the various socioeconomic outcomes) as a result of being at an earlier stage in their transition process or being socially perceived as closer to their sex assigned at birth (male). In other words, I am now qualifying that the AMAB now transgender group does not benefit from some kind of proximity to maleness. The following account is a conjectural narrative that attempts to qualify the conclusions drawn by the original authors in light of the refreshed results. I now first consider various possible mechanisms for the adverse outcomes across both transgender groups, which could be associated with a traditional gender penalty or a transgender penalty.

Traditional gender penalties could arise through several channels. For example, gender discrimination could occur in the workplace, arising from co-worker and employer attitudes (Schilt and Wiswall, 2008), and taste-based or statistical hiring discrimination in the labour market could play a role as well. Other mechanisms could include supply side factors such as self-sorting based on gendered expectations (where these expectations or gender norms could also be internalized as a result of transition) for industry/occupation and work hours (Akerlof and Kranton, 2000).

A transgender penalty could operate through similar channels, where the locus of discrimination is specifically oriented towards LGBTQ+ status for individuals who are publicly out. Recent experimental research using audit studies and double list experiments provide some evidence of taste-based employer discrimination (see: Granberg, Andersson, and Ahmed, 2020, and Aksoy, Carpenter, and Sansone, 2022). Transgender status could also factor in for those who are not publicly out due to unobserved productivity related factors such as inner turmoil and distress that is exacerbated from not being out (such as gender dysphoria), or the exertion of effort in order to hide their identity and/or transition from employers and colleagues. In support of this idea, Grant, Mottet, and Tanis et al. (2011) found that 71 percent of transgender survey respondents "attempted to avoid discrimination by hiding their gender or gender transition" (51).

Prima facie, these mechanisms have no reason to be asymmetrical across sex assigned at birth. For example, workplace gender discrimination should factor similarly for MTFs or FTMs who either lose or gain respect, authority and esteem in the workplace; Schilt and Wiswall (2008) find evidence that MTFs post-transition do not benefit from the male advantages (e.g. reputation or human capital) accrued pre-transition. However, the asymmetrical patterns between the AFAB now transgender and AMAB now transgender groups provides some evidence for sex-differentiated channels. I now discuss some of these considerations, drawing from Geijtenbeek and Plug (2018).

Firstly, discrimination for openly transgender individuals could be asymmetrical in ways similar to how gay men are discriminated against more so than lesbians (Klawitter, 2014). This would align with views from gender and sexuality studies that higher societal values placed on masculinity, especially in gender deviant/nonconforming acts and presentation, leads to a greater acceptance of masculine AFAB people over feminine AMAB people (Amin, 2022). I refer to this as stigma effects.

Secondly, for those who medically transition, the ability to pass as non-trans and/or the opposite gender is generally greater for AFAB now transgender individuals. Differences lie in the effects of feminizing and masculinizing hormone replacement therapy (HRT), anatomical differences such as bone structure and voice that are more difficult to manipulate for AMAB individuals, and greater societal standards in visual scrutiny for women (Schilt and Wiswall, 2008). James, Herman and Rankin et al. (2016) and Grant et al. (2011) present survey data that finds notable differences in transgender men and women's abilities to pass, with response distributions that consistently suggest that transgender men pass more often. Differences are observed across the response options of always/most of the time, sometimes, and rarely/never, suggesting that this difference is observed regardless of the extent of transition. We thus could read AFAB now transgender individuals as being able to either pass sooner/quicker, or pass more often than AMAB now transgender individuals even if both are in earlier periods of their transition. I refer to this as passing effects.

Note that these two differential channels for stigma and passing, while directly affecting only those individuals who are publicly out or openly transitioning, still factor into differential expectations for those who do not disclose their transgender status or transition process. That is, if gender nonconformity is more stigmatized and passing is more difficult for AMAB individuals, this could factor into their decisions to hide or delay transitions and/or stay closeted and ultimately affect productivity or socioeconomic outcomes directly through adverse mental health (Bockting et al., 2013).[10] Martell and Roncolato (2023) summarize how adverse mental health for sexual minorities arising from stigma and homophobia is linked to adverse socioeconomic outcomes. I refer to this as mental health effects.

[10] Additionally, sex or gender differentiated psychological attributes like agreeableness could be viewed as human capital factors that ultimately influence these sex/gender differentiated economic outcomes (Mueller and Plug, 2006).

I now refer to some of the literature on the traditional gender wage gap in order to make a case for one hypothesis that points to wage gaps that are related to gender differentiated distributions across industry and occupation. Another potentially sex-differentiated mechanism could arise through labour market decisions. There is an established literature on the effects of occupational gender segregation, which consistently finds that wages are lower in occupations with higher shares of women. For example, these kinds of occupations pay lower wages because they require lower skill, and are composed of more part-time workers and lower worker tenures (Macpherson and Hirsch, 1995). The lower wages of occupations with greater shares of women could be explained by supply-side factors like innate or socialized gender differences in skills and preferences that influence labour market decisions, but also demand-side factors like taste-based discrimination (see Levanon, England, and Allison, 2009 for evidence of a mechanism consistent with both; see Folbre, 2012 for an interdisciplinary analysis of gendered norms and preferences as it relates to care work, and Hirsch and Manzella, 2014 for evidence of a wage penalty associated with caring labour).

Blau and Kahn (2017) find that industry and occupation factors has increased in importance for explaining the gender pay gap in the US from 1980 to 2010. While the pay gap shrunk due to greater convergence in human capital factors, industry and occupation factors saw increased shares of the gap, with 32.9% for occupational factors and 17.6% for industry factors in 2010. Similar results can be found, in other developed economy contexts, such as in New Zealand. Sin, Stillman, and Fabling (2020) find evidence that 16-19% of the overall gender wage gap in New Zealand is explained by gender differentiated sorting into industries and 9% from occupational sorting. They also find that the gender wage-productivity gap (comparing women to men relative to productivity) is larger for a given industry in a given year with more skilled workers, less product market competition, and more competitive hiring markets; the authors take this to suggest that taste-based hiring discrimination is an important

driver for the wage-productivity gap when an employer is in an industry that enjoys non-competitive product markets and easier hiring markets. Whatever the mechanisms are for the industry and occupation driven components of the traditional gender wage gap, and regardless of the size of this effect after controlling for individual worker characteristics, my hypothesis that follows need only recognize that these workplace-related factors are significant drivers of the overall traditional gender wage gap, or that female workers are more concentrated in lower wage industries than male workers.

We could thus argue that AFAB now transgender individuals and AMAB now transgender individuals sort into industries and occupations differentially. If AFAB now transgender individuals are sorting into industries and occupations in similar ways to cisgender women and AMAB now transgender individuals are sorting in similar ways to cisgender men, the penalties for the former would be a greater reflection of traditional gender penalties, whereas penalties for AMAB now transgender individuals would be likelier related to discrimination for LGBTQ status, or other explanations not theorized here.

Geijtenbeek and Plug (2018) find that both MTF and FTM transgender workers are likelier to change jobs following a transition period of four years. The authors also find that pre-transition, FTM workers are significantly likelier to sort into industries with higher shares of female workers, but that these differences become small and insignificant post-transition for both FTM and MTF workers. I interpret this evidence, for the purposes of my study, as suggesting that non-cisgender individuals behave closer to their same-sex assigned at birth cisgender counterparts (e.g. FTM workers behave like cisgender women) in terms of industry sorting pre-transition.[11] If the AFAB and AMAB now transgender groups are relatively earlier

[11] Prima facie, there is good reason to believe that, for example, a pre-transition FTM worker would behave closer to cisgender men, given that FTM individuals innately identify as male pre-transition. However, disambiguating this requires a more extensive analysis for the mechanisms behind sex/gender differentiated industry and occupational sorting. For example, if demand-side factors play a larger role, we should expect that a pre-transition FTM worker behaves more like a cisgender women given that employers might discriminate based on their perception of the worker as female. Alternatively, understanding the extent that innate as opposed

in their transition processes, it would make sense that their occupation and industry choices are sticky in the short term. This would mean that AFAB now transgender individuals earlier in their transition are likelier to be in jobs with more women, thus experiencing more industry and occupation driven traditional gender wage gaps. In this way, while individuals who are AMAB now transgender do not suffer from traditional gender penalties (i.e. socioeconomic outcomes associated with being a woman), the significant disparities I observe in comparison to cisgender men are likelier reflecting a transgender penalty. Again, the greater incidence of a transgender penalty on AMAB individuals is made more likely through the sex-differentiated stigma, passing, and mental health effects I outlined above.

To summarize, both AFAB and AMAB now transgender individuals in my refreshed results are observed to experience similar economic penalties (both are similar when compared to cisgender women). My hypothesis holds Carpenter et al.'s (2022) interpretation of these groups as being earlier in their transition than the AFAB now male or AMAB now female categories, but argues that the penalties I now observe for *both* transgender groups are due to different mechanisms (differentiated by sex assigned at birth). The hypothesis I now attempt to test is this: 1) For AMAB now transgender individuals, we should expect to see greater transgender related penalties (cannot be directly tested), and the effect of this could be larger for AMAB individuals for several reasons, not limited to stigma, passing, and mental health effects. 2) For AFAB now transgender individuals, we should expect to see greater traditional gender penalties associated with factors that arise due to distributional differences of genders in industry and occupation.

to socialized sex/gender differences in labour market preferences have would help in understanding how preferences and constraints would be shaped for a male-identifying individual who grew up or was socialized as a woman.

6.2 Testing Potential Mechanisms

I now test my hypothesis in two areas; the first is the effect of mental health, and the second is the effect of industry sorting. As noted by Carpenter et al. (2022), we cannot formally test the mechanisms outlined due to a lack of data from the HPS on the timing and extent of medical and social transitions, as well as data on how individuals choose to identify and present in their work and personal lives. Given this, my further analyses on these sex-differentiated mechanisms should be taken as merely conjectural or suggestive.

I first explore the question of whether adverse mental health and its role in economic outcomes are indicative of sex-differentiated mechanisms. I test for the role of mental health indicators on socioeconomic outcomes in Tables 7 and 8. The dummy variables Anxious and Depressed are constructed from survey questions that ask in the past two weeks, how frequently respondents were "bothered by feeling nervous, anxious, or on edge" and "bothered by feeling down, depressed, or hopeless." The variables take on a value of 1 for the responses "More than half the days" or "Nearly every day" and 0 for the responses "Not at all" or "Several days." My decision to code the four possible response options in this way is comparable to that of the variable for food insecure, and also reflects midpoint in terms of response options for the frequency (severity) of symptoms. Table 7 presents LPMs for both of these indicators across gender categories, with the standard controls. I observe that coefficients are significant across the board, but AFAB now transgender individuals are likeliest to exhibit signs of anxiety and AMAB now transgender individuals are likeliest to exhibit signs of depression. That these two categories are the likeliest to exhibit signs of adverse mental health is consistent with the idea that being at an earlier stage of transition contributes to adverse mental health; the greater prevalence of signs of anxiety for AFAB now transgender individuals and signs of depression for AMAB now transgender individuals also leaves the possibility that adverse mental health experiences for transgender individuals are sex-differentiated.

However, the three-way interaction of Anxious (A) and Depressed (D) on the various gender categories in Table 8 reveals fewer statistically significant patterns. Column 1 for the outcome of employed shows the coefficient for the interaction term of A * AFAB Now Transgender is statistically significant, with its magnitude being roughly equal but opposite in sign to the main effect coefficient for AFAB Now Transgender. This suggests that AFAB now transgender individuals who report signs of anxiety are only slightly less likely to be employed compared to cisgender men, whereas those with no signs of anxiety or depression are significantly less likely to be employed compared to cisgender men. While I expected to find that adverse mental health is correlated with adverse employment outcomes, I here find the opposite for this specific case. This leaves open the possibility of reverse causality or simultaneity for signs of anxiety and employment outcomes with respect to AFAB now transgender individuals; perhaps employment itself also has a negative effect on mental health, or on some intermediary unobservable factor that leads to an unexpected causal direction. I cannot conclusively rule out any of these possibilities here.

The same kinds of considerations can be noted for the unexpected result on the statistically significant three-way interaction of A * D * AMAB now Female for the poverty outcome. While those in this gender category who exhibit only signs of depression are significantly likelier to be below federal poverty guidelines, those who exhibit both depression and anxiety are significantly less likely to be below federal poverty guidelines, cancelling out the oppositely signed effects that exhibiting anxiety or depression alone have.

Table 8 also indicates that AMAB now transgender individuals who report signs of depression are also significantly likelier to be below federal poverty guidelines and benefit from Medicaid in comparison to cisgender men. The size of these coefficients in comparison to the (insignificant) main effect coefficients for AMAB now transgender is consistent with a narrative that depression may play a role in some of this group's socioeconomic outcomes.

However, I cannot rule out other explanations for these significant results, such as an unobserved factor causing the greater incidence of poverty and Medicaid uptake for this group, which then leads to signs of depression. Besides these minor results, no other patterns stand out; most other results are insignificant with relatively large standard errors, which precludes me from conclusively confirming or invalidating the hypothesis of adverse mental health as a significant driver for the adverse outcomes of individuals who identify as transgender. In light of these inconclusive results, the stigma and passing effects that are different across sex remain as plausible explanations.

Although I do not find conclusive evidence in understanding the transgender penalty for AMAB now transgender individuals, I am able to test for sex-differential industry sorting with a highly limited dataset. While HPS Waves 3.2–3.5 (Weeks 34–48) asked a question about the setting of any volunteer or paid work, the response options were limited to essential work during the COVID-19 pandemic (e.g. hospitals, schools, food and beverage). Alternatively, HPS Waves 3.6-3.7 (Weeks 49-54) asked about what industry category their business or organization fell into. Given that respondents for this question are only those who are employed, the sample is necessarily restricted to those who are employed. Additionally, the question about essential work from weeks 34–48 is not relevant or comparable to my analysis of general work industry. Further restricting the sample to Weeks 49-54 runs into limitations with statistical power, as well as the major concerns discussed in section 5.1 regarding the potentially different underlying population. Estimating the original specification results with this restricted sample (Weeks 49-54) yielded generally similar patterns of significance, but nevertheless, I observe some discrepancies. These results can be found under Table 4**** and 5**** in the appendix. The same considerations I raised about Table 4*** and Table 5*** at the section 5 (particularly footnote 9) give me greater reason to believe that this newer sample is similarly representative. Thus, given that I draw the same kinds of conclusions as in section

5 from this set of results, I have good reason to believe that estimating further tests on this restricted sample would yield results representative of the full sample.

I am able to crudely test for the different gender categories' exposure to industry driven traditional wage gaps by constructing a variable that codes for the magnitude of the traditional gender wage gap given the respondent's work industry. I estimate models using two different data sources for the traditional gender wage gap broken out by industry. My first data source is from the 2023 Gender Pay Gap Report published by PayScale, a private compensation analysis service. The gender wage gaps they report are based on 758K individual responses to an online survey conducted between January 2021 – January 2023. The report cautions that survey responses are weighted towards college graduates in professional careers; the data thus faces a selection bias on education, and is less representative of lower wage work. Further, the various industry categories in the report and the HPS data are imperfectly aligned. I have matched industry categories from both sources to the best possible degree with personal discretion, and in some cases with no industry match, the HPS industries have been coded to match an occupational category from the PayScale report instead. The PayScale report provides data for a "controlled" and "uncontrolled" gap, where the former represents the gender wage gap after controlling for compensable factors such as education and experience. I interpret the uncontrolled wage gap as more relevant to my analysis given that this gap captures occupational segregation based on gender norms—the report writes, "The uncontrolled gap, sometimes called the opportunity gap, is an indication of what types of jobs — and associated earnings — are occupied by women overall versus men overall" (PayScale 2023). In addition, the variation in the controlled gap is highly limited, but alternate models estimating with a variable for the controlled gap are also reported in Tables 9 (column 2) and 11. The dependent variable for the controlled and uncontrolled wage gaps are continuous and represents the wage gap in terms of how much women in that industry make for every $1 men make; for example,

if women in the given industry make $0.90 for every $1 men make, the variable takes on a value of 0.10.

The second data source is from a 1995 study conducted by Fields and Wolff using data from the March 1988 Current Population Survey that analyses the gender wage gap across different industry categories. A gender wage gap associated with each industry category is calculated by estimating a wage equation for male and female workers respectively in two separate regressions, which includes a set of dummy variables that cover industry categories from the Census at the one-, two- and three-digit levels respectively (again, in different models). The industry gender wage gap is calculated as, "the difference between the estimated industry coefficients for women and men plus the difference between the female and male intercepts" (Fields and Wolff, 1995, 113-114). The difference between the intercepts is included to net out the adjusted wage gap between the average female and male worker in the baseline (omitted) industry of the original regression. I matched the HPS industries as closely as possible, using personal discretion, to the two-digit level Census industries from Fields and Wolff (1995). Although most categories align semantically, there are clear issues with using data from 1988; for example, the HPS industry 'Information Technology' is nowhere to be found, and I match it to the two-digit Census industry 'Photo equipment & watches'. I refer to the continuous variable constructed from this data as the Fields Wolff gap. Interpreting this variable should be similar to that of the uncontrolled gap, except that the construction of this gap means that it is oppositely signed to the uncontrolled gap; for example, if women in the given industry make $0.90 for every $1 men make, the variable takes on a value of -0.10. Note that most values for all three industry wage gap variables are typically signed in the same direction, with few exceptions—when I refer to a larger industry wage gap, I am thus referring to the normative direction (i.e., a wage gap that penalizes women to a greater degree). There are severe issues with using this 1988 data as contemporary estimates of the industry wage

gaps are likely to have changed (for a comprehensive review of changes from 1980–2010, see: Blau and Kahn, 2017). However, the industry categories in the Fields Wolff data are better matched than in the PayScale data, and the greater transparency on methodology and peer-reviewed nature of the Fields Wolff estimates are benefits that make this data worth considering. I estimate two model specifications for each of my three variables for the industry wage gap (uncontrolled, controlled, and Fields Wolff). The first model is a regression where the dependent variable is the industry wage gap (Table 9), and the second specification estimates the various outcomes with interaction effects between all gender categories and the industry wage gap variable (Tables 10, 11, and 12).

Column 1 of Table 9 reports a regression where the dependent variable takes on the value of the average uncontrolled wage gap associated with the given industry that the respondent works in. This model thus investigates the effect of gender categories on an employed individual's likelihoods to sort into industries with larger uncontrolled wage gaps (what would be indicated by larger positive coefficients). The model includes all the standard controls, and the baseline category is Cisgender Men. The coefficients on each gender category are interpreted as the average effect on industry-based wage-penalties for the given gender category in comparison to cisgender men. Interestingly, results are only statistically significant for AFAB individuals, although the coefficient for cisgender women is relatively small. The large negative coefficients suggest that the AFAB now Male, AFAB now Transgender, and AFAB now None groups (decreasing in size in this order) sort into industries with smaller uncontrolled wage gaps in comparison to cisgender men. While the coefficients for AMAB individuals are insignificant, their magnitudes are smaller across the board. This pattern of significance for AFAB individuals but not AMAB individuals could simply be reflective of lower statistical power given that observation counts for AFAB individuals are higher than those for AMAB individuals.

In any case, I interpret these results as suggesting that AFAB now transgender individuals are likelier to sort into industries with smaller traditional gender wage gaps than AMAB now transgender individuals. These results run counter to what my hypothesis would predict; that is, that AFAB now transgender individuals are likelier to be in industries with larger traditional gender wage gaps, and thus be penalized by traditional gender wage gaps more so than AMAB now transgender individuals through industry segregation based on gender norms. Again, the data issues I highlight preclude me from taking this as conclusive evidence, especially given the competing evidence of what we should expect with regards to wage differentials from sex/gender differentiated industry and occupational sorting discussed in section 5.2.

These results can be contrasted to the model using the Fields Wolff variable in column 3 of Table 9. These coefficients can be interpreted similarly, except that they are oppositely signed. The results observed in this column is much more consistent with my hypothesis. Only three coefficients (except for the constant) are negative, the largest being that for cisgender women, followed by AFAB now None, and lastly AFAB now Transgender. These coefficients are negatively signed, indicating that these gender categories are likelier to be in industries with larger average wage gaps – thus, in contrast to the PayScale data, I find results much more in line with the general literature. While I cannot conclusively determine that this data is more "correct", the general correspondence with the literature on gender-based industry segregation leads me to accept the Fields Wolff gap as my preferred specification. Interestingly, the results here also align with my hypothesis. Notably, the coefficient for AFAB now Male is only significant at the 10% level (although the magnitude and direction are comparable to that of AFAB now Transgender). This is what we should expect if this category is correlated with individuals further along in their transition to male, which may be why I do not observe a significant difference from cisgender men.

Table 10 reports results from a model which interacts all gender categories on the continuous variable for the uncontrolled wage gap. The coefficients for the main effect of the uncontrolled gap (UG) are only sizable and significant for the income and poverty outcomes; these main effects are interpreted as the interaction effects for cisgender men. The signed direction of these coefficients (positive for income and negative for poverty) are surprising given that we should expect that larger industry-related wage gaps should have a generally negative effect on economic outcomes for all workers. The main effects for the gender categories can be interpreted as the effect of identifying as such when the industry wage gap is 0, or something like working in an equitable industry; similarly, the intercept can be read as the expected effect for cisgender men working in an equitable industry. For the model in column 1 regressing on income, UG * AMAB now Transgender is the only significant interaction term, with a large positive effect on log of household income. When pooling this with the main effects for AMAB now Transgender and UG (both significant) the relatively smaller and negative main effect coefficient for AMAB now Transgender is washed out. This indicates that the average effect of industry wage gaps is related to greater household incomes for AMAB now transgender individuals, and this improves upon their worse situation relative to cisgender men in an equitable industry. Although no specific mechanism can be concluded, this result remains somewhat consistent with my hypothesis since I am observing AMAB now transgender individuals benefitting from working in industries with larger wage gaps. If working in these kinds of industries is directly causal of greater incomes for AMAB now transgender individuals, these individuals are not being affected in ways that we would expect groups like cisgender women to. In other words, they are behaving and/or being treated differently to cisgender women and cisgender men. For the poverty outcome in column 2, I also observe significant negative coefficients for the interaction terms of UG with Cisgender Women, AFAB now Transgender, AFAB now None, and AMAB Now None. This suggests

that the effect of industry wage gaps is related to lower likelihoods of poverty for these gender categories. These are again surprising results given the consistent results from the literature on industry and occupational segregation.

The models in Table 12 takes on the same specifications, but instead use the Fields Wolff variable for industry wage gaps. These results are generally consistent with my hypothesis, but interestingly, the main effects for the Fields Wolff Gap (FWG) variable is only significant for the Medicaid, SNAP, and food insecurity outcomes, and not the income and poverty outcomes, suggesting that only these outcomes are significantly impacted by interaction effects between cisgender men and industry wage gaps. Only the categories of Cisgender Women, AFAB now Transgender, and AMAB now None see significant interaction terms across any of the outcomes. Specifically for the household income results in column 1, The significant but small negative main effects for Cisgender Women, AFAB now None, and AMAB now Female suggest that identifying as these categories in an equitable industry is associated with a slight increase in income relative to cisgender men. Further, the coefficient of the interaction term on Cisgender Women is significant but small and negative, which is a surprising result. This suggests that being in an industry with a greater wage gap is related to slightly higher incomes for cisgender women, which is inconsistent with the literature.

On the contrary, the very large, positive coefficients for the significant interaction terms on AFAB now Transgender and AMAB now None seem more consistent with my hypothesis, and particularly so for the AFAB now Transgender category, where the interaction coefficient is strikingly large relative to the rest. This result suggests that the simple effect of the AFAB now Transgender predictor depends significantly and greatly on the degree of the industry wage gap for the outcome of household income. In other words, identifying as an AFAB now transgender individual in an industry with a larger industry wage gap is associated with a significant reduction in income (in comparison to cisgender men). More specifically, the effect

of a closing an industry wage gap by 1 cent on the dollar (i.e. working in an industry with 1 more cent of convergence in that industry's average gender wage gap) is associated with a roughly 4% increase in an AFAB now transgender individual's total household income (relative to cisgender men). While this could be observed for reasons other than what I hypothesize, I take this as suggestive evidence that the selection of AFAB now transgender individuals into industries with larger traditional gender wage penalties (labour supply decisions which are likely to be sticky in the short run) is a potential source of their generally adverse economic outcomes.

6.3 Discussion Summary

In this section, I sought to reconcile the significant differences to the original results that I observed in my refreshed results with the original hypotheses made by Carpenter et al. (2022). Given observations from empirical and other literature, I formed a narrative that explained why my refreshed results do not indicate that, as originally argued by Carpenter et al. (2022), AMAB now transgender individuals experience outcomes similar to that of cisgender men. I argued that AMAB now transgender individuals actually experience adverse outcomes because they face transgender penalties—this group is thus not benefitting from some kind of proximity to maleness. While both AMAB and AFAB now transgender individuals experience adverse outcomes comparable to that of cisgender women (relative to cisgender men), I hypothesized that AMAB individuals experience more effects related to their transgender status, and AFAB individuals experience more traditional gender wage gap effects related to their female sex assigned at birth.

Transgender status related effects could be greater for AMAB rather than AFAB now transgender individuals given that the former group's identification is viewed with greater stigma, AMAB individuals face more challenges with regards to passing, and these differences

could further be correlated with differences in mental health outcomes. Traditional gender wage gap related effects could be greater for AFAB rather than AMAB now transgender individuals if these individuals are sorting into industries in ways similar to their same-sex cisgender counterparts; if these groups are earlier in the transition periods, it is likely that these past labour market decisions are sticky in the short run, and thus have a greater effect for those earlier in transition.

Following this account, I formulated two partially testable hypotheses: 1) For AMAB now transgender individuals, we should expect to see greater transgender related penalties (cannot be directly tested), and the effect of this could be larger for AMAB individuals for several reasons, not limited to stigma, passing, and mental health effects. 2) For AFAB now transgender individuals, we should expect to see greater traditional gender penalties associated with factors that arise due to distributional differences of genders in industry and occupation.

I specifically tested for potential differences across sex for adverse mental health and its effects on economic outcomes, but found no conclusive results. Hypothesis 1 thus remains open to scrutiny, although the well documented observations on sex-differential stigma and passing effects in other literature allow me to suspect that, were I able to test for these effects, I would find results consistent with my hypothesis.

I also crudely tested for the effect of inter-industry traditional gender wage gaps, or essentially the effect of sex-differential distributions across industries with varying average wage levels. I note severe data issues with all variants of my variable for industry wage gaps, but find results that are mostly consistent with the outside literature and hypothesis 2 with the estimates from 1988 data from Fields and Wolff (1995). Most notably, the large and significant interaction effect that I find for the AFAB now Transgender group in Table 12 is consistent with hypothesis 2's notion that this group is harmed by industry segregation to a greater degree

than AMAB now transgender individuals, for which I find a small and insignificant interaction effect.

While the outdatedness of the 1988 data could affect my results in several ways, findings from Blau and Kahn's (2017) analysis of changes in the gender wage gap from 1980 to 2010 would suggest that the magnitude of these gender wage gaps are likely to have shrunk by a considerable degree. That said, the authors find a growing share for inter-industry factors in explaining the overall wage gap, which means that the relative effects are operating in similar, if not more influential ways. However, if there is indeed less variation in the contemporary wage gap across industries, the estimates in Tables 9 and 12 should be taken as upper bounds for the true contemporary effect of industry wage gaps.

Further studies should attempt to utilize better estimates for contemporary inter-industry wage gaps. While I conclude with partial support for hypothesis 2, the generalizability and replicability of these results sensitive to other data and specifications would provide stronger evidence. While this also partially supports the interpretation that those who identify as 'transgender' are earlier in their transition timelines, I cannot conclusively say anything without additional data.

Future directions in this research could investigate stigma and passing effects, given that future data captures the relevant factors. These effects are mostly related to taste-based discrimination—the experimental literature on audit studies in assessing these kinds of employer attitudes holds much promise in specifically studying how this varies across sex assigned at birth, and with different timings and extents of transition.

7. Additional Analysis

Section 10.4 of the appendix (Tables 13–16) reports the results from new analyses wherein I explore interaction effects through four different models. As mentioned previously,

the sample includes the updated data (HPS waves 3.2-3.7). All models here take on the familiar specification from Eq. 2, which estimates on the full sample that breaks out all gender categories within one model. The specifications for interaction effects are comparable to the models in section 10.3. As usual, the baseline (or omitted) category is Cisgender Men. Given this, the main effect for the variable being interacted with the various gender categories can be read as the interaction effect for cisgender men –the baseline interaction effect for the binary variables (i.e. 'Old', 'Urban', and 'Remote') is thus interpreted as the additive sum of the constant term and the main effect for the given variable.

7.1 Interaction Effects Across Age Groups

Table 13 reports results from my interactions with the variable "Old", which takes on a value of 1 for individuals older than 45, which is the median age in the sample. The main effects of gender categories should be interpreted as the effect on the outcome in question for being a young person falling into the given gender category. The constant term should be interpreted as the effect of being a young cisgender man (and of course, this could be stated more specifically with reference to the baseline categories for my demographic controls, and week and state fixed effects). The main effects for each of the gender categories, apart from the categories AFAB now Male and AMAB now None, are statistically significant across the board for most of the outcomes; this is roughly what we should expect, given that the reference category is cisgender men. Thus, the pattern from the main effect results indicates that only young AFAB now male and young AMAB now none respondents do not experience statistically different outcomes to young cisgender men for most of the outcome variables. That said, both groups still suffer worse employment outcomes and young AMAB now none individuals are more likely to be food insecure.

Moving to the interaction terms, I observe a noticeable pattern that the additional effect of being old is statistically significant only for AFAB gender categories. Firstly, cisgender women consistently face worse outcomes than young cisgender men, but older cisgender women are better off than younger cisgender women (i.e. the signs on the coefficients between old and young are opposing). Additionally, in comparison to young cisgender men, the additional negative effect of being an old AFAB now transgender is greater in magnitude than being a young AFAB now transgender individual. In other words, old AFAB now transgender individuals are significantly worse off than young AFAB now transgender individuals.

I investigate this further in the top panel of table 13a to find that the same pattern holds when the sample is restricted to AFAB individuals and Cisgender Women is the baseline category. While young AFAB now transgender individuals are not significantly different to young cisgender women (although they are slightly less likely to participate in SNAP and slightly more likely to be food insecure), old AFAB now transgender individuals are significantly worse off than cisgender women. In both Tables 13 and 13a (the full sample and the AFAB restricted sample), the magnitudes of the coefficients for Old * AFAB now Transgender are notably very large, especially for log of household income. For example, in Table 12, adding up the coefficients on AFAB now Transgender, Old, and Old * AFAB now Transgender yields a coefficient of -0.621. Transforming this by exponentiating the additive coefficients, I can interpret that being an old AFAB now transgender individual in comparison to a young cisgender man is associated with a 46.26% decrease in household income. Similarly, being an old AFAB now transgender individual in comparison to a young AFAB now transgender individual is associated with a 34.75% decrease in income. However, these results should be taken with much caution; for the log of income outcome, running a t-test on the coefficients for AFAB now Transgender and Old * AFAB now Transgender in both the full sample (Table 13) and the AFAB restricted sample (top panel of Table 13a) yielded p-values

of 0.1243 and 0.1054 respectively. Similar t-tests between the young and old coefficients for income proved statistically significant at the 1% level for only the AFAB now None and Cisgender Women categories, indicating that only these groups are different populations when split across age. For the outcome of poverty, a similar t- test reveals significance at the 1% level for AFAB now Transgender.

These are interesting findings in light of results from Schilt and Wiswall (2008) that suggest that MTFs transition roughly 10 years later than FTMs. We could read the significant penalties—which are especially salient for income—for old AFAB now transgender individuals in comparison to their younger counterparts as consistent with the story that shortly after the onset of transition, AFAB individuals who transition much later in life fare worse than those who transition earlier. Given that the interaction terms for Old * AFAB now Male in Table 13a are not statistically significant whereas the coefficients for AFAB now Male indicate significantly better outcomes than cisgender women, it seems that AFAB individuals furthest along in their transition also fare better at younger ages. Turning to AMAB individuals, the fact that none of the interaction terms on the various AMAB gender categories are statistically significant in Table 13 could be read that older non-cisgender AMAB individuals are faring about the same as young cisgender men, although this is not conclusive given the relatively large standard errors. Even more complicating is their insignificant difference in comparison to young cisgender women, as seen in the bottom panel of Table 13b. Again, while we have no way of ascertaining transition timings, this evidence all taken together seems to align with a narrative that Schilt and Wiswall (2008) suggest: that MTFs strategically delay transitions in order to avoid workplace losses, whereas FTMs are likely to transition earlier due to the expectation of workplace gains. I thus find suggestive evidence that FTMs who delay their transitions fall behind in their workplace outcomes considerably in comparison to FTMs who

transition much earlier, and some limited support for the idea that MTFs who delay their transitions benefit economically.

In one other view, the interaction on old could be read as estimating the effects for two populations that grew up and began working in much different societal environments. In this view, the different birth cohorts would be picking up differences not just in education and experience, but also generational differences like societal attitudes towards and institutional support for transgender people. That said, the evidence does not seem to support this view given the vastly different effects observed between AMAB and AFAB non-cisgender categories. Given the background literature that highlights how FTMs might face better societal attitudes and better medical transition outcomes, my results seem incongruent; it does not make sense that older AMAB non-cisgender individuals are not necessarily faring worse, whereas older AFAB non-cisgender individuals are faring worse.

7.2 Other Interaction Effects

Table 14 reports results from a similarly specified model with interactions on the variable "Urban", which represents whether the respondent resides in one of the 15 most populous metropolitan statistical areas (MSAs), ranging from New York-Newark-Jersey City (most populous) to Seattle-Tacoma-Bellevue (15th most populous). Only the coefficients on the interaction terms for Cisgender Women are statistically significant, and I cannot conclusively discuss the effect of residing in an urban area for the other gender categories. I observe statistically significant coefficients for the main effects of the different gender categories across the various outcomes; non-urban AFAB now Male respondents and non-urban AMAB now None respondents do not (for the most part) have statistically different outcomes in comparison to non-urban cisgender men. In contrast, I observe significantly worse outcomes for the other non-urban gender categories, a result that aligns with what we should expect.

Table 15 reports results from a model including interaction effects with the variable "Trans Rights". This continuous variable is coded to reflect an index from lgbtmap.org that tracks various formal state level policies that either support or harm gender minorities. The variable matches this index to the state a respondent resides in, and the index is constructed from an additive tally that adds or subtracts a point for each positive or negative policy; the range of this value varies from -8.75 to 21.75. Given that the variable is coded at the state level, I omit state fixed effects from the model due to theoretical concerns. This raises the major concern that the coefficients on the Trans Rights variable captures the effects of legal or formal measures of institutional transgender support or discrimination, but not other state-varying effects that are correlated with the outcomes. Given that Trans Rights is a measure of formal policies that are recent as April 2023, and that the last week of survey data is from February 2023, timing issues are also important to note. Beyond this, we should consider that formal policies could be taken as a lagged indicator of unobservables that are correlated with the outcomes; perhaps formal laws take non-trivial times to materialize impacts on transgender peoples' socioeconomic outcomes. The coefficients on Trans Rights are interpreted as the impact of one additional policy benefiting transgender people. The results in Table 14 seem to indicate that the policies tracked under Trans Rights either have insignificant effects, or effects that have not yet materialized. However, given the theoretical concerns and the generally insignificant interactions in Table 15, I cannot conclusively assess the impact of formal state-level transgender policies.

Table 16 reports results for interaction effects with the variable "Remote", which is a dummy indicator for whether anyone in the respondent's household conducted telework or worked from home in the past 7 days. I restrict the sample to those who are employed (where the variable for employed=1) in order to ensure that I am comparing households that conducted remote work only to other individuals who are employed; as a result, only 5 outcome variables

are reported, and the outcome for employed is omitted. I find that the interaction terms are only statistically significant across outcomes for the categories Cisgender Women and AFAB now None. Conducting t-tests between the main effect for a gender category and its interaction term with Remote, I find that the same two gender categories are significantly different across all outcomes. In addition, the coefficients on AFAB now Transgender and corresponding interaction terms are significantly different for the outcomes of poverty and Medicaid. The statistical significance of most interaction terms for the poverty outcome suggests that remote work is generally associated with lower likelihoods of poverty for those who are not cisgender men. I interpret these results as evidence that for AFAB now none workers, conducting remote work is associated with better socioeconomic outcomes. For most of the outcomes, the sum of coefficients for Remote and Remote * AFAB now None are roughly equal in magnitude but opposite in sign to the main effect coefficients for AFAB now None; this suggests that AFAB now None remote workers experience similar outcomes to non-remote cisgender male workers.

8. Conclusion

This paper began with a replication of Carpenter et al.'s (2022) study of the economic outcomes of transgender people that used a large, nationally representative sample of adults the Census Bureau's Household Pulse Survey (HPS). Using newer survey data, I essentially expanded the sample size of their study in order to find more precise results, and found some notable discrepancies.

Firstly, I found stronger evidence for the effect of race for the pooled category of non-cisgender individuals. Non-white AMAB non-cisgender individuals (that is, across all non-white race/ethnic categories) were observed to have significantly lower household incomes than white AMAB non-cisgender individuals. I highlighted this result as being consistent with literature from intersectional studies that argue that, for example, the intersections of

marginalized race and gender create experiences that are not merely doubly disadvantaged, but differentiated by an altogether different experience. As far as income is concerned, I thus present suggestive evidence that this is so when it comes to the intersections of marginalized races and gender minorities.

In my additional analysis on the effect of age, I found evidence consistent with the narrative that FTMs who delay their transitions fall behind in their workplace outcomes considerably in comparison to FTMs who transition much earlier, and some limited support for the idea that MTFs who delay their transitions benefit economically.

Most importantly, I found a discrepancy associated with the group of AMAB now transgender individuals, which Carpenter et al. (2022) and I all maintain as a group that is plausibly more likely to be consisted of individuals who are at an early stage in their gender affirmation processes (e.g. social or medical transition). Where the original authors found that this group experienced economic outcomes more similar to that of cisgender men, I found consistent penalties in relation to cisgender men such that this group experienced economic outcomes more similar to that of cisgender women.

I then argued that AMAB now transgender individuals actually experience adverse outcomes because they face transgender penalties—this group is thus not benefitting from some kind of proximity to maleness. While both AMAB and AFAB now transgender individuals experience adverse outcomes comparable to that of cisgender women (relative to cisgender men), I hypothesized that AMAB individuals experience more effects related to their transgender status, and AFAB individuals experience more traditional gender wage gap effects related to their female sex assigned at birth.

Transgender status related effects could be greater for AMAB rather than AFAB now transgender individuals given that the former group's identification is viewed with greater stigma, AMAB individuals face more challenges with regards to passing, and these differences

could further be correlated with differences in mental health outcomes. Traditional gender wage gap related effects could be greater for AFAB rather than AMAB now transgender individuals if these individuals are sorting into industries in ways similar to their same-sex cisgender counterparts; if these groups are earlier in the transition periods, it is likely that these past labour market decisions are sticky in the short run, and thus have a greater effect for those earlier in transition.

While I found inconclusive results for the transgender status related effects (specifically mental health), I did find suggestive evidence that some of the penalties experienced by AFAB transgender individuals can be explained by labour market behaviour that aligns with their cisgender women counterparts. The notable data limitations and theoretical concerns I discuss throughout this paper precludes any causal conclusions, but the consistency of the results with my hypothesis that is supported by outside literature gives me greater confidence. These results are indifferent to the role of employer discrimination, leaving open several explanations for exactly how labour market behaviour traditionally associated with cisgender women contributes to the adverse economic outcomes of AFAB transgender workers; this opens up another avenue of further research.

Although it is difficult to generalize the experiences of, for example, AFAB transgender individuals, the main findings of this paper suggest that traditional gender norms play an important role in determining their economic outcomes. I stress again, these results do **not** invalidate the identities of these transgender individuals, but merely descriptively suggests that sex assigned at birth in a cisgender-normative world has influential effects. For a male-identifying or transmasculine AFAB individual, growing up as, being socialized as, or being consistently perceived as a woman by a cisgender-normative society is likely to spell many implications, and no less in the economic sphere.

The persistent effect that traditional gender norms have for AFAB transgender individuals point to the broader implications that the traditional gender wage gap has. Ultimately, my conclusions should urge a broader approach to transgender advocacy, support, and policymaking; improvements for women vis-à-vis the traditional gender wage gap could spell improvements for AFAB transgender individuals. In a limited sense, these implications are consistent with calls for intersectional allyship observed in many contemporary identity politics movements.

Additionally, what this study should highlight for future research is the pressing need for better data related to non-cisgender populations. Potential improvements include data that tracks: the timing and extent of social and medical transitions, gender identity categories more broadly semantically consistent with contemporary usage (colloquially and academically), how individuals publicly identify in their work and daily lives, and how individuals express and present their gender within these spheres.

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10. Results Tables

10.1 Replicated Results Tables

Table 1a: Descriptive Statistics, Household Pulse waves 3.2-3.4, 18-64 year olds, individuals Assigned Female at Birth

VARIABLES	(1) Cisgender women	(2) Individuals AFAB who are not cisgender	(3) Individuals AFAB whose current gender is male	(4) Individuals AFAB whose current gender is transgender	(5) Individuals AFAB whose current gender is 'None of these'
Age	42.694	32.831	28.183	27.811	35.930
	(12.462)	(11.966)	(10.109)	(7.958)	(12.774)
White, non-Hispanic	0.610	0.587	0.664	0.639	0.552
	(0.488)	(0.492)	(0.473)	(0.481)	(0.497)
Gay or lesbian	0.023	0.146	0.263	0.186	0.110
	(0.150)	(0.353)	(0.441)	(0.390)	(0.312)
Bisexual	0.074	0.280	0.460	0.417	0.189
	(0.262)	(0.449)	(0.499)	(0.493)	(0.392)
Partnered (Married)	0.531	0.266	0.232	0.141	0.332
	(0.499)	(0.442)	(0.423)	(0.348)	(0.471)
Less than high school	0.066	0.104	0.142	0.107	0.098
	(0.248)	(0.306)	(0.349)	(0.309)	(0.297)
High school	0.239	0.225	0.212	0.212	0.234
	(0.427)	(0.418)	(0.410)	(0.409)	(0.423)
Some college	0.208	0.286	0.324	0.308	0.270
	(0.406)	(0.452)	(0.469)	(0.462)	(0.444)
College or more	0.487	0.385	0.322	0.374	0.398
	(0.500)	(0.487)	(0.468)	(0.484)	(0.490)
# of adults in HH	2.601	2.910	3.375	3.074	2.766
	(1.170)	(1.423)	(1.615)	(1.494)	(1.335)
Any children in HH	0.459	0.298	0.157	0.227	0.352
	(0.498)	(0.457)	(0.364)	(0.419)	(0.478)
Any employment	0.668	0.603	0.660	0.602	0.597
	(0.471)	(0.489)	(0.474)	(0.490)	(0.491)
Household income	83,188	63,888	89,472	64,477	60,159
	(72,984)	(65,533)	(89,412)	(65,108)	(61,054)
Below federal poverty guidelines	0.216	0.322	0.258	0.306	0.339
	(0.411)	(0.467)	(0.438)	(0.461)	(0.473)
Medicaid receipt	0.220	0.274	0.140	0.280	0.289
	(0.414)	(0.446)	(0.348)	(0.449)	(0.454)
SNAP receipt	0.170	0.210	0.123	0.199	0.228
	(0.376)	(0.408)	(0.329)	(0.399)	(0.419)
Food insecure	0.114	0.198	0.206	0.197	0.197

	(0.318)	(0.398)	(0.405)	(0.398)	(0.398)
Observations	253,049	4,368	290	1,085	2,993

Weighted means (standard deviations). Note average household income and poverty status are determined using the midpoint of each household income range or the 95th percentile of annual household income for those who reported the highest income category; percent of poverty is calculated by dividing household income by household size specific U.S. Census Bureau poverty thresholds, following Conron et al. (2012).

Table 1b: Descriptive Statistics, Household Pulse waves 3.2-3.4, 18-64 year olds, individuals Assigned Male at Birth

VARIABLES	(1) Cisgender men	(2) Individuals AMAB who are not cisgender	(3) Individuals AMAB whose current gender is female	(4) Individuals AMAB whose current gender is transgender	(5) Individuals AMAB whose current gender is 'None of these'
Age	42.623	36.114	32.546	33.353	38.186
	(12.691)	(12.450)	(10.976)	(11.632)	(12.704)
White, non-Hispanic	0.627	0.605	0.628	0.643	0.583
	(0.484)	(0.489)	(0.484)	(0.479)	(0.493)
Gay or lesbian	0.050	0.167	0.285	0.245	0.104
	(0.219)	(0.373)	(0.452)	(0.431)	(0.305)
Bisexual	0.030	0.196	0.340	0.317	0.109
	(0.171)	(0.397)	(0.474)	(0.466)	(0.311)
Partnered (Married)	0.562	0.329	0.274	0.234	0.384
	(0.496)	(0.470)	(0.447)	(0.424)	(0.487)
Less than high school	0.067	0.121	0.208	0.132	0.096
	(0.251)	(0.326)	(0.407)	(0.339)	(0.295)
High school	0.299	0.294	0.219	0.285	0.315
	(0.458)	(0.456)	(0.415)	(0.452)	(0.464)
Some college	0.217	0.270	0.372	0.272	0.246
	(0.412)	(0.444)	(0.484)	(0.445)	(0.431)
College or more	0.416	0.315	0.200	0.310	0.344
	(0.493)	(0.465)	(0.401)	(0.463)	(0.475)
# of adults in HH	2.646	3.160	3.221	3.021	3.209
	(1.244)	(1.807)	(1.633)	(1.582)	(1.935)
Any children in HH	0.395	0.340	0.332	0.285	0.367
	(0.489)	(0.474)	(0.472)	(0.452)	(0.482)
Any employment	0.749	0.627	0.584	0.614	0.642
	(0.434)	(0.484)	(0.494)	(0.487)	(0.479)
Household income	97,253	74,278	68,053	73,566	76,028
	(78,672)	(76,633)	(76,955)	(75,352)	(77,110)
Below federal poverty guidelines	0.153	0.308	0.337	0.291	0.309
	(0.360)	(0.462)	(0.474)	(0.455)	(0.462)
Medicaid receipt	0.124	0.217	0.325	0.221	0.190
	(0.329)	(0.412)	(0.469)	(0.415)	(0.393)
SNAP receipt	0.103	0.169	0.290	0.153	0.148
	(0.304)	(0.375)	(0.455)	(0.360)	(0.355)
Food insecure	0.095	0.228	0.267	0.280	0.195
	(0.293)	(0.420)	(0.443)	(0.449)	(0.397)

Observations	159,573	2,528	302	681	1,545

Weighted means (standard deviations). Note average household income and poverty status are determined using the midpoint of each household income range or the 95th percentile of annual household income for those who reported the highest income category; percent of poverty is calculated by dividing household income by household size specific U.S. Census Bureau poverty thresholds, following Conron et al. (2012).

Table 2a: Multinomial Logit Models Show that Age, Race, and Sexual Orientation Strongly Predict Gender Minority Status for Individuals Assigned Female at Birth, Household Pulse waves 3.2-3.4, 18-64 year olds

VARIABLES	(1) AFAB, now Male	(2) AFAB, now Transgender	(3) AFAB, now 'None of these'
Age	-0.182***	-0.086***	-0.061***
	(0.068)	(0.032)	(0.018)
Age squared	0.002**	0.000	0.001***
	(0.001)	(0.000)	(0.000)
Urban	-0.136	-0.018	0.072
	(0.324)	(0.154)	(0.087)
Less than high school	0.891*	0.440**	0.302**
	(0.456)	(0.209)	(0.147)
Some college	0.240	-0.043	-0.039
	(0.309)	(0.168)	(0.086)
Associates degree	0.237	0.054	-0.186*
	(0.416)	(0.271)	(0.108)
Bachelors degree	0.093	0.133	-0.172**
	(0.290)	(0.171)	(0.086)
Graduate degree	0.587*	0.099	-0.139
	(0.319)	(0.192)	(0.090)
Gay or lesbian	4.263***	4.662***	2.133***
	(0.289)	(0.277)	(0.108)
Bisexual	3.152***	3.875***	1.421***
	(0.300)	(0.262)	(0.086)
Something else' sexual orientation	3.733***	5.241***	3.124***
	(0.323)	(0.262)	(0.083)
I don't know' sexual orientation	2.715***	3.379***	1.922***
	(0.351)	(0.338)	(0.130)
Married	-0.126	-0.745***	-0.355***
	(0.399)	(0.134)	(0.084)
Widowed	0.286	1.271***	0.527***
	(0.604)	(0.382)	(0.167)
Divorced	0.061	-0.107	-0.228**
	(0.497)	(0.187)	(0.108)
Separated	0.200	0.260	0.006
	(0.520)	(0.331)	(0.151)
Black	-0.336	-0.346*	0.426***
	(0.295)	(0.199)	(0.086)
Asian	-0.824*	-0.306	0.203
	(0.444)	(0.225)	(0.135)

Mixed/other	0.645**	0.614***	0.583***
	(0.305)	(0.180)	(0.101)
Hispanic	0.003	-0.101	-0.043
	(0.322)	(0.164)	(0.096)
Observations	346,675	346,675	346,675

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 2b: Multinomial Logit Models Show that Minority Sexual Orientation is the Strongest Independent Predictor of Gender Minority Status for Individuals Assigned Male at Birth, Household Pulse waves 3.2-3.4, 18-64 year olds

VARIABLES	(1) AMAB, now Female	(2) AMAB, now Transgender	(3) AMAB, now 'None of these'
Age	0.019	-0.069**	-0.014
	(0.063)	(0.035)	(0.025)
Age squared	-0.001	0.001	0.000
	(0.001)	(0.000)	(0.000)
Urban	0.432	-0.427**	-0.115
	(0.317)	(0.213)	(0.130)
Less than high school	1.033***	0.650**	-0.035
	(0.370)	(0.279)	(0.185)
Some college	0.439	-0.028	-0.230*
	(0.274)	(0.200)	(0.136)
Associates degree	-0.032	-0.330	-0.095
	(0.329)	(0.275)	(0.168)
Bachelors degree	-0.282	-0.145	-0.315**
	(0.268)	(0.193)	(0.136)
Graduate degree	-0.401	0.155	0.065
	(0.301)	(0.217)	(0.135)
Gay or lesbian	3.842***	4.275***	1.701***
	(0.425)	(0.271)	(0.230)
Bisexual	4.224***	4.772***	2.178***
	(0.385)	(0.252)	(0.141)
Something else' sexual orientation	4.357***	5.537***	4.153***
	(0.434)	(0.258)	(0.122)
I don't know' sexual orientation	3.821***	3.891***	3.618***
	(0.537)	(0.401)	(0.121)
Married	0.002	-0.412**	0.100
	(0.320)	(0.177)	(0.120)
Widowed	1.956***	0.967**	1.394***
	(0.600)	(0.434)	(0.307)
Divorced	0.735**	0.017	0.432**
	(0.351)	(0.234)	(0.203)
Separated	1.119*	0.949**	0.337
	(0.610)	(0.385)	(0.235)
Black	0.279	0.657**	0.332**
	(0.387)	(0.256)	(0.158)
Asian	0.174	-0.180	-0.043
	(0.663)	(0.270)	(0.168)

Mixed/other	0.567*	0.306	0.666***
	(0.321)	(0.206)	(0.132)
Hispanic	-0.303	0.209	-0.142
	(0.315)	(0.211)	(0.133)
Observations	218,010	218,010	218,010

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 3: Individuals who are Not Cisgender are Significantly Less Likely to be Employed, Household Pulse waves 3.2-3.4, 18-64 year olds

VARIABLES	(1) Outcome is employed; sample is all individuals	(2) Outcome is employed; sample is individuals AFAB	(3) Outcome is employed; sample is individuals AMAB
Mean of outcome:	0.677	0.639	0.717
Model 1:			
Cisgender Woman	-0.093***		
	(0.003)		
AFAB not Cisgender	-0.121***	-0.049***	
	(0.013)	(0.013)	
AMAB not Cisgender	-0.085***		-0.060***
	(0.018)		(0.019)
Observations	550,981	337,972	213,009
Model 2:			
Cisgender Woman	-0.093***		
	(0.003)		
AFAB now Male	-0.065	0.002	
	(0.056)	(0.058)	
AFAB now Transgender	-0.108***	-0.045*	
	(0.026)	(0.026)	
AFAB now None of these	-0.134***	-0.056***	
	(0.014)	(0.014)	
AMAB now Female	-0.127***		-0.101**
	(0.049)		(0.050)
AMAB now Transgender	-0.068**		-0.033
	(0.032)		(0.032)
AMAB now None of these	-0.084***		-0.064***
	(0.023)		(0.023)
Observations	550,981	337,972	213,009

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 4: Some Groups of Non-Cisgender Individuals Have Worse Economic Outcomes — Especially Individuals who Describe Their Gender as 'None of these', Household Pulse waves 3.2-3.4, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB individuals, excluded category is cisgender women						
Mean of outcome:	0.639	83,702	0.214	0.223	0.101	0.118
AFAB now Male	0.002	0.278*	-0.074	-0.097***	-0.095***	0.055
	(0.058)	(0.154)	(0.059)	(0.037)	(0.033)	(0.050)
AFAB now Transgender	-0.045*	0.079	-0.036	0.008	-0.015	0.031
	(0.026)	(0.066)	(0.029)	(0.027)	(0.024)	(0.023)
AFAB now None of these	-0.056***	-0.110***	0.040***	0.035**	0.027*	0.049***
	(0.014)	(0.030)	(0.015)	(0.015)	(0.014)	(0.013)
Observations	337,972	275,443	275,443	281,942	307,596	310,672
Sample is AMAB individuals, excluded category is cisgender men						
Mean of outcome:	0.717	97,965	0.154	0.128	0.047	0.102
AMAB now Female	-0.101**	-0.150	0.081	0.159***	0.143***	0.118**
	(0.050)	(0.130)	(0.066)	(0.055)	(0.054)	(0.053)
AMAB now Transgender	-0.033	-0.050	0.048	0.064*	0.045	0.075**
	(0.032)	(0.072)	(0.031)	(0.037)	(0.036)	(0.033)
AMAB now None of these	-0.064***	-0.138***	0.078***	0.010	0.005	0.055***
	(0.023)	(0.044)	(0.025)	(0.019)	(0.018)	(0.020)
Observations	213,009	174,544	174,544	175,875	194,608	196,424

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 5: Alternative Comparison Groups Reveal Interesting Patterns Suggestive of Importance of both Gender and Non-Cisgender Status, Household Pulse waves 3.2-3.4, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals and cisgender men, excluded category is cisgender men						
Mean of outcome:	0.716	97,583	0.155	0.130	0.048	0.102
AFAB now Male	-0.041	0.048	0.028	0.007	-0.025	0.069
	(0.055)	(0.150)	(0.055)	(0.034)	(0.030)	(0.050)
AFAB now Transgender	-0.075***	-0.152**	0.067**	0.118***	0.056**	0.036
	(0.027)	(0.067)	(0.028)	(0.028)	(0.025)	(0.024)
AFAB now None of these	-0.112***	-0.325***	0.130***	0.140***	0.102***	0.057***

	(0.015)	(0.030)	(0.016)	(0.016)	(0.015)	(0.014)
Observations	215,309	176,456	176,456	177,882	196,691	198,527
Sample is AMAB non-cisgender individuals and cisgender women, excluded category is cisgender women						
Mean of outcome:	0.639	83,999	0.213	0.222	0.101	0.118
AMAB now Female	-0.053	0.093	-0.031	0.038	0.050	0.103**
	(0.048)	(0.132)	(0.068)	(0.061)	(0.051)	(0.051)
AMAB now Transgender	0.001	0.182***	-0.058*	-0.045	-0.033	0.071**
	(0.032)	(0.070)	(0.031)	(0.038)	(0.035)	(0.031)
AMAB now None of these	-0.005	0.070*	-0.013	-0.084***	-0.067***	0.056***
	(0.023)	(0.042)	(0.023)	(0.019)	(0.017)	(0.020)
Observations	335,672	273,531	273,531	279,935	305,513	308,569

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 6: Non-Cisgender Black Individuals Have Significantly Worse Economic Outcomes than Non-Cisgender White Individuals, Household Pulse waves 3.2-3.4, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals						
Mean of outcome:	0.572	64,705	0.320	0.276	0.141	0.200
Black	-0.070*	-0.218**	0.076*	0.086**	0.149***	0.144***
	(0.036)	(0.093)	(0.045)	(0.042)	(0.037)	(0.038)
Asian	-0.030	0.096	-0.075	-0.061	0.007	-0.021
	(0.049)	(0.103)	(0.054)	(0.051)	(0.051)	(0.041)
Other Race	-0.032	0.016	0.057	0.042	0.042	0.144***
	(0.036)	(0.108)	(0.046)	(0.041)	(0.036)	(0.037)
Hispanic	-0.031	-0.185**	0.055	0.062	-0.006	0.039
	(0.034)	(0.093)	(0.042)	(0.039)	(0.034)	(0.032)
Observations	5,738	4,576	4,576	4,787	5,130	5,189
Sample is AMAB non-cisgender individuals						
Mean of outcome:	0.579	75,148	0.302	0.217	0.120	0.240
Black	-0.138***	-0.138*	0.067	0.110**	0.173***	0.077
	(0.051)	(0.074)	(0.060)	(0.055)	(0.047)	(0.054)
Asian	-0.031	-0.180**	-0.112	0.102	0.077	-0.033
	(0.055)	(0.080)	(0.070)	(0.077)	(0.065)	(0.060)
Other Race	-0.039	-0.047	0.029	-0.021	-0.007	0.142***
	(0.045)	(0.062)	(0.044)	(0.042)	(0.045)	(0.046)
Hispanic	-0.030	-0.163***	0.099**	0.047	0.070*	0.035
	(0.040)	(0.060)	(0.045)	(0.047)	(0.041)	(0.038)
Observations	3,438	2,664	2,664	2,780	3,047	3,086

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

10.2 Refreshed Results: Replication Results Estimated with Updated Data

Table 1a*: Descriptive Statistics, Household Pulse waves 3.2-3.4, 18-64 year olds, individuals Assigned Female at Birth

VARIABLES	(1) Cisgender women	(2) Individuals AFAB who are not cisgender	(3) Individuals AFAB whose current gender is male	(4) Individuals AFAB whose current gender is transgender	(5) Individuals AFAB whose current gender is 'None of these'
Age	42.684	32.743	28.450	28.012	35.707
	(12.444)	(11.689)	(9.811)	(7.838)	(12.552)
White, non-Hispanic	0.606	0.575	0.632	0.622	0.544
	(0.489)	(0.494)	(0.483)	(0.485)	(0.498)
Gay or lesbian	0.023	0.134	0.233	0.175	0.101
	(0.151)	(0.341)	(0.423)	(0.380)	(0.301)
Bisexual	0.078	0.270	0.409	0.384	0.194
	(0.268)	(0.444)	(0.492)	(0.486)	(0.395)
Partnered (Married)	0.530	0.259	0.194	0.171	0.311
	(0.499)	(0.438)	(0.396)	(0.377)	(0.463)
Less than high school	0.065	0.087	0.112	0.085	0.085
	(0.247)	(0.282)	(0.316)	(0.279)	(0.279)
High school	0.241	0.243	0.209	0.213	0.262
	(0.428)	(0.429)	(0.407)	(0.410)	(0.440)
Some college	0.208	0.283	0.325	0.307	0.265
	(0.406)	(0.450)	(0.469)	(0.462)	(0.441)
College or more	0.486	0.387	0.354	0.394	0.388
	(0.500)	(0.487)	(0.479)	(0.489)	(0.487)
# of adults in HH	2.594	2.907	3.107	3.082	2.791
	(1.170)	(1.442)	(1.513)	(1.507)	(1.386)
Any children in HH	0.459	0.297	0.210	0.206	0.355
	(0.498)	(0.457)	(0.408)	(0.405)	(0.478)
Any employment	0.673	0.630	0.664	0.646	0.617
	(0.469)	(0.483)	(0.473)	(0.478)	(0.486)
Household income	84,376	63,053	82,964	63,876	60,017
	(73,595)	(63,822)	(82,371)	(64,960)	(59,858)
Below federal poverty guidelines	0.211	0.309	0.256	0.300	0.321
	(0.408)	(0.462)	(0.437)	(0.458)	(0.467)
Medicaid receipt	0.231	0.275	0.150	0.261	0.298
	(0.422)	(0.446)	(0.358)	(0.439)	(0.457)
SNAP receipt	0.169	0.205	0.102	0.178	0.232
	(0.375)	(0.404)	(0.303)	(0.382)	(0.422)
Food insecure	0.124	0.210	0.220	0.217	0.204
	(0.330)	(0.407)	(0.415)	(0.413)	(0.403)
Observations	416,316	7,830	545	2,103	5,182

Table 1b*: Descriptive Statistics, Household Pulse waves 3.2-3.4, 18-64 year olds, individuals Assigned Male at Birth

VARIABLES	(1) Cisgender men	(2) Individuals AMAB who are not cisgender	(3) Individuals AMAB whose current gender is female	(4) Individuals AMAB whose current gender is transgender	(5) Individuals AMAB whose current gender is 'None of these'
Age	42.608	35.578	32.371	33.067	37.565
	(12.704)	(12.454)	(11.080)	(11.231)	(12.950)
White, non-Hispanic	0.625	0.602	0.660	0.674	0.552
	(0.484)	(0.490)	(0.474)	(0.469)	(0.497)
Gay or lesbian	0.050	0.167	0.288	0.237	0.105
	(0.218)	(0.373)	(0.453)	(0.425)	(0.306)
Bisexual	0.032	0.207	0.373	0.309	0.119
	(0.176)	(0.406)	(0.484)	(0.462)	(0.324)
Partnered (Married)	0.566	0.304	0.262	0.201	0.366
	(0.496)	(0.460)	(0.440)	(0.401)	(0.482)
Less than high school	0.065	0.116	0.138	0.127	0.105
	(0.246)	(0.320)	(0.345)	(0.333)	(0.307)
High school	0.305	0.302	0.225	0.324	0.307
	(0.460)	(0.459)	(0.418)	(0.468)	(0.461)
Some college	0.216	0.277	0.387	0.269	0.258
	(0.412)	(0.448)	(0.487)	(0.444)	(0.438)
College or more	0.414	0.305	0.249	0.281	0.329
	(0.493)	(0.460)	(0.433)	(0.449)	(0.470)
# of adults in HH	2.632	3.192	2.978	3.335	3.163
	(1.236)	(1.863)	(1.477)	(2.072)	(1.816)
Any children in HH	0.395	0.309	0.269	0.249	0.349
	(0.489)	(0.462)	(0.444)	(0.433)	(0.477)
Any employment	0.758	0.643	0.628	0.609	0.664
	(0.428)	(0.479)	(0.484)	(0.488)	(0.473)
Household income	99,528	73,845	69,014	65,004	79,467
	(79,491)	(74,809)	(73,100)	(70,506)	(76,826)
Below federal poverty guidelines	0.145	0.294	0.309	0.361	0.256
	(0.352)	(0.456)	(0.463)	(0.480)	(0.437)
Medicaid receipt	0.130	0.226	0.276	0.286	0.184
	(0.337)	(0.418)	(0.447)	(0.452)	(0.388)
SNAP receipt	0.100	0.160	0.227	0.167	0.141
	(0.300)	(0.366)	(0.419)	(0.374)	(0.348)
Food insecure	0.101	0.230	0.230	0.259	0.216
	(0.301)	(0.421)	(0.421)	(0.438)	(0.411)
Observations	272,149	4,440	561	1,256	2,623

Table 2a*: Multinomial Logit Models for Individuals Assigned Female at Birth, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) AFAB, now Male	(2) AFAB, now Transgender	(3) AFAB, now 'None of these'
Age	-0.177***	-0.054***	-0.107***
	(0.043)	(0.014)	(0.024)
Age squared	0.002***	0.001***	0.001*
	(0.001)	(0.000)	(0.000)
Urban	0.124	0.000	-0.155
	(0.226)	(0.067)	(0.119)
Less than high school	1.032***	0.157	0.459***
	(0.299)	(0.114)	(0.174)
Some college	0.109	-0.158**	-0.061
	(0.219)	(0.066)	(0.119)
Associates degree	0.237	-0.275***	0.040
	(0.300)	(0.087)	(0.182)
Bachelors degree	0.002	-0.279***	0.162
	(0.214)	(0.067)	(0.121)
Graduate degree	0.487**	-0.336***	0.040
	(0.230)	(0.069)	(0.134)
Gay or lesbian	3.869***	2.070***	4.827***
	(0.207)	(0.083)	(0.233)
Bisexual	2.770***	1.469***	3.908***
	(0.205)	(0.064)	(0.209)
Something else' sexual orientation	3.763***	3.167***	5.324***
	(0.212)	(0.064)	(0.209)
I don't know' sexual orientation	2.487***	1.964***	3.453***
	(0.292)	(0.097)	(0.268)
Married	-0.330	-0.411***	-0.549***
	(0.256)	(0.059)	(0.102)
Widowed	0.855*	0.462***	1.666***
	(0.496)	(0.141)	(0.390)
Divorced	0.180	-0.204**	-0.182
	(0.324)	(0.088)	(0.150)
Separated	-0.269	-0.223*	0.399
	(0.380)	(0.128)	(0.293)
Black	-0.428*	0.440***	-0.308**
	(0.224)	(0.066)	(0.148)
Asian	-0.175	0.218**	-0.420**
	(0.356)	(0.104)	(0.167)
Mixed/other	0.761***	0.562***	0.617***
	(0.216)	(0.075)	(0.130)
Hispanic	-0.035	-0.051	-0.065
	(0.228)	(0.074)	(0.115)
Observations	574,303	574,303	574,303

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 2b*: Multinomial Logit Models for Individuals Assigned Male at Birth, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) AMAB, now Female	(2) AMAB, now Transgender	(3) AMAB, now 'None of these'
Age	-0.020	-0.040*	-0.032
	(0.043)	(0.020)	(0.033)
Age squared	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Urban	0.315	0.025	-0.256*
	(0.222)	(0.102)	(0.150)
Less than high school	0.975***	0.275*	0.503**
	(0.292)	(0.144)	(0.216)
Some college	0.496**	-0.059	-0.073
	(0.203)	(0.097)	(0.148)
Associates degree	0.317	-0.110	-0.207
	(0.248)	(0.130)	(0.229)
Bachelors degree	-0.131	-0.192*	-0.308*
	(0.203)	(0.099)	(0.159)
Graduate degree	-0.204	0.071	-0.120
	(0.231)	(0.103)	(0.169)
Gay or lesbian	3.930***	1.785***	4.012***
	(0.291)	(0.157)	(0.227)
Bisexual	4.291***	2.218***	4.591***
	(0.269)	(0.102)	(0.206)
Something else' sexual orientation	4.523***	4.204***	5.525***
	(0.299)	(0.093)	(0.222)
I don't know' sexual orientation	3.667***	3.530***	3.829***
	(0.419)	(0.103)	(0.286)
Married	0.069	0.093	-0.599***
	(0.227)	(0.094)	(0.154)
Widowed	1.850***	1.392***	1.014***
	(0.496)	(0.233)	(0.323)
Divorced	0.733***	0.362**	0.043
	(0.252)	(0.146)	(0.198)
Separated	1.010**	0.114	0.742**
	(0.493)	(0.197)	(0.323)
Black	0.326	0.313***	0.334
	(0.286)	(0.121)	(0.204)
Asian	0.128	0.024	-0.295
	(0.515)	(0.143)	(0.215)
Mixed/other	0.446**	0.710***	0.317**
	(0.227)	(0.104)	(0.154)
Hispanic	-0.383	-0.099	0.152
	(0.234)	(0.098)	(0.158)
Observations	378,868	378,868	378,868

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 3*: Individuals who are Not Cisgender are Significantly Less Likely to be Employed, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Outcome is employed; sample is all individuals	(2) Outcome is employed; sample is individuals AFAB	(3) Outcome is employed; sample is individuals AMAB
Mean of outcome:	0.686	0.645	0.728
Model 1:			
Cisgender Woman	-0.096***		
	(0.002)		
AFAB not Cisgender	-0.123***	-0.046***	
	(0.010)	(0.010)	
AMAB not Cisgender	-0.079***		-0.056***
	(0.014)		(0.014)
Observations	930,113	560,015	370,098
Model 2:			
Cisgender Woman	-0.096***		
	(0.002)		
AFAB now Male	-0.085**	-0.012	
	(0.037)	(0.038)	
AFAB now Transgender	-0.102***	-0.032*	
	(0.019)	(0.019)	
AFAB now None of these	-0.137***	-0.055***	
	(0.011)	(0.011)	
AMAB now Female	-0.114***		-0.091**
	(0.035)		(0.035)
AMAB now Transgender	-0.084***		-0.053**
	(0.027)		(0.026)
AMAB now None of these	-0.071***		-0.052***
	(0.017)		(0.018)
Observations	930,113	560,015	370,098

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 4*: Some Groups of Non-Cisgender Individuals Have Worse Economic Outcomes — Especially Individuals who Describe Their Gender as 'None of these', Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB individuals, excluded category is cisgender women						
Mean of outcome:	0.645	85,075.636	0.208	0.235	0.106	0.129
AFAB now Male	-0.012	0.216**	-0.058	-0.117***	-0.109***	0.061*
	(0.038)	(0.097)	(0.038)	(0.026)	(0.022)	(0.034)
AFAB now Transgender	-0.032*	0.021	-0.021	-0.033	-0.031*	0.047***
	(0.019)	(0.043)	(0.020)	(0.022)	(0.016)	(0.017)
AFAB now None of these	-0.055***	-0.100***	0.028**	0.017	0.020*	0.044***
	(0.011)	(0.021)	(0.012)	(0.012)	(0.011)	(0.010)
Observations	560,015	458,146	458,146	461,411	512,191	516,633
Sample is AMAB individuals, excluded category is cisgender men						
Mean of outcome:	0.728	100,430.776	0.144	0.135	0.049	0.107
AMAB now Female	-0.091**	-0.160*	0.082*	0.110***	0.081**	0.114***
	(0.035)	(0.086)	(0.045)	(0.039)	(0.037)	(0.036)
AMAB now Transgender	-0.053**	-0.162***	0.100***	0.112***	0.031	0.069***
	(0.026)	(0.057)	(0.027)	(0.032)	(0.025)	(0.026)
AMAB now None of these	-0.052***	-0.058*	0.026	-0.001	-0.003	0.071***
	(0.018)	(0.034)	(0.018)	(0.015)	(0.014)	(0.017)
Observations	370,098	304,176	304,176	299,632	340,183	342,770

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 5*: Alternative Comparison Groups Reveal Interesting Patterns Suggestive of Importance of both Gender and Non-Cisgender Status, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals and cisgender men, excluded category is cisgender men						
Mean of outcome:	0.727	99,962.758	0.145	0.137	0.050	0.107
AFAB now Male	-0.064*	-0.011	0.034	-0.001	-0.034*	0.081**
	(0.037)	(0.096)	(0.036)	(0.024)	(0.020)	(0.035)
AFAB now Transgender	-0.076***	-0.206***	0.070***	0.086***	0.041**	0.065***
	(0.020)	(0.044)	(0.020)	(0.023)	(0.017)	(0.018)
AFAB now None of these	-0.118***	-0.325***	0.117***	0.137***	0.098***	0.065***
	(0.012)	(0.022)	(0.012)	(0.012)	(0.011)	(0.011)
Observations	374,359	307,686	307,686	303,283	344,031	346,648
Sample is AMAB non-cisgender individuals and cisgender women, excluded category is cisgender women						
Mean of outcome:	0.646	85,433.095	0.207	0.234	0.105	0.129
AMAB now Female	-0.036	0.080	-0.016	-0.019	-0.006	0.087**
	(0.034)	(0.087)	(0.046)	(0.042)	(0.036)	(0.035)
AMAB now Transgender	-0.009	0.078	-0.003	-0.017	-0.053**	0.048*
	(0.027)	(0.057)	(0.026)	(0.032)	(0.025)	(0.025)
AMAB now None of these	0.015	0.161***	-0.066***	-0.112***	-0.080***	0.054***
	(0.017)	(0.033)	(0.018)	(0.015)	(0.014)	(0.016)
Observations	555,754	454,636	454,636	457,760	508,343	512,755

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 6*: Non-Cisgender Black Individuals Have Significantly Worse Economic Outcomes than Non-Cisgender White Individuals, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals						
Mean of outcome:	0.584	63,787.423	0.307	0.272	0.145	0.214
Black	-0.088***	-0.225***	0.093***	0.104***	0.163***	0.135***
	(0.028)	(0.064)	(0.033)	(0.032)	(0.028)	(0.029)
Asian	-0.072*	0.051	-0.036	-0.023	0.023	-0.021
	(0.038)	(0.088)	(0.045)	(0.043)	(0.038)	(0.032)
Other Race	0.001	-0.028	0.066*	-0.010	0.042	0.129***
	(0.028)	(0.072)	(0.034)	(0.031)	(0.026)	(0.030)
Hispanic	-0.062**	-0.216***	0.083***	0.059**	0.032	0.069***
	(0.026)	(0.062)	(0.031)	(0.029)	(0.025)	(0.026)
Observations	10,307	8,265	8,265	8,514	9,290	9,377
Sample is AMAB non-cisgender individuals						
Mean of outcome:	0.599	75,035.46	0.286	0.226	0.103	0.245
Black	-0.094**	-0.159***	0.043	0.045	0.083**	0.072*
	(0.042)	(0.059)	(0.045)	(0.046)	(0.037)	(0.041)
Asian	-0.010	-0.131**	-0.075	-0.012	-0.027	-0.053
	(0.049)	(0.063)	(0.055)	(0.064)	(0.050)	(0.054)
Other Race	-0.055	-0.116***	0.039	-0.037	0.003	0.110***
	(0.037)	(0.044)	(0.035)	(0.033)	(0.031)	(0.036)
Hispanic	0.005	-0.135***	0.049	0.021	0.067**	0.107***
	(0.032)	(0.044)	(0.034)	(0.036)	(0.030)	(0.033)
Observations	6,046	4,755	4,755	4,863	5,442	5,499

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

10.3 Main Results: Testing for Sex Differentiated Mechanisms

Table 7: Predicting Signs of Anxiety and Depression by Gender Category, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Anxiety	(2) Depressed
Cisgender Woman	0.069***	0.024***
	(0.002)	(0.002)
AFAB now Male	0.104**	0.105**
	(0.042)	(0.042)
AFAB now Transgender	0.226***	0.165***
	(0.020)	(0.022)
AFAB now None of these	0.152***	0.122***
	(0.012)	(0.012)
AMAB now Female	0.162***	0.127***
	(0.039)	(0.040)
AMAB now Transgender	0.187***	0.219***
	(0.033)	(0.025)
AMAB now None of these	0.124***	0.124***
	(0.018)	(0.018)
Constant	0.221***	0.189***
	(0.017)	(0.016)
Observations	833,498	832,593

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 8: Full Sample, Three Way Interaction of All Gender Categories on Anxious (A) and Depressed (D), Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Cisgender Woman	-0.107***	-0.203***	0.060***	0.094***	0.059***	0.018***
	(0.003)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)
AFAB now Male	-0.139*	0.260*	-0.050	-0.050	-0.036	-0.004
	(0.072)	(0.155)	(0.037)	(0.035)	(0.031)	(0.027)
AFAB now Transgender	-0.153***	-0.212***	0.053	0.075***	0.034	0.022
	(0.034)	(0.078)	(0.033)	(0.028)	(0.022)	(0.019)
AFAB now None of these	-0.165***	-0.308***	0.083***	0.145***	0.110***	0.051***
	(0.018)	(0.028)	(0.017)	(0.019)	(0.017)	(0.013)
AMAB now Female	-0.223***	-0.170*	0.063	0.178**	0.083	0.027
	(0.054)	(0.103)	(0.087)	(0.079)	(0.078)	(0.043)
AMAB now Transgender	-0.080**	-0.076	0.020	0.014	0.006	0.031
	(0.033)	(0.074)	(0.031)	(0.025)	(0.023)	(0.024)
AMAB now None of these	-0.066***	-0.047	-0.000	-0.001	-0.014	0.026
	(0.024)	(0.038)	(0.020)	(0.019)	(0.016)	(0.016)
Anxious (A)	-0.049***	-0.137***	0.042***	0.040***	0.030***	0.078***
	(0.005)	(0.008)	(0.005)	(0.005)	(0.004)	(0.004)
Depressed (D)	-0.086***	-0.168***	0.040***	0.026***	0.025***	0.120***
	(0.006)	(0.010)	(0.005)	(0.005)	(0.005)	(0.005)
A * Cisgender Woman	0.036***	0.014	-0.009	-0.000	0.004	-0.012**
	(0.006)	(0.010)	(0.006)	(0.006)	(0.005)	(0.005)
A * AFAB now Male	-0.049	-0.372	0.067	0.082	0.092	-0.017
	(0.107)	(0.235)	(0.077)	(0.064)	(0.066)	(0.047)
A * AFAB now Transgender	0.140***	-0.028	0.038	0.019	0.002	0.018
	(0.050)	(0.105)	(0.055)	(0.049)	(0.038)	(0.039)
A * AFAB now None of these	0.065*	-0.071	0.058*	-0.012	0.002	-0.019
	(0.035)	(0.059)	(0.035)	(0.036)	(0.034)	(0.030)
A * AMAB now Female	0.182*	-0.081	0.061	-0.208**	-0.138*	0.096
	(0.093)	(0.170)	(0.117)	(0.089)	(0.083)	(0.073)
A * AMAB now Transgender	0.046	-0.115	0.038	0.015	-0.015	-0.006
	(0.059)	(0.101)	(0.061)	(0.047)	(0.038)	(0.063)
A * AMAB now None of these	-0.017	0.036	0.029	-0.013	0.011	-0.024
	(0.054)	(0.096)	(0.049)	(0.051)	(0.046)	(0.044)
D * Cisgender Woman	0.024**	-0.051***	0.050***	0.051***	0.046***	-0.008
	(0.010)	(0.017)	(0.010)	(0.010)	(0.009)	(0.009)
D * AFAB now Male	0.326***	-0.116	0.065	0.233*	0.042	0.047
	(0.116)	(0.348)	(0.139)	(0.122)	(0.088)	(0.140)
D * AFAB now Transgender	0.134	0.451**	-0.135	0.001	0.037	-0.050
	(0.127)	(0.207)	(0.088)	(0.119)	(0.117)	(0.085)
D * AFAB now None of these	0.032	0.111	-0.034	0.074	-0.041	-0.019
	(0.055)	(0.084)	(0.046)	(0.053)	(0.045)	(0.044)
D * AMAB now Female	0.169	-0.258	0.347**	-0.141	0.058	-0.022
	(0.143)	(0.298)	(0.136)	(0.142)	(0.144)	(0.128)
D * AMAB now Transgender	-0.148	-0.447	0.253**	0.350**	-0.077	-0.108
	(0.158)	(0.376)	(0.110)	(0.145)	(0.108)	(0.115)
D * AMAB now None of these	0.159*	0.122	-0.057	0.028	0.015	-0.055

	(0.088)	(0.150)	(0.084)	(0.064)	(0.094)	(0.070)
A * D * Cisgender Woman	-0.007	0.075***	-0.033***	-0.028***	-0.027***	0.010
	(0.009)	(0.016)	(0.009)	(0.009)	(0.009)	(0.008)
A * D * AFAB now Male	-0.124	0.088	-0.011	-0.279**	-0.177	0.098
	(0.154)	(0.416)	(0.171)	(0.139)	(0.111)	(0.161)
A * D * AFAB now Transgender	-0.177	-0.302	0.073	-0.048	-0.033	0.057
	(0.135)	(0.228)	(0.102)	(0.131)	(0.123)	(0.095)
A * D * AFAB now None of these	0.023	0.071	-0.015	-0.133**	-0.008	0.018
	(0.066)	(0.105)	(0.058)	(0.063)	(0.056)	(0.054)
A * D * AMAB now Female	-0.134	0.520	-0.465***	0.235	0.072	0.013
	(0.173)	(0.367)	(0.169)	(0.158)	(0.155)	(0.152)
A * D * AMAB now Transgender	0.126	0.640	-0.248*	-0.278*	0.122	0.134
	(0.170)	(0.389)	(0.127)	(0.157)	(0.119)	(0.135)
A * D * AMAB now None of these	-0.111	-0.124	0.045	-0.039	-0.018	0.159*
	(0.105)	(0.185)	(0.101)	(0.084)	(0.106)	(0.087)
Constant	0.400***	10.614***	0.140***	-0.051***	-0.196***	-0.180***
	(0.018)	(0.034)	(0.017)	(0.016)	(0.014)	(0.013)
Observations	830,044	760,630	760,630	759,226	828,568	830,154

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 9: Average Industry Wage Gaps by Gender Category, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Uncontrolled Gap	(2) Controlled Gap	(3) Fields Wolff Gap
Cisgender Woman	-0.002***	-0.003***	-0.024***
	(0.000)	(0.000)	(0.001)
AFAB now Male	-0.011**	-0.003	-0.013*
	(0.005)	(0.002)	(0.008)
AFAB now Transgender	-0.007**	0.000	-0.014***
	(0.003)	(0.002)	(0.005)
AFAB now None of these	-0.006***	-0.002*	-0.018***
	(0.002)	(0.001)	(0.003)
AMAB now Female	-0.004	-0.001	0.001
	(0.004)	(0.002)	(0.007)
AMAB now Transgender	-0.003	-0.001	-0.007
	(0.003)	(0.002)	(0.005)
AMAB now None of these	-0.000	0.002	0.004
	(0.003)	(0.002)	(0.005)
Constant	0.100***	0.028***	-0.076***
	(0.003)	(0.001)	(0.004)
Observations	175,294	175,294	175,294

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 10: Interacting All Gender Categories on the Uncontrolled Wage Gap (UG), Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Log of household income	(2) Below federal poverty guidelines	(3) Has Medicaid	(4) Participates in SNAP	(5) Food insecure
Cisgender Woman	-0.233***	0.072***	0.143***	0.064***	0.044***
	(0.022)	(0.010)	(0.011)	(0.009)	(0.009)
AFAB now Male	-0.590	0.187	-0.181*	-0.068	0.004
	(0.393)	(0.179)	(0.102)	(0.080)	(0.152)
AFAB now Transgender	-0.412*	0.153*	0.058	0.024	0.112
	(0.237)	(0.080)	(0.064)	(0.043)	(0.124)
AFAB now None of these	-0.447***	0.288***	0.186***	0.162**	0.098*
	(0.115)	(0.072)	(0.070)	(0.070)	(0.057)
AMAB now Female	-0.319	0.124	0.157	0.004	0.181
	(0.288)	(0.149)	(0.177)	(0.079)	(0.159)
AMAB now Transgender	-0.522***	0.242**	0.277**	0.161**	-0.147
	(0.170)	(0.107)	(0.132)	(0.081)	(0.120)
AMAB now None of these	-0.116	0.104	0.202**	-0.024	-0.024
	(0.165)	(0.076)	(0.079)	(0.034)	(0.107)
Uncontrolled Gap (UG)	1.601***	-0.196***	-0.006	0.005	-0.031
	(0.127)	(0.050)	(0.058)	(0.045)	(0.047)
UG * Cisgender Woman	0.128	-0.207***	-0.495***	-0.176***	-0.144**
	(0.160)	(0.069)	(0.080)	(0.064)	(0.065)
UG * AFAB now Male	4.694	-1.187	2.056*	0.412	1.042
	(2.972)	(1.424)	(1.092)	(0.640)	(1.282)
UG * AFAB now Transgender	1.431	-1.155**	-0.313	-0.417	-0.124
	(2.342)	(0.577)	(0.474)	(0.301)	(1.022)
UG * AFAB now None of these	1.415	-1.756***	-0.620	-0.859	-0.274
	(0.893)	(0.543)	(0.514)	(0.535)	(0.399)
UG * AMAB now Female	1.206	-0.878	-1.343	-0.208	-0.767
	(2.251)	(1.109)	(1.150)	(0.585)	(1.198)
UG * AMAB now Transgender	2.641**	-1.554*	-2.022**	-1.384**	2.093*
	(1.317)	(0.802)	(0.903)	(0.554)	(1.120)
UG * AMAB now None of these	1.372	-1.226**	-1.659***	-0.234	0.830
	(1.204)	(0.559)	(0.521)	(0.288)	(0.955)
Constant	9.987***	0.292***	0.025	-0.065**	-0.032
	(0.065)	(0.036)	(0.034)	(0.028)	(0.030)
Observations	150,629	150,629	143,723	167,346	168,055

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Linear probability models (except for income) with the standard controls including state and week fixed effects. Constant term represents estimates for the excluded category, cisgender men.

Table 11: Interacting All Gender Categories on the Controlled Wage Gap (CG), Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Log of household income	(2) Below federal poverty guidelines	(3) Has Medicaid	(4) Participates in SNAP	(5) Food insecure
Cisgender Woman	-0.225***	0.039***	0.070***	0.037***	0.023***
	(0.009)	(0.004)	(0.004)	(0.004)	(0.004)
AFAB now Male	-0.194	0.054	0.043	-0.022	0.122*
	(0.183)	(0.066)	(0.068)	(0.038)	(0.072)
AFAB now Transgender	-0.459***	0.049	0.076	-0.002	0.040
	(0.117)	(0.040)	(0.048)	(0.023)	(0.044)
AFAB now None of these	-0.255***	0.053	0.098***	0.072**	0.053*
	(0.058)	(0.033)	(0.031)	(0.031)	(0.028)
AMAB now Female	-0.113	0.045	-0.011	-0.033	0.080
	(0.107)	(0.072)	(0.044)	(0.030)	(0.073)
AMAB now Transgender	-0.137*	0.011	0.001	0.012	0.047
	(0.078)	(0.039)	(0.048)	(0.028)	(0.040)
AMAB now None of these	0.009	-0.001	0.043	-0.030**	0.024
	(0.078)	(0.027)	(0.031)	(0.013)	(0.035)
Controlled Gap (CG)	-1.424***	0.235**	0.039	-0.173*	0.001
	(0.320)	(0.117)	(0.128)	(0.095)	(0.113)
CG * Cisgender Woman	-0.058	0.771***	1.112***	0.448***	0.325*
	(0.414)	(0.199)	(0.214)	(0.163)	(0.173)
CG * AFAB now Male	5.356	0.615	-1.278	-0.320	-0.724
	(6.298)	(2.326)	(1.992)	(1.001)	(2.537)
CG * AFAB now Transgender	10.670	-1.076	-2.807**	-1.003	3.217*
	(6.720)	(1.713)	(1.144)	(0.796)	(1.713)
CG * AFAB now None of these	-3.092	2.750	1.257	-0.352	1.004
	(2.847)	(1.745)	(1.654)	(1.249)	(1.533)
CG * AMAB now Female	-5.031	-1.097	1.126	0.818	0.996
	(4.713)	(3.050)	(2.344)	(1.181)	(3.056)
CG * AMAB now Transgender	-5.641*	3.491*	2.852	-0.421	2.429
	(3.189)	(2.088)	(2.745)	(1.113)	(2.479)
CG * AMAB now None of these	1.659	-1.992**	-1.656**	-1.078***	2.435
	(2.200)	(0.788)	(0.736)	(0.368)	(1.907)
Constant	10.188***	0.266***	0.024	-0.059**	-0.036
	(0.064)	(0.036)	(0.034)	(0.026)	(0.029)
Observations	150,629	150,629	143,723	167,346	168,055

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Linear probability models (except for income) with the standard controls including state and week fixed effects. Constant term represents estimates for the excluded category, cisgender men.

Table 12: Interacting All Gender Categories on the Fields Wolff Gap (FWG), Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Log of household income	(2) Below federal poverty guidelines	(3) Has Medicaid	(4) Participates in SNAP	(5) Food insecure
Cisgender Woman	-0.251***	0.059***	0.101***	0.045***	0.029***
	(0.014)	(0.007)	(0.007)	(0.006)	(0.006)
AFAB now Male	-0.081	0.109	-0.160*	-0.044	0.154
	(0.258)	(0.097)	(0.093)	(0.055)	(0.114)
AFAB now Transgender	0.148	-0.015	0.036	-0.010	0.100
	(0.241)	(0.069)	(0.076)	(0.045)	(0.085)
AFAB now None of these	-0.371***	0.128**	0.027	0.063	0.068
	(0.092)	(0.056)	(0.047)	(0.045)	(0.048)
AMAB now Female	-0.330**	0.087	-0.050	-0.016	0.115
	(0.160)	(0.091)	(0.076)	(0.047)	(0.109)
AMAB now Transgender	-0.215*	0.017	0.099	0.058	0.121
	(0.115)	(0.079)	(0.068)	(0.050)	(0.107)
AMAB now None of these	0.185*	-0.113***	-0.089***	-0.078***	0.094
	(0.104)	(0.035)	(0.032)	(0.023)	(0.081)
Fields Wolff Gap (FWG)	-0.031	-0.023	-0.151***	-0.094**	-0.092**
	(0.096)	(0.040)	(0.054)	(0.039)	(0.040)
FWG * Cisgender Woman	-0.250**	0.097*	0.175***	0.036	0.036
	(0.115)	(0.052)	(0.065)	(0.049)	(0.050)
FWG * AFAB now Male	0.276	0.429	-1.660*	-0.153	0.409
	(2.008)	(0.704)	(0.973)	(0.396)	(1.026)
FWG * AFAB now Transgender	3.894**	-0.403	0.139	0.116	0.019
	(1.812)	(0.517)	(0.509)	(0.321)	(0.666)
FWG * AFAB now None of these	-0.648	0.307	-0.774*	-0.019	0.019
	(0.717)	(0.417)	(0.401)	(0.339)	(0.363)
FWG * AMAB now Female	-1.468	0.647	-0.613	0.045	0.202
	(1.359)	(0.682)	(0.588)	(0.343)	(1.007)
FWG * AMAB now Transgender	0.094	-0.490	0.510	0.529	0.336
	(1.067)	(0.658)	(0.659)	(0.353)	(0.807)
FWG * AMAB now None of these	1.657**	-0.854**	-1.126***	-0.310	0.244
	(0.844)	(0.389)	(0.370)	(0.233)	(0.725)
Constant	10.151***	0.272***	0.015	-0.071***	-0.040

	(0.064)	(0.036)	(0.033)	(0.026)	(0.029)
Observations	150,629	150,629	143,723	167,346	168,055

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Linear probability models (except for income) with the standard controls including state and week fixed effects. Constant term represents estimates for the excluded category, cisgender men.

10.4 Additional Analyses Exploring Different Interaction Effects

Table 13: Interacting All Gender Categories With 'Old' (Age>45) Suggests Some Age Differentiated Transgender Experiences, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Cisgender Woman	-0.101***	-0.231***	0.082***	0.136***	0.081***	0.025***
	(0.003)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)
AFAB now Male	-0.080**	-0.005	0.024	0.003	-0.026	0.066*
	(0.041)	(0.104)	(0.039)	(0.026)	(0.023)	(0.037)
AFAB now Transgender	-0.098***	-0.194***	0.056***	0.112***	0.047***	0.062***
	(0.019)	(0.044)	(0.020)	(0.019)	(0.016)	(0.018)
AFAB now None of these	-0.121***	-0.332***	0.115***	0.148***	0.100***	0.059***
	(0.014)	(0.026)	(0.015)	(0.014)	(0.013)	(0.012)
AMAB now Female	-0.121***	-0.168*	0.088**	0.083**	0.046	0.119***
	(0.038)	(0.102)	(0.045)	(0.039)	(0.030)	(0.037)
AMAB now Transgender	-0.082***	-0.180***	0.086***	0.120***	0.014	0.061**
	(0.029)	(0.063)	(0.030)	(0.036)	(0.027)	(0.027)
AMAB now None of these	-0.072***	-0.079*	0.018	0.013	-0.003	0.080***
	(0.021)	(0.041)	(0.023)	(0.018)	(0.017)	(0.021)
Old	0.055***	0.040***	-0.009**	-0.007*	-0.032***	-0.008**
	(0.005)	(0.008)	(0.004)	(0.004)	(0.004)	(0.004)
Old * Cisgender Woman	0.013***	0.050***	-0.038***	-0.077***	-0.031***	-0.007**
	(0.004)	(0.007)	(0.004)	(0.004)	(0.003)	(0.003)
Old * AFAB now Male	-0.088	-0.119	0.063	0.072	-0.033	0.193**
	(0.081)	(0.239)	(0.086)	(0.086)	(0.058)	(0.080)
Old * AFAB now Transgender	-0.106*	-0.467***	0.235***	-0.276**	0.092	0.166**
	(0.061)	(0.161)	(0.059)	(0.132)	(0.069)	(0.074)
Old * AFAB now None of these	-0.073***	0.030	-0.023	-0.049*	-0.003	0.032
	(0.023)	(0.040)	(0.023)	(0.025)	(0.022)	(0.022)
Old * AMAB now Female	0.020	0.037	-0.079	0.161	0.184	-0.026
	(0.095)	(0.154)	(0.147)	(0.122)	(0.125)	(0.103)
Old * AMAB now Transgender	-0.017	0.112	0.023	-0.046	0.079	0.064
	(0.065)	(0.148)	(0.061)	(0.069)	(0.066)	(0.076)
Old * AMAB now None of these	0.003	0.063	-0.003	-0.033	-0.009	-0.012
	(0.035)	(0.065)	(0.033)	(0.029)	(0.027)	(0.033)
Constant	0.387***	10.566***	0.148***	-0.060***	-0.201***	-0.146***

	(0.016)	(0.034)	(0.017)	(0.016)	(0.014)	(0.013)
Observations	930,113	762,322	762,322	761,043	852,374	859,403

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Linear probability models (except for income) with the standard controls including state and week fixed effects. Constant term represents estimates for the excluded category, cisgender men. The dummy variable "Old" was constructed by splitting the sample along the median age of 45, where it takes a value of 1 for individuals older than 41.

Table 13a: Interacting Gender Categories With 'Old' (Age>45) on Split Samples by Sex Assigned at Birth, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB individuals, excluded category is cisgender women						
Mean of outcome:	0.645	85,075.636	0.208	0.235	0.106	0.129
AFAB now Male	-0.004	0.230**	-0.066*	-0.127***	-0.107***	0.041
	(0.042)	(0.104)	(0.040)	(0.028)	(0.024)	(0.037)
AFAB now Transgender	-0.025	0.039	-0.033	-0.018	-0.035**	0.039**
	(0.019)	(0.044)	(0.020)	(0.020)	(0.016)	(0.018)
AFAB now None of these	-0.038***	-0.097***	0.026*	0.014	0.016	0.035***
	(0.013)	(0.026)	(0.015)	(0.014)	(0.013)	(0.012)
Old	0.073***	0.056***	-0.033***	-0.065***	-0.057***	-0.004
	(0.005)	(0.008)	(0.005)	(0.005)	(0.004)	(0.004)
Old * AFAB now Male	-0.096	-0.178	0.108	0.153*	-0.006	0.208***
	(0.081)	(0.237)	(0.085)	(0.093)	(0.064)	(0.079)
Old * AFAB now Transgender	-0.113*	-0.512***	0.267***	-0.213	0.107	0.172**
	(0.065)	(0.160)	(0.058)	(0.135)	(0.072)	(0.074)
Old * AFAB now None of these	-0.074***	-0.013	0.010	0.017	0.019	0.035
	(0.022)	(0.040)	(0.023)	(0.025)	(0.021)	(0.022)
Constant	0.327***	10.298***	0.266***	0.026	-0.147***	-0.132***
	(0.020)	(0.041)	(0.022)	(0.022)	(0.018)	(0.016)
Observations	560,015	458,146	458,146	461,411	512,191	516,633
Sample is AMAB individuals, excluded category is cisgender men						
Mean of outcome:	0.728	100,430.776	0.144	0.135	0.049	0.107
AMAB now Female	-0.094**	-0.170*	0.094**	0.083**	0.047	0.120***
	(0.039)	(0.101)	(0.044)	(0.038)	(0.032)	(0.038)
AMAB now Transgender	-0.052*	-0.179***	0.094***	0.118***	0.013	0.058**
	(0.029)	(0.062)	(0.030)	(0.036)	(0.027)	(0.027)
AMAB now None of these	-0.051**	-0.078*	0.027	0.008	-0.001	0.075***
	(0.022)	(0.042)	(0.024)	(0.019)	(0.018)	(0.021)
Old	0.048***	0.071***	-0.020***	-0.024***	-0.034***	-0.018***
	(0.006)	(0.011)	(0.006)	(0.006)	(0.005)	(0.005)
Old * AMAB now Female	0.013	0.039	-0.067	0.169	0.202	-0.030
	(0.101)	(0.158)	(0.142)	(0.118)	(0.125)	(0.104)
Old * AMAB now Transgender	-0.013	0.099	0.041	-0.033	0.102	0.064
	(0.064)	(0.148)	(0.062)	(0.070)	(0.067)	(0.076)

Old * AMAB now None of these	-0.002	0.063	-0.002	-0.030	-0.005	-0.013
	(0.035)	(0.065)	(0.033)	(0.029)	(0.027)	(0.033)
Constant	0.362***	10.569***	0.144***	0.028	-0.144***	-0.126***
	(0.025)	(0.054)	(0.027)	(0.024)	(0.020)	(0.020)
Observations	370,098	304,176	304,176	299,632	340,183	342,770

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 13b: Interacting Gender Categories With 'Old' (Age>45) on Split Samples with Alternate Comparison Groups, Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals and cisgender men, excluded category is cisgender men						
Mean of outcome:	0.727	99,962.758	0.145	0.137	0.050	0.107
AFAB now Male	-0.056	-0.004	0.029	-0.005	-0.031	0.063*
	(0.040)	(0.102)	(0.038)	(0.025)	(0.022)	(0.037)
AFAB now Transgender	-0.068***	-0.190***	0.060***	0.104***	0.036**	0.056***
	(0.020)	(0.045)	(0.021)	(0.020)	(0.017)	(0.018)
AFAB now None of these	-0.099***	-0.329***	0.121***	0.145***	0.095***	0.055***
	(0.014)	(0.027)	(0.015)	(0.015)	(0.014)	(0.013)
Old	0.050***	0.074***	-0.021***	-0.024***	-0.035***	-0.018***
	(0.006)	(0.011)	(0.006)	(0.006)	(0.005)	(0.005)
Old * AFAB now Male	-0.083	-0.117	0.062	0.075	-0.021	0.190**
	(0.081)	(0.239)	(0.088)	(0.081)	(0.052)	(0.081)
Old * AFAB now Transgender	-0.114*	-0.480***	0.250***	-0.241**	0.118*	0.168**
	(0.062)	(0.162)	(0.062)	(0.122)	(0.067)	(0.074)
Old * AFAB now None of these	-0.078***	0.014	-0.014	-0.032	0.014	0.038*
	(0.023)	(0.041)	(0.024)	(0.025)	(0.022)	(0.022)
Constant	0.360***	10.588***	0.143***	0.025	-0.145***	-0.131***
	(0.025)	(0.053)	(0.026)	(0.023)	(0.020)	(0.019)
Observations	374,359	307,686	307,686	303,283	344,031	346,648
Sample is AMAB non-cisgender individuals and cisgender women, excluded category is cisgender women						
Mean of outcome:	0.646	85,433.095	0.207	0.234	0.105	0.129
AMAB now Female	-0.042	0.084	-0.007	-0.055	-0.040	0.090**
	(0.039)	(0.103)	(0.046)	(0.040)	(0.030)	(0.037)
AMAB now Transgender	-0.004	0.067	-0.012	-0.021	-0.069**	0.035
	(0.030)	(0.062)	(0.029)	(0.035)	(0.027)	(0.027)
AMAB now None of these	0.015	0.161***	-0.078***	-0.125***	-0.086***	0.055***
	(0.022)	(0.041)	(0.024)	(0.018)	(0.017)	(0.021)
Old	0.072***	0.054***	-0.032***	-0.066***	-0.056***	-0.005
	(0.005)	(0.008)	(0.005)	(0.005)	(0.004)	(0.004)
Old * AMAB now Female	0.024	-0.032	-0.045	0.235*	0.204*	-0.015
	(0.091)	(0.150)	(0.149)	(0.125)	(0.123)	(0.101)

Old * AMAB now Transgender	-0.029	0.062	0.053	0.028	0.092	0.074
	(0.066)	(0.147)	(0.061)	(0.068)	(0.064)	(0.075)
Old * AMAB now None of these	0.001	0.000	0.039	0.047	0.021	-0.002
	(0.035)	(0.065)	(0.033)	(0.030)	(0.027)	(0.033)
Constant	0.330***	10.272***	0.269***	0.031	-0.145***	-0.126***
	(0.021)	(0.041)	(0.022)	(0.022)	(0.018)	(0.017)
Observations	555,754	454,636	454,636	457,760	508,343	512,755

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 14: Interacting All Gender Categories With 'Urban', Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Cisgender Woman	-0.100***	-0.214***	0.071***	0.111***	0.070***	0.023***
	(0.003)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)
AFAB now Male	-0.058	0.040	0.017	-0.021	-0.024	0.090**
	(0.048)	(0.126)	(0.048)	(0.031)	(0.028)	(0.044)
AFAB now Transgender	-0.099***	-0.228***	0.061***	0.076***	0.035*	0.080***
	(0.023)	(0.046)	(0.023)	(0.029)	(0.020)	(0.022)
AFAB now None of these	-0.134***	-0.308***	0.117***	0.129***	0.094***	0.062***
	(0.014)	(0.026)	(0.015)	(0.015)	(0.014)	(0.013)
AMAB now Female	-0.092**	-0.288***	0.128***	0.102**	0.048	0.112***
	(0.039)	(0.077)	(0.045)	(0.044)	(0.035)	(0.042)
AMAB now Transgender	-0.095***	-0.166**	0.109***	0.119***	0.023	0.070**
	(0.034)	(0.074)	(0.034)	(0.042)	(0.031)	(0.030)
AMAB now None of these	-0.062***	-0.047	0.025	-0.000	-0.021	0.068***
	(0.020)	(0.040)	(0.022)	(0.018)	(0.015)	(0.018)
Urban	0.005	0.138***	-0.015***	-0.015***	-0.020***	-0.006*
	(0.004)	(0.008)	(0.004)	(0.004)	(0.003)	(0.003)
Urban * Cisgender Woman	0.014***	0.013*	-0.016***	-0.022***	-0.006*	-0.002
	(0.004)	(0.008)	(0.004)	(0.004)	(0.004)	(0.003)
Urban * AFAB now Male	-0.076	-0.127	0.011	0.039	-0.036	-0.022
	(0.077)	(0.180)	(0.070)	(0.051)	(0.041)	(0.070)
Urban * AFAB now Transgender	-0.010	0.100	-0.013	0.002	0.026	-0.039
	(0.038)	(0.106)	(0.043)	(0.042)	(0.031)	(0.034)
Urban * AFAB now None of these	-0.007	-0.027	-0.035	-0.004	0.003	0.012
	(0.022)	(0.043)	(0.024)	(0.025)	(0.022)	(0.021)
Urban * AMAB now Female	-0.054	0.333*	-0.150	-0.016	0.058	0.002

	(0.074)	(0.179)	(0.093)	(0.089)	(0.078)	(0.075)
Urban * AMAB now Transgender	0.036	0.043	-0.085*	-0.065	-0.002	0.004
	(0.051)	(0.110)	(0.049)	(0.055)	(0.050)	(0.056)
Urban * AMAB now None of these	-0.023	-0.024	-0.034	-0.008	0.040	0.022
	(0.037)	(0.067)	(0.036)	(0.031)	(0.030)	(0.037)
Constant	0.383***	10.545***	0.157***	-0.043***	-0.191***	-0.145***
	(0.016)	(0.034)	(0.017)	(0.016)	(0.014)	(0.013)
Observations	930,113	762,322	762,322	761,043	852,374	859,403

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Linear probability models (except for income) with the standard controls including state and week fixed effects. Constant term represents estimates for the excluded category, cisgender men.

Table 15: Interacting All Gender Categories With an Index for State-Level Gender Policies , Household Pulse waves 3.2-3.7, 18-64 year olds

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Cisgender Woman	-0.105***	-0.216***	0.075***	0.107***	0.072***	0.027***
	(0.003)	(0.004)	(0.003)	(0.002)	(0.002)	(0.002)
AFAB now Male	-0.049	0.035	0.006	-0.035	-0.072***	0.102**
	(0.046)	(0.120)	(0.053)	(0.030)	(0.025)	(0.052)
AFAB now Transgender	-0.078***	-0.176***	0.068**	0.042*	-0.011	0.084***
	(0.025)	(0.056)	(0.028)	(0.024)	(0.018)	(0.025)
AFAB now None of these	-0.138***	-0.283***	0.102***	0.107***	0.081***	0.063***
	(0.015)	(0.028)	(0.016)	(0.015)	(0.015)	(0.013)
AMAB now Female	-0.088*	-0.205**	0.101*	0.067	0.026	0.154***
	(0.046)	(0.090)	(0.053)	(0.045)	(0.039)	(0.048)
AMAB now Transgender	-0.059	-0.197**	0.106***	0.115**	-0.015	0.086**
	(0.037)	(0.083)	(0.038)	(0.045)	(0.035)	(0.036)
AMAB now None of these	-0.033	-0.029	0.006	-0.004	0.011	0.054***
	(0.023)	(0.046)	(0.026)	(0.018)	(0.020)	(0.020)
Trans Rights	-0.001***	0.006***	-0.001***	0.003***	0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Trans Rights * Cisgender Woman	0.001***	0.001*	-0.001***	-0.000*	-0.000**	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Trans Rights * AFAB now Male	-0.004	-0.004	0.001	0.002	0.004**	-0.002
	(0.004)	(0.010)	(0.004)	(0.002)	(0.002)	(0.003)
Trans Rights * AFAB now Transgender	-0.003	-0.002	-0.001	0.004	0.006***	-0.002
	(0.002)	(0.004)	(0.002)	(0.002)	(0.001)	(0.002)

Trans Rights * AFAB now None of these	0.000	-0.004*	0.000	0.002*	0.002	0.000
	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Trans Rights * AMAB now Female	-0.002	0.005	-0.003	0.003	0.005	-0.004
	(0.003)	(0.008)	(0.004)	(0.004)	(0.004)	(0.003)
Trans Rights * AMAB now Transgender	-0.003	0.005	-0.003	-0.002	0.005*	-0.002
	(0.002)	(0.005)	(0.002)	(0.003)	(0.002)	(0.002)
Trans Rights * AMAB now None of these	-0.004**	-0.003	0.001	0.000	-0.002	0.002
	(0.002)	(0.003)	(0.002)	(0.001)	(0.001)	(0.002)
Constant	0.412***	10.394***	0.175***	-0.106***	-0.205***	-0.132***
	(0.015)	(0.032)	(0.016)	(0.015)	(0.013)	(0.012)
Observations	930,113	762,322	762,322	761,043	852,374	859,403

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Linear probability models (except for income) with the standard controls including week fixed effects, but state fixed effects are omitted. Constant term represents estimates for the excluded category, cisgender men. The variable "Trans Rights" is a continuous index that represents the additive tally of various policies that either support or harm gender minorities in terms of formal equality under the law. The variable can thus take on a positive or negative value. Data was sourced from lgbtmap.org and is current as of April 2023.

Table 16: Interacting All Gender Categories with an Indicator for Remote Work, Household Pulse waves 3.2-3.7, 18-64 year olds, Restricted to Employed Respondents

VARIABLES	(1) Log of household income	(2) Below federal poverty guidelines	(3) Has Medicaid	(4) Participates in SNAP	(5) Food insecure
Cisgender Woman	-0.201***	0.075***	0.110***	0.058***	0.034***
	(0.005)	(0.003)	(0.003)	(0.003)	(0.003)
AFAB now Male	0.132	0.044	0.042	-0.011	0.064*
	(0.105)	(0.043)	(0.034)	(0.024)	(0.036)
AFAB now Transgender	-0.142**	0.096***	0.091***	0.007	0.083***
	(0.062)	(0.033)	(0.031)	(0.024)	(0.029)
AFAB now None of these	-0.306***	0.134***	0.118***	0.078***	0.068***
	(0.029)	(0.020)	(0.019)	(0.017)	(0.017)
AMAB now Female	-0.101	0.086	0.010	0.020	0.209***
	(0.175)	(0.066)	(0.049)	(0.046)	(0.067)
AMAB now Transgender	-0.120*	0.109***	0.087*	0.017	0.112***
	(0.067)	(0.038)	(0.049)	(0.041)	(0.039)
AMAB now None of these	-0.040	0.039	0.013	-0.001	0.050**
	(0.051)	(0.030)	(0.019)	(0.021)	(0.020)
Remote	0.330***	-0.020***	-0.008***	-0.010***	-0.023***
	(0.006)	(0.003)	(0.003)	(0.002)	(0.002)
Remote * Cisgender Woman	0.015**	-0.062***	-0.074***	-0.039***	-0.020***

	(0.007)	(0.004)	(0.004)	(0.003)	(0.003)
Remote * AFAB now Male	-0.381**	-0.074	-0.064	-0.010	0.047
	(0.183)	(0.076)	(0.044)	(0.043)	(0.088)
Remote * AFAB now Transgender	-0.172*	-0.084**	-0.057	0.046	-0.025
	(0.096)	(0.041)	(0.039)	(0.033)	(0.041)
Remote * AFAB now None of these	0.034	-0.117***	-0.049*	-0.059***	-0.040*
	(0.044)	(0.025)	(0.025)	(0.021)	(0.022)
Remote * AMAB now Female	-0.093	-0.012	0.030	0.036	-0.111
	(0.200)	(0.085)	(0.066)	(0.070)	(0.086)
Remote * AMAB now Transgender	0.082	-0.127***	-0.052	-0.033	-0.028
	(0.104)	(0.046)	(0.058)	(0.044)	(0.051)
Remote * AMAB now None of these	-0.020	-0.070**	-0.014	-0.031	-0.032
	(0.070)	(0.034)	(0.026)	(0.023)	(0.030)
Constant	10.329***	0.245***	-0.015	-0.111***	-0.039***
	(0.036)	(0.019)	(0.017)	(0.015)	(0.014)
Observations	571,752	571,752	567,619	633,013	638,076

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Linear probability models (except for income) with the standard controls including state and week fixed effects. Constant term represents estimates for the excluded category, cisgender men. The dummy variable "Remote" is constructed based on a question that asks whether the respondent or anyone in their household had conducted any telework in the past 7 days.

11. Appendix: Robustness Checks with Alternative Model Specifications

Table 3: Individuals who are Not Cisgender are Significantly Less Likely to be Employed, Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Outcome is employed; sample is all individuals	(2) Outcome is employed; sample is individuals AFAB	(3) Outcome is employed; sample is individuals AMAB
Mean of outcome:	0.686	0.645	0.728
Model 1:			
Cisgender Woman	-0.495***		
	(0.011)		
AFAB not Cisgender	-0.608***	-0.215***	
	(0.045)	(0.044)	
AMAB not Cisgender	-0.402***		-0.277***
	(0.064)		(0.068)
Observations	930,113	560,015	370,098
Model 2:			
Cisgender Woman	-0.495***		
	(0.011)		
AFAB now Male	-0.429**	-0.061	
	(0.177)	(0.182)	
AFAB now Transgender	-0.515***	-0.158*	
	(0.089)	(0.090)	
AFAB now None of these	-0.670***	-0.256***	
	(0.051)	(0.050)	
AMAB now Female	-0.570***		-0.445***
	(0.160)		(0.167)
AMAB now Transgender	-0.421***		-0.254**
	(0.123)		(0.124)
AMAB now None of these	-0.363***		-0.260***
	(0.081)		(0.085)
Observations	930,113	560,015	370,098

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Logistic regression models with log-odds reported.

Table 4: Some Groups of Non-Cisgender Individuals Have Worse Economic Outcomes — Especially Individuals who Describe Their Gender as 'None of these', Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB individuals, excluded category is cisgender women						
Mean of outcome:	0.645	85,075.636	0.208	0.235	0.106	0.129
AFAB now Male	-0.061	0.216**	-0.367	-0.788***	-1.040***	0.403*
	(0.182)	(0.097)	(0.253)	(0.214)	(0.267)	(0.237)
AFAB now Transgender	-0.158*	0.021	-0.164	-0.187	-0.237*	0.339***
	(0.090)	(0.043)	(0.126)	(0.138)	(0.131)	(0.119)
AFAB now None of these	-0.256***	-0.100***	0.160**	0.095	0.127*	0.314***
	(0.050)	(0.021)	(0.072)	(0.068)	(0.076)	(0.071)
Observations	560,015	458,146	458,146	461,411	512,191	516,633
Sample is AMAB individuals, excluded category is cisgender men						
Mean of outcome:	0.728	100,430.776	0.144	0.135	0.049	0.107
AMAB now Female	-0.445***	-0.160*	0.483*	0.686***	0.595***	0.741***
	(0.167)	(0.086)	(0.272)	(0.211)	(0.231)	(0.211)
AMAB now Transgender	-0.254**	-0.162***	0.532***	0.679***	0.148	0.399**
	(0.124)	(0.057)	(0.138)	(0.173)	(0.212)	(0.179)
AMAB now None of these	-0.260***	-0.058*	0.166	-0.014	-0.042	0.504***
	(0.085)	(0.034)	(0.121)	(0.115)	(0.145)	(0.113)
Observations	370,098	304,176	304,176	299,632	340,183	342,770

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Logistic regression models with log-odds reported.

Table 5: Alternative Comparison Groups Reveal Interesting Patterns Suggestive of Importance of both Gender and Non-Cisgender Status, Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals and cisgender men, excluded category is cisgender men						
Mean of outcome:	0.727	99,962.758	0.145	0.137	0.050	0.107
AFAB now Male	-0.318*	-0.011	0.218	-0.003	-0.441	0.558**
	(0.178)	(0.096)	(0.241)	(0.208)	(0.279)	(0.251)
AFAB now Transgender	-0.386***	-0.206***	0.435***	0.597***	0.372***	0.509***
	(0.095)	(0.044)	(0.125)	(0.160)	(0.138)	(0.126)
AFAB now None of these	-0.576***	-0.325***	0.758***	0.880***	0.762***	0.502***
	(0.055)	(0.022)	(0.072)	(0.070)	(0.078)	(0.075)
Observations	374,359	307,686	307,686	303,283	344,031	346,648
Sample is AMAB non-cisgender individuals and cisgender women, excluded category is cisgender women						
Mean of outcome:	0.646	85,433.095	0.207	0.234	0.105	0.129
AMAB now Female	-0.174	0.080	-0.106	-0.103	-0.036	0.547***
	(0.159)	(0.087)	(0.270)	(0.245)	(0.255)	(0.192)
AMAB now Transgender	-0.048	0.078	-0.097	-0.114	-0.430**	0.237
	(0.124)	(0.057)	(0.139)	(0.172)	(0.194)	(0.171)
AMAB now None of these	0.065	0.161***	-0.439***	-0.741***	-0.655***	0.361***
	(0.081)	(0.033)	(0.123)	(0.112)	(0.136)	(0.109)
Observations	555,754	454,636	454,636	457,760	508,343	512,755

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Logistic regression models with log-odds reported.

Table 6: Non-Cisgender Black Individuals Have Significantly Worse Economic Outcomes than Non-Cisgender White Individuals, Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals						
Mean of outcome:	0.584	63,787.423	0.307	0.272	0.145	0.214
Black	-0.398***	-0.225***	0.473***	0.521***	0.954***	0.795***
	(0.127)	(0.064)	(0.163)	(0.160)	(0.157)	(0.153)
Asian	-0.343*	0.051	-0.212	-0.116	0.200	-0.238
	(0.175)	(0.088)	(0.275)	(0.250)	(0.259)	(0.261)
Other Race	-0.000	-0.028	0.328**	-0.045	0.298*	0.728***
	(0.134)	(0.072)	(0.166)	(0.169)	(0.169)	(0.156)
Hispanic	-0.296**	-0.216***	0.416***	0.326**	0.214	0.430***
	(0.118)	(0.062)	(0.151)	(0.158)	(0.160)	(0.148)
Observations	10,307	8,265	8,265	8,514	9,290	9,377
Sample is AMAB non-cisgender individuals						
Mean of outcome:	0.599	75,035.46	0.286	0.226	0.103	0.245
Black	-0.451**	-0.159***	0.273	0.210	0.561**	0.437**
	(0.191)	(0.059)	(0.246)	(0.262)	(0.245)	(0.223)
Asian	-0.057	-0.131**	-0.478	-0.108	-0.145	-0.361
	(0.233)	(0.063)	(0.394)	(0.409)	(0.411)	(0.379)
Other Race	-0.262	-0.116***	0.231	-0.231	0.051	0.620***
	(0.169)	(0.044)	(0.190)	(0.214)	(0.258)	(0.185)
Hispanic	0.018	-0.135***	0.343*	0.180	0.554***	0.625***
	(0.150)	(0.044)	(0.185)	(0.220)	(0.210)	(0.167)
Observations	6,046	4,755	4,755	4,863	5,424	5,499

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Logistic regression models with log-odds reported.

Table 4* (Weeks 46-54): Some Groups of Non-Cisgender Individuals Have Worse Economic Outcomes — Especially Individuals who Describe Their Gender as 'None of these', Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB individuals, excluded category is cisgender women						
Mean of outcome:	0.654	86,855.994	0.200	0.252	0.112	0.143
AFAB now Male	-0.031	0.143	-0.038	-0.144***	-0.128***	0.066
	(0.045)	(0.098)	(0.041)	(0.035)	(0.030)	(0.047)
AFAB now Transgender	-0.021	-0.038	-0.006	-0.080**	-0.048**	0.063**
	(0.028)	(0.054)	(0.027)	(0.034)	(0.021)	(0.025)
AFAB now None of these	-0.055***	-0.090***	0.015	-0.005	0.012	0.036**
	(0.017)	(0.029)	(0.018)	(0.019)	(0.017)	(0.017)
Observations	222,043	182,703	182,703	179,469	204,595	205,961
Sample is AMAB individuals, excluded category is cisgender men						
Mean of outcome:	0.743	103,594.057	0.131	0.144	0.051	0.113
AMAB now Female	-0.069	-0.181**	0.083*	0.035	-0.014	0.106**
	(0.046)	(0.083)	(0.048)	(0.044)	(0.026)	(0.042)
AMAB now Transgender	-0.079*	-0.274***	0.154***	0.165***	0.016	0.065*
	(0.042)	(0.081)	(0.041)	(0.049)	(0.034)	(0.039)
AMAB now None of these	-0.036	0.047	-0.043*	-0.019	-0.016	0.092***
	(0.027)	(0.050)	(0.025)	(0.024)	(0.023)	(0.027)
Observations	157,089	129,632	129,632	123,757	145,575	146,346

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 5* (Weeks 46-54): Alternative Comparison Groups Reveal Interesting Patterns Suggestive of Importance of both Gender and Non-Cisgender Status, Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals and cisgender men, excluded category is cisgender men						
Mean of outcome:	0.742	103,006.778	0.133	0.145	0.054	0.113
AFAB now Male	-0.092*	-0.085	0.042	-0.012	-0.047*	0.097**
	(0.047)	(0.099)	(0.041)	(0.033)	(0.027)	(0.048)
AFAB now Transgender	-0.081***	-0.265***	0.072**	0.054	0.025	0.095***
	(0.028)	(0.056)	(0.029)	(0.035)	(0.021)	(0.026)
AFAB now None of these	-0.127***	-0.327***	0.102***	0.133***	0.094***	0.074***
	(0.018)	(0.031)	(0.019)	(0.019)	(0.017)	(0.017)
Observations	159,050	131,230	131,230	125,401	147,340	148,121
Sample is AMAB non-cisgender individuals and cisgender women, excluded category is cisgender women						
Mean of outcome:	0.655	87,296.694	0.199	0.251	0.111	0.143
AMAB now Female	-0.007	0.053	0.010	-0.103**	-0.094***	0.067
	(0.044)	(0.083)	(0.047)	(0.044)	(0.028)	(0.041)
AMAB now Transgender	-0.022	-0.026	0.052	0.008	-0.073**	0.020
	(0.043)	(0.083)	(0.039)	(0.047)	(0.033)	(0.040)
AMAB now None of these	0.044*	0.277***	-0.134***	-0.151***	-0.097***	0.053*
	(0.026)	(0.049)	(0.025)	(0.023)	(0.021)	(0.027)
Observations	220,082	181,105	181,105	177,825	202,830	204,186

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 6*: Recoding Racial Groups Yields Slightly More Precise Estimates, Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals						
Mean of outcome:	0.584	63,787.423	0.307	0.272	0.145	0.214
Black, non-Hispanic	-0.476***	-0.292***	0.575***	0.655***	1.154***	0.715***
	(0.134)	(0.057)	(0.159)	(0.162)	(0.159)	(0.164)
Asian, non-Hispanic	-0.239	0.023	-0.131	0.133	0.292	-0.196
	(0.191)	(0.094)	(0.304)	(0.250)	(0.281)	(0.285)
Mixed/other, non-Hispanic	-0.009	-0.006	0.136	0.224	0.355*	0.721***
	(0.158)	(0.080)	(0.187)	(0.186)	(0.188)	(0.177)
Hispanic	-0.351***	-0.249***	0.535***	0.438***	0.458***	0.689***
	(0.121)	(0.062)	(0.153)	(0.161)	(0.167)	(0.151)
Observations	10,307	8,265	8,265	8,514	9,290	9,377
Sample is AMAB non-cisgender individuals						
Mean of outcome:	0.599	75,035.46	0.286	0.226	0.103	0.245
Black, non-Hispanic	-0.541**	-0.176***	0.241	0.245	0.601**	0.589**
	(0.217)	(0.064)	(0.281)	(0.303)	(0.283)	(0.253)
Asian, non-Hispanic	-0.160	-0.149**	-0.291	-0.736*	-0.837**	-0.079
	(0.271)	(0.064)	(0.390)	(0.428)	(0.417)	(0.376)
Mixed/other, non-Hispanic	-0.567***	-0.116**	0.209	-0.186	0.400	0.919***
	(0.194)	(0.049)	(0.217)	(0.241)	(0.300)	(0.210)
Hispanic	-0.165	-0.190***	0.421**	0.112	0.655***	0.922***
	(0.153)	(0.044)	(0.187)	(0.224)	(0.212)	(0.169)
Observations	6,046	4,755	4,755	4,863	5,424	5,499

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Logistic regression models with odds ratios reported.

Table 4** (Weeks 49-54): Some Groups of Non-Cisgender Individuals Have Worse Economic Outcomes — Especially Individuals who Describe Their Gender as 'None of these', Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB individuals, excluded category is cisgender women						
Mean of outcome:	0.665	87,513.740	0.196	0.246	0.113	0.140
AFAB now Male	-0.042	0.103	-0.052	-0.134***	-0.146***	0.093
	(0.052)	(0.114)	(0.048)	(0.044)	(0.039)	(0.060)
AFAB now Transgender	0.065**	0.065**	0.065**	0.065**	0.065**	0.065**
	(0.033)	(0.070)	(0.032)	(0.043)	(0.024)	(0.028)
AFAB now None of these	-0.076***	-0.097***	0.027	-0.017	0.021	0.033
	(0.021)	(0.037)	(0.023)	(0.023)	(0.020)	(0.020)
Observations	151,381	126,171	126,171	123,255	141,776	142,397
Sample is AMAB individuals, excluded category is cisgender men						
Mean of outcome:	0.750	104,387.472	0.128	0.140	0.053	0.113
AMAB now Female	-0.063	-0.191**	0.048	-0.007	-0.039	0.089*
	(0.058)	(0.091)	(0.055)	(0.050)	(0.025)	(0.047)
AMAB now Transgender	-0.097*	-0.328***	0.151***	0.156**	-0.011	0.053
	(0.054)	(0.097)	(0.052)	(0.063)	(0.040)	(0.049)
AMAB now None of these	-0.031	0.039	-0.037	-0.011	-0.012	0.115***
	(0.036)	(0.061)	(0.030)	(0.030)	(0.028)	(0.035)
Observations	111,947	93,212	93,212	88,673	105,301	105,662

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 5** (Weeks 49-54): Alternative Comparison Groups Reveal Interesting Patterns Suggestive of Importance of both Gender and Non-Cisgender Status, Household Pulse waves 3.2-3.7, 18-64 year olds**

VARIABLES	(1) Employed	(2) Log of household income	(3) Below federal poverty guidelines	(4) Has Medicaid	(5) Participates in SNAP	(6) Food insecure
Sample is AFAB non-cisgender individuals and cisgender men, excluded category is cisgender men						
Mean of outcome:	0.748	103,832.910	0.130	0.141	0.055	0.113
AFAB now Male	-0.102*	-0.118	0.031	-0.013	-0.060*	0.112*
	(0.055)	(0.115)	(0.048)	(0.043)	(0.034)	(0.062)
AFAB now Transgender	-0.102***	-0.309***	0.064*	0.030	0.028	0.093***
	(0.033)	(0.073)	(0.033)	(0.044)	(0.024)	(0.029)
AFAB now None of these	-0.147***	-0.338***	0.117***	0.116***	0.100***	0.065***
	(0.022)	(0.039)	(0.024)	(0.024)	(0.020)	(0.021)
Observations	113,271	94,312	94,312	89,784	106,517	106,883
Sample is AMAB non-cisgender individuals and cisgender women, excluded category is cisgender women						
Mean of outcome:	0.666	87,925.162	0.195	0.245	0.112	0.141
AMAB now Female	-0.009	0.031	-0.025	-0.116**	-0.107***	0.053
	(0.056)	(0.091)	(0.055)	(0.051)	(0.026)	(0.046)
AMAB now Transgender	-0.046	-0.091	0.044	0.014	-0.099**	0.008
	(0.055)	(0.100)	(0.049)	(0.061)	(0.040)	(0.051)
AMAB now None of these	0.045	0.267***	-0.136***	-0.145***	-0.102***	0.086**
	(0.034)	(0.058)	(0.032)	(0.030)	(0.027)	(0.035)
Observations	150,057	125,071	125,071	122,144	140,560	141,176

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1