Transgender Status, Income, and Employment

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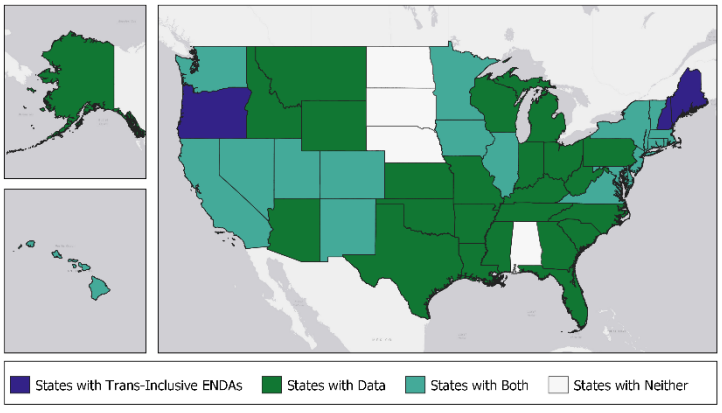
Although transgender people make up a relatively small percentage of the population, they receive a large amount of attention from lawmakers. Broadly, these laws are either protections against discrimination or are discriminatory against transgender people. These laws are directly relevant to transgender people but can often either target or protect anyone who fails to follow standard gender norms. In this paper, I discuss protections against employment discrimination for transgender people and investigate evidence of differences in income and employment between transgender people and cisgender people.

Employment Nondiscrimination Acts (ENDAs) and Bostock v. Clayton County:

ENDAs protect against employer discrimination, for example in Maryland State Government Article, §20-602 states that "every Marylander is guaranteed equal opportunity in receiving employment and in all labor management-union relations regardless of race, color, religion, ancestry or national origin, sex, age, marital status, sexual orientation, gender identity, disability, or genetic information." If an individual feels that their rights have been violated, they can contact the State of Maryland's Commission on Civil Rights, answer a series of questions, and potentially have an investigation opened (*Pages - Investigation*, n.d.). As of 2020, 21 other states and DC had similar ENDAs that included protections for transgender individuals.

In June 2020 federal law changed. The Supreme Court decided on Bostock v. Clayton County, declaring that Title VII, from the 1964 Civil Rights Act, applies to discrimination based on gender identity or sexual orientation because they are both inherently discrimination on the basis of sex (*17-1618 Bostock v. Clayton County (06/15/2020)*, 2020; Liptak, 2021). Now individuals who feel their rights have been violated can file a complaint with the U.S. Equal Employment Opportunity Commission (EEOC) (*Title VII*, 2009). Additionally, eight states have begun accepting complaints based on the Bostock rational (*State Equality Index*, 2020). However, the Human Rights Campaign still urges states to pass their own ENDAs for further clarity and more expansive protections (Oakley, 2020).

Figure 1: Map of States with Sexual Orientation and Transgender Status Data from the BRFSS and Trans-Inclusive ENDAs, 2014-2020



Review of the Literature:

Although there is considerable and growing research into income and wage differentials for LGB individuals the T often is excluded for data reasons. Most research finds that gay men fair slightly worse than heterosexual men, while lesbians have slightly higher incomes than heterosexual women, although lower than that of heterosexual men. The outcomes for bisexual men and women are more mixed (Badgett et al., 2021).

This paper builds on work done by Carpenter, Eppink, and Gonzales (2020) which provides some of the first large-scale evidence on transgender status, gender identity, and socioeconomic outcomes in the United States. They used BRFSS data from 2014-2017, which included the 35 states that asked the SOGI (sexual orientation and

gender identity) questions and found that individuals who identified as transgender are significantly less likely to be college-educated, less likely to identify as heterosexual, and controlling for these factors and other observed characteristics, have lower employment rates, lower household incomes, higher poverty rates, and worse self-rated health. Before their paper, Badgett's 2019 report on LGBT poverty used the same years of BRFSS data to find that transgender people have especially high rates of poverty.

Previously, smaller or non-representative samples have been examined. Using only Massachusetts BRFSS data from 2007-2009 Conron, Scott, Stowell, and Landers (2012) found that transgender adults were more likely to be living in poverty and unemployed than non-transgender adults. Other non-random samples support findings from BRFSS based studies (Xavier et al., 2007). Additionally, studies have found that one in six respondents reported losing a job because of their gender identity or expression (James et al., 2016) and extremely high levels of harassment at work (Grant et al., 2011).

Panel studies have found that when specific individuals change their gender expression those who are transitioning from male to female lose income, whereas those who are transitioning from female to male experience a slight increase in income (Geijtenbeek & Plug, 2018; Schilt & Wiswall, 2008).

Like Carpenter, Eppink, and Gonzales this paper complements these prior studies. Both the BRFSS and the Household Pulse Survey rely on self-identification which means we capture any individual willing to self-identify, not only those who have taken medical or legal steps to change their gender expression. It would include additional years of BRFSS data and data from the Household Pulse Survey which would allow us to examine causes of unemployment and compare income data.

Data Description:

I use data from the 2014-2020 Behavioral Risk Factor Surveillance System (BRFSS), a state-based survey that collects data on various health-related outcomes, risk behaviors, use of preventative services, and conditions by the Center for Disease Control (CDC). The data is gathered by phone call, both on landlines and cell phones. Some questions are core and asked by every state and participating territories, others are optional modules and only asked by some. The Sexual Orientation and Gender Identity Module has been one of these optional modules since 2014, with a growing number of states including it. I am able to observe a total of 668,607 individuals with 2,906 of those respondents being transgender and in the labor market.[1]

The gender identity section of the module asks "Do you consider yourself to be transgender? (If yes, ask "Do you consider yourself to be male-to-female, female-to-male, or gender non-conforming?)" with the options 1) Yes, Transgender, male to female 2) Yes, Transgender, female to male 3) Yes, Transgender, gender nonconforming 4) No. Given this phrasing, for the purposes of this paper, we will consider gender nonconforming to be a subset of transgender although not all gender nonconforming individuals consider themselves transgender. If a survey respondent needed clarification on the definition of transgender it was defined as "Some people describe themselves as transgender when they experience a different gender identity from their sex at birth. For example, a person born into a male body, but who feels female or lives as a woman would be transgender. Some transgender people change their physical appearance so that it matches their internal gender identity. Some

[1] In the labor market includes those who when asked "Are you currently..." said they were employed for wages, self-employed, or out of work, it excludes those who said they were a homemaker, a student, retired, unable to work, or refused the question.

transgender people take hormones and some have surgery. A transgender person may be of any sexual orientation – straight, gay, lesbian, or bisexual."

It is worth noting a few concerns regarding the BRFSS.[2] Before 2017 sexes were assumed by the surveyor. This could cause small amounts of error in the cisgender male and female individuals in the sample that I compare with the transgender individuals, but not the transgender individuals as they are asked to report their gender. Thus incorrect gender responses for transgender individuals are unlikely.

Additionally, the previous paper notes that the BRFSS is primarily a health survey and thus may be less reliable on income and employment data than our standard measures. Rather than replicate their tests I compare my results with BRFSS data to results using new survey data from Phase 3.2 of the Household Pulse Survey (HPS).

The HPS is a short online survey from the Census Bureau studying how COVID-19 impacts US households from a social and economic perspective. In Phase 3.2, from July 21st to October 11th of 2021, the survey added questions on sexual orientation and gender identity to understand the impact of the Covid-19 in different subpopulations. In contrast to BRFSS, HPS is national, but it covers a shorter time span, during a pandemic that affected employment, and is a smaller sample (211,794 individuals in the sample with 1,148 transgender people who are ages 18-64 and in the labor market).[3]

However, the HPS follows the current scholarly consensus when asking survey questions on gender identity: First the survey asks "What sex were you assigned at birth, on your original birth certificate?" with only the options 1) Male 2) Female then it asks "Do you currently describe yourself as male, female or transgender" with the options 1) Male 2) Female 3) Transgender 4) None of these. Analysts can then consider anyone who changes their response from male to female or from female to male to be transgender. They can also consider anyone who chose the transgender option in the second question to be transgender. According to the literature, this method is more accurate and has lower levels of missing data (Bauer et al., 2017; Tate et al., 2013), than alternatives including the format that the BRFSS uses. Unfortunately, we cannot ascertain the respondent's current gender identity if they chose transgender on the second gender identity question - they may be a transgender man if they chose female in the first question and transgender for the second, but alternatively they may also a third gender.

Additionally, the HPS does not directly ask respondents if they are unemployed. It first asks them if they were employed in the past 7 days, and if they respond "no" it asks why and provides a list of reasons to choose from (1) I did not want to be employed at this time; 2)I am/was sick with coronavirus symptoms or caring for someone who was sick with coronavirus symptoms; 3) I am/was caring for children not in school or daycare; 4) I am/was caring for an elderly person; 5) I was concerned about getting or spreading the coronavirus; 6) I am/was sick (not coronavirus related) or disabled; 7) I am retired; 8) I am/was laid off or furloughed due to coronavirus pandemic; 9) My employer closed temporarily due to the coronavirus pandemic; 10) My employer went out of business due to the coronavirus pandemic; 11) I do/did not have transportation to work; 12) Other reason, please specify.) I included reasons eight through 11 as unemployed but given that I cannot know what respondents put for 12, this is likely an undercount, resulting in a smaller and less accurate group of "unemployed" individuals.

[2] For a more thorough discussion see https://www.sciencedirect.com/science/article/pii/S1047279721003173#bib0028

[3] Here I consider individuals to be in the labor market if they have worked in the past week or if they said they were not working because they had lost their job, rather than choosing not to work or an illness or caretaking duties.

Methods:

Due to the lack of identification strategy this study is descriptive and directly builds on Carpenter, Eppink, and Gonzales exploration of transgender status and the socioeconomic and health outcomes related to it.

To discuss the relationship between income and transgender status, I estimated interval regressions. Some only controlling for survey wave, while others control for survey wave, sexual orientation (any minority sexual orientation, don't know, refused, missing) age, age squared, race/ethnicity (Black, Hispanic, Asian, Other Race, Don't know race), education (less than high school, some college, college - including technical or trade school or more - and refused to provide, marital status (married/partnered, divorced, widowed, separated, refused to provide), census region, if the survey was done over a landline or cell phone, and the number of adults in each household. These regressions are in the form:

(1) $Y_i = \beta_0 + \beta_1 X_i + \beta_2(\text{Cisgender Women})_i + \beta_3(\text{Transgender})_i + \varepsilon_i$

or

(2) $Y_i = \beta_0 + \beta_1 X_i + \beta_2(\text{Cisgender Women})_i + \beta_3(\text{Transgender Women})_i + \beta_3(\text{Transgender Man})_i + \beta_3(\text{Transgender, Gender Nonconforming})_i + \varepsilon_i$

Where Y_i is household income for the individual, and cisgender men have been left out. I do this using both BRFSS data and Household Pulse data. I also create interactions between age and graduated college to investigate those relationships.

Figure 2

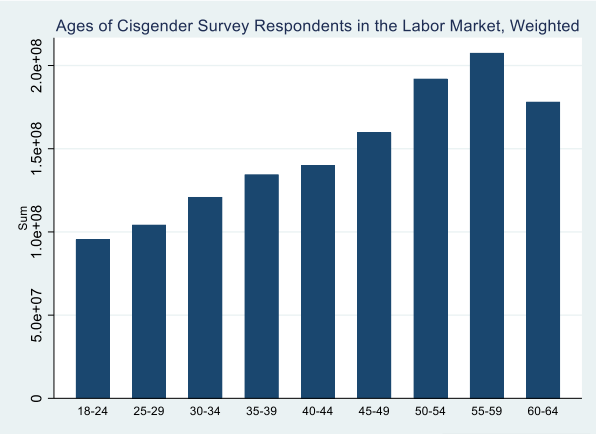
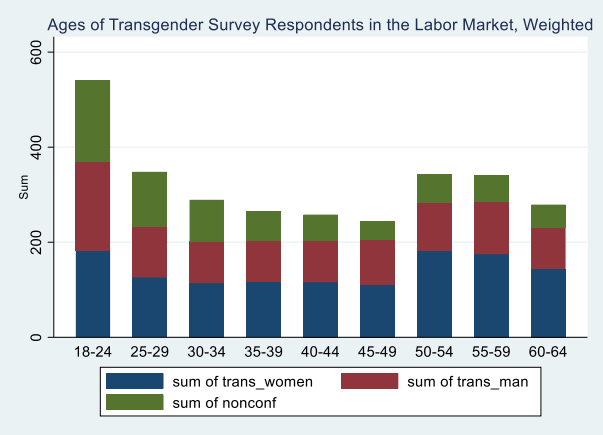


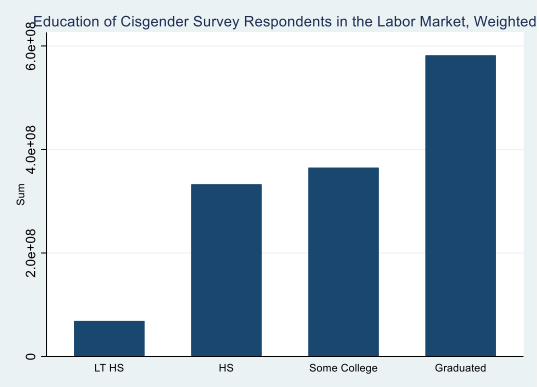
Figure 3



Similarly, the second set of tables examines the relationship between employment and transgender status, using OLS regressions. These follow the same format the above survey wave, sexual orientation (any, don't know, refused, missing) age, age squared, white vs nonwhite, less than high school, some college, college (including technical or trade school) or more, and refused to provide, marital status (married/partnered, divorced, widowed, separated, refused to provide), census region, if the survey was done over a landline or cell phone, and the number of adults in each household. Additionally, it discusses trans-inclusive ENDAs. Again, I run these regressions using both BRFSS data and HPS data.

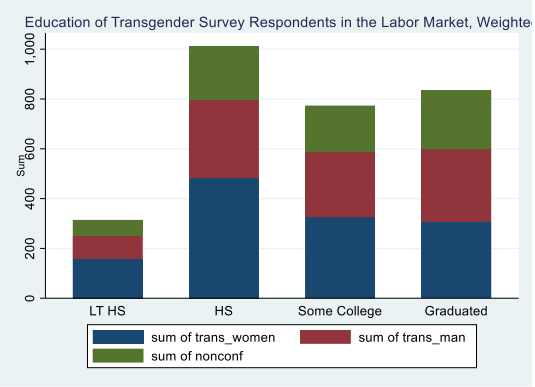
Demographics:

Figure 4



Transgender people skew younger, with the trend driven by gender nonconforming people. They are also less well educated, with a higher percentage of transgender men and women not having High School degrees and a lower percentage having not graduated from a college or technical school. This is particularly true for transgender women. Both surveys agree that transgender people, especially those who are gender nonconforming tend to also be a minority sexual orientation, live in larger households, and are less likely to be married or partnered. However, it is notable that in every case, the difference is larger in HPS data.

Figure 5



As has been noted by others using BRFSS data, transgender respondents are more likely to be Hispanic, nonwhite. However, HPS data finds very similar rates of transgender and cisgender nonwhite or Hispanic respondents.

Table 1: Means of BRFSS Respondents in Labor Market, Ages 18-64 by Gender Identity.

	Cisgender Men	Cisgender Women	Transgender Women	Transgender Men	Transgender, Gender Nonconforming
Age	40.95	41.81	38.15	38.53	32.38
Nonwhite or Hispanic	0.38	0.38	0.45	0.47	0.46
Employed	0.91	0.90	0.84	0.86	0.80
Less than High School Degree	0.13	0.09	0.24	0.24	0.16
High School Degree	0.30	0.24	0.36	0.32	0.31
Some College	0.29	0.32	0.24	0.26	0.32
College or More	0.28	0.35	0.16	0.18	0.21
Any Minority S.O.	0.05	0.06	0.37	0.38	0.64
Married or Has Partner	0.59	0.57	0.47	0.50	0.43
Number of Adults in household	2.29	2.22	2.43	2.65	2.85
Lives in a state with an ENDA	0.44	0.44	0.43	0.44	0.50
Sample Size	332,470	336,508	1,282	966	696

Table 2: Means of HPS Respondents in Labor Market, Ages 18-64 by Gender Identity.

	Cisgender Men	Cisgender Women	Transgender
Age	41.34	41.52	33.34
Nonwhite or Hispanic	0.39	0.41	0.40
Employed	0.83	0.80	0.74
Less than High School Degree	0.07	0.06	0.18
High School Degree	0.25	0.25	0.31
Some College	0.21	0.21	0.22
College or More	0.47	0.48	0.29
Any Minority S.O.	0.13	0.11	0.77
Married or Has Partner	0.50	0.52	0.24
Number of Adults in Household	2.70	2.67	3.39
Sample Size	332,470	136,014	1,326

Results:

Table 2 shows substantial income differences. This table shows that transgender people, of all genders, have significantly lower incomes than cisgender women and men, when only controlling for survey year. It also shows that transgender people, of all genders, have significantly lower incomes than cisgender men, but not cisgender women, across two data sets and accounting for household incomes using two different methods, while controlling for a long list of observable characteristics. The income variable is a household variable, so I include a column where the transgender person may be part of a larger household, but the household size is controlled for, as well as a column where they live on their own and therefore only their income is counted in the household income variable. In all cases transgender individuals have lower incomes than cisgender men.

When interactions are explored within this table, the coefficients aren't consistent, particularly with regard to gender nonconforming people. When in a household of more than one, gender nonconforming people's household income by age follows a significantly different slope. It decreases fairly dramatically and then rises, unlike other groups. However, this pattern does not remain consistent for gender nonconforming people in a household of one. Similarly, when in a household of more than one, the returns to graduating college are lesser for gender nonconforming people, by $\ln(x+1) = -.286$, so gender nonconforming people who have graduated college live in households with approximately 24.9% less income, as compared to similar cisgender men who have graduated college. This trend does not hold for a household of one. Certainly, this suggests that an individual-level income question would be very valuable.

It is also notable that in the household of one part of the sample, the coefficients on transgender men and transgender gender nonconforming switch from negative and significant to positive and significant, when all of the controls are added. This is an interesting difference from the similar regressions on all households and could have any number of explanations (perhaps a characteristic of individuals who chose to live alone, or perhaps transgender men and gender nonconforming people face less direct income discrimination than transgender women, but still have barriers to education so achieve more with less, etc.).

Table 3: 2014-2021 BRFSS, 18-64-Year-Olds in the Labor Market, Outcome is Natural Log of Income

VARIABLES	Whole sample, No controls	Whole sample All controls	Whole sample Age Interactions	Whole sample Education Interaction	Only single HH No controls	Only single HH All controls	Only single HH Age Interactions	Only single HH Education Interaction
Cisgender woman	-0.077***	-0.135***	-0.428***	-0.173***	-0.133***	-0.178***	-0.238***	-0.222***
	(0.002)	(0.002)	(0.023)	(0.002)	(0.004)	(0.003)	(0.041)	(0.004)
Transgender	-0.391***	-0.170***	-0.393	-0.144***	-0.278**	-0.155***	-0.066***	-0.162**
	(0.017)	(0.015)	(0.165)	(0.018)	(0.028)	(0.025)	(0.066)	(0.029)
Transgender woman	-0.391***	-0.142***	0.018	-0.132***	-0.266***	-0.133***	-0.399	-0.139***
	(0.026)	(0.023)	(0.264)	(0.026)	(0.041)	(0.036)	(0.402)	(0.040)
Transgender man	-0.388***	-0.203***	0.216	-0.203***	-0.285***	0.146***	-0.452	-0.178***
	(0.030)	(0.026)	(0.267)	(0.029)	(0.050)	(0.042)	(0.408)	(0.049)
Gender Nonconforming	-0.395***	-0.178***	1.244***	-0.080**	-0.295***	1.225***	-0.344	-0.213***
	(0.035)	(0.033)	(0.333)	(0.040)	(0.062)	(0.058)	(0.630)	(0.073)
Age			0.030***				0.043***	
			(0.001)				(0.001)	
Age squared			-0.000***				-0.000***	
			(0.000)				(0.000)	
Cisgender woman*Age			0.012***				-0.003	
			(0.001)				(0.002)	
Cisgender woman*Age Squared			-0.000***				0.000***	
			(0.000)				(0.000)	
Transgender woman*Age			-0.009				0.010	
			(0.013)				(0.020)	
Transgender woman*Age Squared			0.000				-0.000	
			(0.000)				(0.000)	
Transgender man*Age			-0.020				-0.030	
			(0.014)				(0.022)	
Transgender man*Age Squared			0.000				0.000	
			(0.000)				(0.000)	
Gender nonconforming*Age			-0.078***				0.008	
			(0.018)				(0.033)	
Gender nonconforming*Age Squared			0.001***				-0.000	
			(0.000)				(0.000)	
Graduated college				0.600***				0.552***
				(0.003)				(0.005)
Cisgender woman*Graduated college				0.095***				0.110***
				(0.004)				(0.007)
Transgender woman*Graduated college				-.078				-0.007
				(0.058)				(0.90)
Transgender man*Graduated college				-0.019				0.095
				(0.058)				(0.96)
Gender Nonconforming*Graduated college				-0.286***				-0.033
				(0.066)				(0.118)
Observations	661,293	661,293	661,293	661,293	169,751	169,751	169,751	169,751

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

Notes: All regressions are interval regressions. Some only controlling for survey wave, while others control for survey wave, sexual orientation (any minority sexual orientation, don't know, refused, missing) age, age squared, race/ethnicity (Black, Hispanic, Asian, Other Race, Don't know race), education (less than high school, some college, college - including technical or trade school or more - and refused to provide, marital status (married/partnered, divorced, widowed, separated, refused to provide), census region, if the survey was done over a landline or cell phone. Those with the whole sample control for number of adults in household.

As a general check, I created a similar table using Household Pulse data, Table 4. The results for individuals in households of all sizes remained fairly consistent, however a higher percentage of HPS respondents lived in a household of two or more, potentially making the estimates for single-person households less consistent.

Table 4: 2021 HPS, 18-64-Year-Olds in the Labor Market, Outcome is Natural Log of Household Income

VARIABLES	Whole sample, No controls	Whole sample, With controls	Only single person HHs, No controls	Only single person HHs, With controls
Cisgender woman	-0.171***	-0.144***	-0.142***	-0.166***
	(0.00357)	(0.00314)	(0.00751)	(0.00702)
Transgender people	-0.365***	-0.114***	-0.133**	-0.0561
	(0.0263)	(0.0255)	(0.0527)	(0.0491)
Observations	153,814	153,814	27,752	27,752

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

Notes: All regressions are interval regressions. Columns 1 and 3 had no controls, while others control for sexual orientation (any minority sexual orientation, don't know, refused, missing) age, age squared, race/ethnicity (Black, Hispanic, Asian, Other Race, Don't know race), education (less than high school, some college, college - including technical or trade school or more - and education missing, marital status (married/partnered, divorced, widowed, separated, refused to provide), census region. Those with the whole sample control for number of adults in household.

In Table 5 I explore rates of unemployment, employment is an individual-level variable, so I do not need to worry about results being diluted by other members of the household. Carpenter, Eppink, and Gonzales's paper attempted to investigate the idea of "double disadvantage" and finds minimal evidence. Now, with the additional years of data, I find some evidence that there is a "double disadvantage" for transgender individuals who are also sexual orientation minorities, although I also find some evidence to the contrary with regards to race. The interaction between minority sexual orientation and transgender women, men, and gender nonconforming are all negative and statistically significant. Now, the coefficients for being transgender are much smaller and no longer statistically significant, although they are all still negative. This is likely due to the significant overlap between the two groups. It may be a double disadvantage in some cases, but regardless, dramatic differences certainly reveal that transgender people face numerous disadvantages, in terms of employment.

Table 5: 2014-2021 BRFSS, 18-64-Year-Olds in the Labor Market, Outcome is Employed vs. Unemployed

VARIABLES	Graduated	race	minority SO	age	ENDAs
Cisgender woman	-0.020***	-0.010***	-0.012***	-0.032***	-0.014***
	(0.001)	(0.001)	(0.001)	(0.009)	(0.001)
Transgender woman	-0.043***	-0.033***	-0.014	-0.300***	-0.034**
	(0.012)	(0.011)	(0.011)	(0.112)	(0.014)
Transgender man	-0.049***	-0.044***	-0.017	-0.298***	-0.022
	(0.014)	(0.013)	(0.012)	(0.114)	(0.015)
Gender Nonconforming	-0.082***	-0.053***	-0.007	-0.163	-0.036*
	(0.019)	(0.016)	(0.017)	(0.133)	(0.020)
Graduated college	0.052***	0.060***	0.060***	0.060***	0.060***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Cisgender woman*Graduated college	0.019***				
	(0.001)				
Transgender woman*Graduated college	0.020				
	(0.020)				
Transgender man*Graduated college	0.041**				
	(0.020)				
Gender Nonconforming*Graduated college	0.077***				
	(0.025)				
Nonwhite		-0.020***			
		(0.001)			
Cisgender woman*Nonwhite		-0.009***			
		(0.002)			
Transgender woman*Nonwhite		-0.014			
		(0.021)			
Transgender man*Nonwhite		0.024			
		(0.023)			
Gender Nonconforming*Nonwhite		-0.007			
		(0.030)			
Any minority S.O.			-0.020***		
			(0.003)		
Cisgender woman*Any minority S.O.			-0.003		
			(0.004)		
Transgender woman*Any minority S.O.			-0.071***		
			(0.022)		
Transgender man*Any minority S.O.			-0.059**		
			(0.025)		
Gender Nonconforming*Any minority S.O.			-0.083***		
			(0.026)		
Age				0.003***	
				(0.000)	
Age squared				-0.000***	
				(0.000)	
Cisgender woman*Age				0.000	
				(0.000)	
Cisgender woman*Age Squared				0.000	
				(0.000)	
Transgender woman*Age				0.011**	
				(0.006)	
Transgender woman*Age Squared				-0.000*	
				(0.000)	
Transgender man*Age				0.012**	
				(0.006)	
Transgender man*Age Squared				-0.000*	
				(0.000)	
Gender nonconforming*Age				0.004	
				(0.007)	
Gender nonconforming*Age Squared				-0.000	
				(0.000)	
ENDAs					0.002*
					(0.001)
Cisgender women*ENDAs					0.004***
					(0.001)
Transgender woman*ENDAs					-0.005
					(0.019)
Transgender man*ENDAs					-0.025
					(0.022)
Gender nonconforming*ENDAs					-0.033
					(0.027)
Observations	775,877	775,877	775,877	775,877	775,877
R-squared	0.037	0.037	0.037	0.037	0.037

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

Notes: The outcome for all columns is an indicator for being employed or self-employed. All regressions control for survey wave, sexual orientation (any, don't know, refused, missing) age, age squared, white vs nonwhite, less than high school, some college, college (including technical or trade school) or more, and refused to provide, marital status (married/partnered, divorced, widowed, separated, refused to provide), census region, if the survey was done over a landline or cell phone, and the number of adults in each household. Data is from the Behavioral Risk Factor Surveillance System.

We also see significantly larger positive returns to education for transgender men and gender nonconforming people and age for transgender women and men. However, it is worth remembering that fewer transgender people have completed a college education and that the transgender population skews younger. This could reveal a self-awareness of transgender people's own venerability in the workforce, and a willingness to stick with lower-paying jobs once they have them.

In Table 5 I also attempt to find possible effects of ENDAs on those with transgender gender identities. In my first attempt, I code only state ENDAs that explicitly include gender identity and find no significant results. In my second attempt, not shown here, I code states that have ENDAs that include gender identity as well as all states after the Bostock v. Clayton County ruling and still find no significance. The ENDAs do not seem to be a source of significant differences in employment levels.

I use HPS data, but their employment variable is different – asking if the individual has worked in the past week and then, if they have not worked offering a variety of reasons why. None of the reasons directly

correspond to the definition of unemployed, so the Employed vs. Unemployed dummy variable may be less reliable.

I find that transgender people are generally more likely to be unemployed than cisgender men, but not necessarily cisgender women. Interestingly, the largest and most negative coefficient for transgender people is still when gender identity and age have been interacted with each other. Here it is not statistically significant, but in Table 4 it was for both transgender women and men. The interactions reveal little, but the sample size is significantly smaller.

Table 6: 2021 HPS, 18-64-Year-Olds in the Labor Market, Outcome is Employed vs. Unemployed

VARIABLES	(1) Graduated College	(2) Race	(3) Minority S.O.	(4) Age
Cisgender Woman	-0.017***	-0.004***	-0.005***	-0.025
	(0.002)	(0.001)	(0.001)	(0.015)
Transgender	-0.019	-0.014	-0.041**	-0.129
	(0.015)	(0.009)	(0.019)	(0.096)
Graduated college	0.071***			
	(0.003)			
Cisgender Woman*Graduated college	0.018***			
	(0.003)			
Transgender*Graduated college	-0.021			
	(0.003)			
Nonwhite		0.040***		
		(0.002)		
Cisgender Woman*Nonwhite		-0.002		
		(0.003)		
Transgender*Nonwhite		-0.011		
		(0.021)		
Any minority S.O.			-0.008**	
			(0.003)	
Cisgender Woman*Any minority S.O.			0.010**	
			(0.004)	
Transgender*Any minority S.O.			0.036*	
			(0.021)	
Age				-0.002***
				(0.001)
Age squared				0.000
				(0.000)
Cisgender Woman*Age				0.000
				(0.001)
Cisgender Woman*Age squared				0.000
				(0.000)
Transgender*Age				0.004
				(0.005)
Transgender*Age squared				-0.000
				(0.000)
Observations	215,329	215,329	215,329	215,329
R-squared	0.030	0.030	0.030	0.030

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

Notes: The outcome for all columns is an indicator for having worked in the past week. All regressions control for for sexual orientation (any minority sexual orientation, don't know, refused, missing) age, age squared, white vs non-white (including Hispanic), education (less than high school, some college, college - including technical or trade school or more - and education missing, marital status (married/partnered, divorced, widowed, separated, refused to provide), census region, and number of adults in household.

Limitations:

The limitations in this data are clear. Although this is the most representative sample available, neither survey claims to be representative of the United States' transgender population. The BRFSS is asked in certain states in certain years, covering 43 states and the District of Columbia at least once over the period. The HPS is smaller and asked over a few months in 2021 when the labor market was particularly volatile. Additionally, both surveys rely on self-identification, meaning analysts have no information on how respondents are perceived by their employers or potential employers as well as issues around who is willing to self-identify on a survey. However, self-identification does not require medical or legal transition, as other methods of identification might.

Additionally, BRFSS only asks that respondents choose options and does not require the respondent to say the word "transgender" and the HPS is an online survey. Beyond that, the surveys ask the gender identity question differently, which means that one could capture a slightly different sample, therefore it is reassuring that many of the means and coefficients follow similar trends.

Unfortunately, both systematically miss portions of the population: one survey requires a phone number while the other requires a computer, both miss homeless, institutionalized, and incarcerated individuals, which transgender people are more likely to be (Grant et al., 2011; James et al., 2016). Despite these qualifications, this analysis does contribute to an understanding of how gender identity is liked to income and employment.

Conclusions:

I have used 2014-2020 BRFSS data and Phase 3.2 of the HPS to show that transgender status is related to income and employment. Additionally, I build on the descriptive statistics provided by Carpenter, Eppink, and Gonzales (2020) with new years of data and a new dataset that more evenly samples the United States.

Using the additional years of BRFSS data, I find that both education and age set transgender individuals apart from cisgender men and women with regards to income and employment, potentially suggesting that young transgender individuals have particularly significant barriers to completing school and when entering the labor market.

I do not find any significant relationship between trans-inclusive ENDAs and employment or income outcomes. This could change with future years of data, should Bostock v. Clayton County hold and become more well known, so future research should investigate this as well as other policies that could influence socioeconomic outcomes. Additionally, future national surveys with questions on individual income, personal gender presentation, and work experiences could provide useful information.

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