



**Hiring Discrimination Against Transgender Job Applicants -
Considerations When Designing A Study**

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Hiring Discrimination against Transgender Job Applicants - Considerations When Designing a Study

Purpose

This paper discusses the factors to consider when designing studies to measure hiring discrimination against transgender job applicants.

Design/Methodology/Approach

The paper builds on academic literature related to hiring discrimination and transgender employment to build a detailed discussion of the numerous factors and issues inherent in hiring discrimination against transgender job applicants. By isolating and describing a number of relevant considerations, the paper aims to act as a guide for future studies to build upon.

Findings

Three types of hiring discrimination studies are discussed: correspondence tests, in-person experiments, and student cohort experiments. Three main categories of factors relevant to an experiments design are then discussed: the legal context, industry/role factors, and transgender population-specific factors. A flow-chart detailing the research design-decision making process is given.

Research Limitations/Implications

The discussion within this paper will act as a reference and a guide for researchers seeking to address this dearth of empirical studies in the literature. The list is not exhaustive; while a number of factors relevant to transgender-specific studies are identified, there may be more that could affect an experiment's design.

Originality/Value

Hiring discrimination against transgender people has been recorded in many surveys, but there is little empirical measurement of this discrimination. To the author's knowledge, this paper is the first to examine the experimental design decisions related to transgender hiring discrimination. In doing so, it provides contributions for two primary audiences: those researching transgender employment issues but who have never conducted a study measuring hiring discrimination; and those who have previously conducted studies on hiring discrimination, but have not done so with reference to transgender job applicants.

1. Introduction

Transgender issues have never been under so much scrutiny. The transgender community, which has always been relatively small (Flores, Herman, Gates & Brown, 2016), has in recent years faced unprecedented attention, both positive and negative, by politicians, the media, and workplaces. Trump's ban on transgender service members serving in the military, and multiple states' proposed 'bathroom bills' (which attempt to block transgender people from using bathrooms corresponding to their gender identity) have garnered much media attention, and both criticism and praise from many advocacy groups. Workplaces, often in response to their LGBT employee networks or to external NGOs, are more frequently drafting and enacting transitioning policies and transgender-specific inclusion practices. Newspapers, magazines and websites dedicate many pages to celebrities with transgender, genderqueer, and nonbinary identities, styles, children or causes.

However, despite all this attention, academia – or at least certain domains within academia – has lagged behind. The business, management, and economics literatures have barely broached the subject of transgender people; little research has been conducted on the careers and workplace experiences of transgender employees (Collins, McFadden, Rocco and Mathis, 2015; McFadden and Crowley-Henry, 2016; Pepper and Lorah, 2008), and issues relating to transgender employees are in many cases subsumed (and therefore often minimized or ignored) under the broader LGBTQ grouping (McFadden, 2015). Quantitative research in particular is lacking (Law et al., 2011; McFadden and Crowley-Henry, 2016). With more people between 18 and 24 years old identifying as trans than in any other age group (Flores et al., 2016), organizations will be increasingly tasked in forthcoming years with ensuring that their workplaces are inclusive recruiters and employers. To do that, however, they must first be able to access evidence-based, empirical research that paints a true picture of the transgender employee's experience. Allowing the narrative to be constructed, reconstructed, twisted and wrought by popular media and politicians is therefore problematic.

In addition, there are multiple issues that are unique to the transgender community that do not affect cisgender (non-transgender) lesbian, gay or bisexual people, such as physically transitioning, socially transitioning, and the aforementioned bathroom issues. Transgender people also face higher homelessness and unemployment than cisgender people (Drydakis, 2017). While discrimination is a problem faced by each subgroup of the LGBTQ community,

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3 the exact type of discrimination differs from group to group. Hiring discrimination, the focus
4 of this paper, is a topic that has recently been studied in relation to lesbian and gay job
5 applicants, in a number of different geographic, cultural, and organisational contexts (e.g.
6 Ahmed, Andersson and Hammarstedt, 2013; Drydakis, 2009; Tilcsik, 2011; Weichselbaumer,
7 2003). Experiences of hiring discrimination have been recorded in many surveys of
8 transgender participants (e.g. Badgett et al., 2007; Grant et al., 2011; McNeil, Bailey, Ellis
9 and Regan, 2013; FRA, 2014; James et al., 2016, Leppel, 2016; Valfort, 2017), but only a
10 very limited number of empirical studies, with mostly small sample sizes, have been
11 conducted to quantitatively measure the level of discrimination against transgender job
12 applicants (e.g. Bardales, 2013; Make The Road New York, 2010; Rainey & Imse, 2015;
13 Winter et al., 2018). In his review of research on sexual orientation labor market outcomes,
14 Drydakis (2019) highlights the need for more research on labor market outcomes for
15 transgender people.

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17 Part of the reticence to study transgender hiring discrimination may come from the relatively
18 tiny size of the population and its associated perceived importance in comparison to other
19 marginalized groups; in other words, it may not appear as pressing an issue as, for example,
20 discrimination against females or ethnic minorities. Another reason, however, could be due to
21 the complexity of the scenarios one must try to parse when conducting studies of this type; in
22 effect, it appears to be too difficult a subject to even try broach. The very concept of
23 ‘transgender’ is, for many societies and many individuals within those societies, a relatively
24 new or novel consideration, despite the long history of non-cisgender identities within
25 multiple geographical, cultural and religious arenas.

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27 This article attempts to serve as a response to both of these possible misgivings, and as a
28 research agenda, to hopefully fuel future research in this area. In relation to the complexity of
29 the topic, the paper endeavors to break the process of measuring hiring discrimination against
30 transgender job applicants into its most fundamental parts, and in this way to act as an
31 introduction to experiments of this type for relative neophytes, while also providing detail
32 specific to this under-researched population for both new and experienced scholars alike. In
33 relation to the possible perceived insignificance of this topic relative to similar research with
34 larger marginalized populations, the fundamental importance of studying this vulnerable
35 population, and in particular measuring discrimination against them with an aim to address it
36 more comprehensively, is discussed. This paper is thus part review and part research agenda,
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3 bringing together the extant relevant literature on transgender and other minority populations
4 from previous years in order to outline what can and must be done in the forthcoming years.
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7 The rest of the paper is structured as follows. Firstly, the methods by which one may conduct
8 research on this topic (including correspondence tests, in-person studies, and recruitment
9 experiments using student cohorts) are discussed. Then, the paper follows a
10 macro/meso/micro categorization to explore the various factors that should be considered
11 when designing a study exploring this topic; at the macro level, the legal climates in which a
12 study may be situated; at the meso level, various relevant aspects of the industry and roles
13 focused upon; and at the micro level, factors specific to the transgender population and to the
14 individual job applicant that should be considered in a test on hiring discrimination. Fig. 1
15 depicts this framework and structure. The structure used in this paper therefore follows the
16 experiment design process itself – from initial conception and larger choice of method to the
17 particular tweaks and customizations a researcher wishes to add to their study. Where
18 appropriate, reference is made to existing studies that measure hiring discrimination, to
19 provide exemplars that can help guide understanding of the experimental design process.
20 Lastly, the conclusion summarizes the article's main points and discusses the implications for
21 future researchers and for practice.
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33 Before that, a note on terminology. As well as being a descriptive label in itself, the term
34 transgender is often seen as an 'umbrella' term that includes any identities that do not
35 conform to traditional characterizations of gender, including genderqueer, non-binary and
36 agender (Collins et al., 2015). For simplicity, however, this paper uses transgender to refer
37 only to transmen and transwomen, but it is hoped that the paper will also be of use those
38 studying identities with the broader trans umbrella group. In addition, while it more
39 acceptable, inclusive and common to simply refer to transgender people in relation to their
40 gender identity (i.e. man or woman), for the purposes of differentiating between cisgender
41 and transgender job applicants in an experiment design, the terms transmale/transman and
42 transfemale/transwoman, along with cismale/cisman and cisfemale/ciswoman, will be used in
43 this paper.
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53 As shown in Fig. 1, attention is paid first to the initial choice one may take in the design of a
54 study on transgender hiring discrimination- the choice of method.
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2. Types of Experiments

As mentioned above, there are a number of methods one might use when seeking to measure hiring discrimination. Below, three popular designs are described, each of which has at least one known study concerning transgender job applicants. These designs are discussed with reference to transgender population-specific considerations that may warrant an adaptation of these designs. Reflections and proposals for such adaptations are discussed.

2.1 Correspondence Tests

The correspondence test (also known as correspondence experiment, field experiment and résumé experiment) is one of the most widespread methods to measure hiring discrimination. Correspondence tests are usually designed in one of two common ways – a single inquiry design or a matched-inquiry design (Flage, 2019). Firstly, the experimenter creates fictitious résumés that will be sent to real job adverts, usually within a defined geographical area and/or industry. At least two are created – they are alike in all aspects relevant to the jobs or industry being focused on (education, experience, etc.); the aim being to make both fictitious candidates equally qualified for the job. One key difference is included; a signal (or signals) on one résumé portrays the candidate as a member of the population the researcher is studying (e.g. African American, female, gay, pregnant, Muslim). The signal, naturally, varies depending on what characteristic or feature the researcher aims to convey. The résumés are then sent in response to job postings – either one résumé per job posting (the cisgender or transgender résumé is randomly chosen), or the pair of matched résumés. The amount of positive replies (in most cases, a ‘callback’, i.e. a request for the fictitious candidate to come for interview) is recorded for each candidate. Any difference in the positive responses between the two candidates can be interpreted as discrimination against one of them, as all relevant factors have been controlled for.

Since the first correspondence test was published (Jowell and Prescott-Clarke, 1970, on race-based hiring discrimination in Birmingham, UK) the method has been used to measure hiring discrimination against women (e.g. Riach and Rich, 1987), racial minorities (e.g. Bertrand and Mullainathan, 2004), gay men (e.g. Tilcsik, 2011), lesbians (e.g. Weichselbaumer, 2003, 2015), and Muslims (Pierné, 2013). The method has been adapted for technological advances, moving from mail-based applications and call-backs (e.g. Jowell and Prescott-Clarke, 1970), to an online and email-based experiment (e.g. Bardales, 2013; Baert, Cockx, Gheyle and Vandamme, 2015).

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3 There have been very few correspondence tests conducted to measure hiring discrimination
4 against transgender job applicants, and their samples sizes are quite limited in most.

5 Bardales' (2013) experiment was conducted within two cities in Texas, Houston (where net
6 discrimination was 37%), and San Antonio (21%). Rainy and Imse (2015) conducted a
7 government-sponsored study on transgender hiring discrimination in the District of
8 Columbia, and found that 48% of employers discriminated against a more qualified
9 transgender applicant in favor of at least one less qualified cisgender applicant. Winter et al.
10 (2018) conducted a larger-scale experiment in four countries in South East Asia, and found
11 discrimination against both male and female transgender job applicants in each country and
12 across a variety of job sectors, with cisgender applicants receiving, on average, 50.6% more
13 positive responses to applications than transgender applicants. While the number of
14 correspondence tests measuring transgender hiring discrimination is small, these first
15 attempts give future researchers valuable insight into designing similar, larger-scale
16 experiments in other contexts, and the potential issues that may arise whilst doing so.

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18 The key component of the correspondence test, the signal, is where some of the complexity
19 lies in conducting this experiment in relation to transgender job applicants. Probably the
20 simplest signal to convey, gender, is performed by using names exclusive to one gender. It is
21 important that the signaling characteristic remains an appropriate feature of a résumé, in case
22 it raises the hirer's suspicion. In addition, however, the experimenter must be careful to
23 ensure that the signal doesn't convey any other characteristics that might affect the hirer's
24 decision to invite the candidate to interview or not (Tilcsik, 2011). Bardales (2013)
25 manipulated both the experience section and the name of the transgender job applicant's
26 résumé in order to signal they were a transfemale; the applicant is given experience in a
27 "Male-to-female" group and a "Transgender Women's Group", and a 'legal name', in
28 parentheses, follows the candidate's name at the top of the résumé. Winter et al. (2018) used
29 two signals, with some variations associated with regional customs, to convey that the
30 applicant was transgender – a gender/sex marker and a name marker. With the former, the
31 transgender applicant used the term 'trans man' or 'trans woman', while the cisgender
32 applicant used 'man' or 'woman'. With the latter, the transgender applicant's résumé had
33 both the applicant's legal name and a preferred name, while the cisgender applicant had just
34 one name.

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36 These manipulations may still be a viable option in future research; however, in many
37 jurisdictions, such as California and the Republic of Ireland, transgender people are able to

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3 legally change their name and gender markers with less trouble or bureaucracy than before,
4 and one might reasonably expect that they would prefer to be known only by their new name,
5 which could render this manipulation somewhat unrealistic in future studies, potentially
6 leading to the hirer detecting the study.
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10 As Badgett et al. (2007) and Tilcsik (2011) discuss, experience in a volunteer organization,
11 such as that used by Bardales (2013), may additionally convey that the candidate is an activist
12 and/or has a particular political leaning, which could (both positively or negatively) affect the
13 hirer's decision to invite the candidate to interview or not (Flage, 2019). This effect can be
14 moderated however; Drydakis's (2014) fictitious gay/lesbian applicant and heterosexual
15 applicant both have experience in a volunteer organization (the former specifically in an
16 LGBT organization), but this experience is by the time of application ended and somewhat
17 outdated. Tilcsik's (2011) fictitious gay candidate has experience in a gay community
18 organization, but the résumé highlights the managerial and financial skills the candidate has,
19 which communicates that this experience more skill-based activities than political activism,
20 and also renders the treatment less open to detection. In addition, Tilcsik's (2011) heterosexual
21 candidate has experience in a similarly left-leaning organization, as a control.
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32 A key consideration when conducting a correspondence test is the possibility that the
33 company advertising the job may become aware, or suspect, that they are subjects in a study
34 and that their responses are being observed, and a result act in a less discriminatory and more
35 socially-desirable fashion. The single-inquiry method would address this, but would require a
36 larger sample (and thus, time and resources) to provide more statistical power (Flage, 2019).
37 Researchers therefore have multiple choices to make that may affect the interpretation and
38 perceived veracity of the résumés being used.
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45 There is therefore an onus on one using the correspondence test design to ensure that the
46 résumés used (a) unambiguously convey that the fictitious candidate is transgender, (b) look
47 real enough that the hirer doesn't recognize that an experiment is being conducted, and (c)
48 don't contain any factors that could potentially unintentionally convey additional information
49 about the candidate. A potential remedy to each of these concerns could be to simply add a
50 legal name in parentheses after the candidate's name on the résumé, following Bardales
51 (2013), but also include the previous name within the relevant experience section (e.g. "*Sales
52 Associate, as John Smith*"). In doing so, a hirer questioning why someone would out
53 themselves as transgender on their résumé (and potentially realizing that it is a fake used as
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3 part of an experiment) would presume they have done so because they have experience under
4 a different name that is relevant to the role applied for. This résumé treatment is not
5 uncommon for transgender jobseekers, and the decision whether or not to list one's previous
6 names is a commonly encountered issue (Transgender Law Center, 2016). In using this
7 signal, it is made clear that the candidate is transgender, the résumé is still realistic looking,
8 and no potentially confounding variables are introduced.
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14 Correspondence tests remain a popular option for studies focusing on hiring discrimination at
15 the job application stage of the recruitment process; however, the method does have its
16 constraints. For example, this method focuses solely on the application stage of the hiring
17 process – discrimination could still occur later in the process, but not be found at this stage. It
18 should also be noted that this method takes a lot of resources to conduct successfully – each
19 application and the tracking of call-backs requires time, effort, and sustained focus on behalf
20 of the researcher(s). An alternative to the correspondence test is the in-person study,
21 discussed below, which can address different aspects and stages of the recruitment process.
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31 *2.2 In-Person Studies*

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33 Before correspondence tests were first conducted, Daniels (1968) conducted a similar
34 experiment, but instead of using matched résumés, employed pairs of actors to attend job
35 interviews. Audit studies, or, as they are called here for clarity, in-person studies, have been
36 used to measure hiring discrimination in relation to gender (e.g. Neumark, Bank and Van
37 Nort, 1996), race (e.g. Kenney and Wissoker, 1994), and, in the first and perhaps only one of
38 its kind, transgender identity (Make The Road New York, 2010). While the correspondence
39 test method above is designed to measure discrimination at the first stage of the hiring
40 process (the job application), the in-person method measures it at the second stage (the job
41 interview), and so can focus on a different part of, and different factors within, the job
42 application process. Like correspondence tests, in-person studies focus on the real labor
43 market, and allow the experimenter more control over the variables that they feel are relevant
44 to hiring, in comparison to a statistical analysis of existing data (Heckman and Siegelman,
45 1993). Discrimination experienced at the job interview stage is an important factor to
46 consider when discussing hiring discrimination against transgender job applicants, and in-
47 person studies provide insight into this stage where other methods (i.e. correspondence tests
48 and student cohorts) cannot. In addition, when combined with field notes or debrief
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3 interviews, the actors in these studies could provide experiential information that could serve
4 as valuable, descriptive qualitative data on discrimination, and a suitable counterpart to
5 quantitative analyses. Make the Road New York (2010) conducted the only in-person study
6 involving transgender job applicants, to the author's knowledge. Two pairs of actors, of
7 varying genders and races, were employed to act as job-seekers within Manhattan, and
8 brought with them to interviews equivalent (fictitious) résumés. The researchers found a net
9 rate of discrimination of 42% against transgender job applicants. Like Bardales (2013), this
10 study also used a small sample size, but this study outlines factors and issues that can be
11 useful for researchers considering or conducting an in-person study to measure transgender
12 hiring discrimination.
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21 In-person studies may be criticized, however, because the crucial similarity between the two
22 job applicants/actors in all aspects except the test characteristic can be difficult to achieve –
23 many variables may unintentionally be implicated (Heckman and Siegelman, 1993; Neumark,
24 2012; Neumark and Rich, 2019). Because the researcher conducting the study naturally can't
25 be present at the interview, there is a loss in control in the experiment's execution, in
26 comparison to correspondence tests. There is also the possibility of bias on behalf of the
27 actors involved, who may consciously or subconsciously confound the experiment (Heckman
28 and Siegelman, 1993). Heckman and Siegelman (1993) offer a well-known critique of both
29 correspondence tests and in-person studies, where they argue that these experiments often do
30 not address group differences in the variance of unobservable determinants of productivity.
31 While the experimenter may perfectly match the assumed relevant characteristics pertaining
32 to both candidates' merit (such as education, experience, etc.), there may still exist certain
33 unobservable characteristics that could affect the hirer's decision. A correctly designed
34 experiment should render these unobservable characteristics equal across both groups,
35 however, Heckman and Siegelman (1993) argue that it is the (presumed) *dispersion* of these
36 unobservable characteristics within each group that could bias the results in either way. In
37 this context, if a hirer were to consider that there were certain characteristics (of which the
38 experimenter has no knowledge) that would affect a potential employee's productivity, and
39 furthermore believed that there was more variation in the degree of these characteristics in
40 transgender people in comparison to the cisgender people (or vice-versa), this would be
41 implicated in the overall net discrimination found in the analysis (i.e. it could seem that there
42 is less or more discrimination present than there actually is). Baert, Cockx, Gheyle and
43 Vandamme (2015) and Carlsson, Fumarco and Rooth (2014) find that this perceived group
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3 variance is higher in minority groups because the hirer is usually less familiar with that
4 group. Therefore, any measurements of discrimination against transgender job applicants
5 should bear this in mind, as well as Neumark's (2012) method of correcting for this potential
6 bias.
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10 There are therefore advantages and disadvantages to in-person studies, and its usage should
11 therefore be predicated on the particular aspects of hiring discrimination the research is
12 focusing upon. For example, in addition to research concentrating on the job interview stage
13 of the hiring process, in-person studies could provide a viable alternative to correspondence
14 tests or student cohort experiments in research that involves an element of visual signaling,
15 such as a study focusing on gender conformity, discussed in Section 3.3.3 below.
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24 *2.3 Student Cohorts*

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26 While correspondence tests allow a direct measurement of labor market discrimination, they
27 can be, as noted above, complex to perform and require a relatively long data collection
28 period. In-person studies may be more suitable for more visual manipulations, but can be
29 resource-intensive and be difficult to design successfully. A potential alternative to these two
30 tests is to use student cohorts to make fictitious hiring decisions; in other words, to base the
31 hiring discrimination study not within the real labor market but within a laboratory setting.
32 Student cohorts have been used in studies of hiring discrimination against candidates with
33 facial disfigurements (e.g. Stevenage and McKay, 1999), those with foreign accents (Hosada
34 and Stone-Romero, 2010), and those with a criminal history (Varghese, Hardin, Bauer, and
35 Morgan, 2009).
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44 The exact procedure when using a student cohort can vary according to the test characteristic,
45 and doesn't have to solely be based on résumés. For example, Hosada and Stone-Romero
46 (2010), measuring discrimination against those with foreign accents, had their students listen
47 to a recorded audio interview as well as reading a résumé, before making an employment
48 decision. Stevenage and McKay's (1999) study related to facial disfigurement used a
49 photograph along with the résumé. Van Borm and Baert (2019) conducted their study
50 exploring the mechanisms underlying transgender labour market discrimination using a
51 student cohort, the only such study known to the author. They found that their participants,
52 while not intrinsically biased against fictitious transgender candidates themselves, did rate the
53 transgender applicant lower than a similar cisgender applicant when asked whether customers
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3 and co-workers, respectively, would enjoy collaborating with the applicant. This raises the
4 possibility of discrimination not directly from the hirer, but (it is presumed by the hirer) from
5 a colleague or customer, which is explored in more detail in the Industry factors section
6 below.
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10 In comparison to the other experimental designs discussed, there are a number of advantages
11 to using a student cohort, including the ease of access to a large cohort (from the researcher's
12 or their colleagues' classes), and the relative ease of capturing responses. Because the
13 experimenter has more control over the process than with the other two methods, they can
14 more easily isolate a particular variable of interest to investigate. However, a criticism of
15 using student cohorts in studies like this is that their decisions may not be comparable to
16 hirers in the real labor market (Hosada and Stone-Romero, 2010). Students are, of course, not
17 a stakeholder in the business; while a recruiter, HR employee or manager may face negative
18 job-related consequences if they hire an unsuitable candidate, the students involved in
19 fictitious recruitment experiments are not under this pressure. Agents in the real job market
20 may therefore be more cautious in their hiring decisions, and see hiring a transgender job
21 applicant as more of a risk (either because of their own prejudices, because of assumed
22 prejudices on behalf of their colleagues or co-workers, or because of productivity-related
23 generalizations of the transgender community) than students who are simply making a one-
24 off, consequence-free, hiring decision. In addition, students have been found to be, on
25 average, more socially liberal (Bailey and Williams, 2016), possibly leading to a more
26 favorable evaluation of minority candidates. Student participants are also aware that they are
27 taking part in a study and may thus act in a more socially desirable manner (Van Borm and
28 Baert, 2019), and can also be aware of the experimenter's research interests and therefore the
29 area of investigation, potentially leading to additional bias. Because of the relative ease in
30 collecting data and isolating a variable in comparison to the other methods above, and their
31 ability to mimic real hiring decisions, student cohorts provide a viable alternative to
32 correspondence tests and in-person studies. However, because they are by design not situated
33 in the real labor market, extra care and perhaps additional studies should be involved to
34 ensure any generalization of the results is correct. The next part of this paper explores
35 additional relevant factors to consider when conducting an experiment measuring transgender
36 hiring discrimination.
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3. Mediating Factors

As we have seen above, there are a number of different experiment designs one may use to measure transgender hiring discrimination, and each design lends its own strengths, weaknesses and particular focus. However, once a method has been chosen, there remains an equally complex process in designing the experiment itself. The following sections discuss the various factors that a researcher must be cognizant of in order to carry out a viable and effective study on this topic.

3.1 Legal Factors

A major factor to consider in designing an experiment such as this is whether or not legislation designed to protect transgender employees and potential employees is present in the location being studied, as different rates of discrimination might be measured in jurisdictions with anti-discrimination protections in place. Associated with this are the differences in socio-political climate; presumably areas with a more socially liberal outlook are more likely to have protective laws of this type. Protection may be city or county-based (an ordinance) or country-wide, depending on the particular country's administrative structures. The question of whether existing anti-discrimination legislation is extended to cover transgender people is somewhat uniquely open to interpretation, and therefore requires the researcher to explicitly confirm before conducting their study. While the European Commission had previously stated that the protected grounds of 'sex' could be extended only to those who had undergone *gender reassignment* (i.e. excluding those who had not fully physically transitioned), in 2015 they revised their position to include *gender identity* (which includes all transgender people) under the 'sex' grounds (TGEU, 2015).

The legal situation in the USA is less certain, however, and is an illustrative example of the ambiguity with regards transgender employment protection in many countries' jurisdictions at present. At the time of writing (September 2019) there is no federal law in the USA that explicitly outlaws discrimination on the basis of gender identity (Movement Advancement Project, 2017). Multiple actors have argued for and against these protections, with the specific point of contention being the exact interpretation of Title VII of the Civil Rights Act of 1964, which prohibits discrimination in employment on the basis of sex, *inter alia*. Meanwhile, at state level, twenty-two states prohibit transgender employment discrimination, and at least 225 cities and counties (Human Rights Campaign, 2019). There is therefore a

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3 great deal of variation in the degree of employment protection that transgender people have
4 across different states and cities, and researchers seeking to measure transgender hiring
5 discrimination in the USA, and in other countries with similarly variability, should therefore
6 be cognizant of this possibly mediating factor when designing a study.
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10 As well as being cognizant of the legislative context in which one is basing their study,
11 another consideration is that the study in itself could seek to measure of the effectiveness of
12 legislation designed to protect transgender employees from discrimination. Bardales' (2013)
13 correspondence test discussed above, measured both the level of hiring discrimination against
14 transgender job applicants and how well the laws present in two cities affected the rate of
15 discrimination recorded. However, although protections may differ from area to area, many
16 organizations may offer their own non-discrimination policies that include transgender
17 employees, and presumably, transgender job applicants, which may run counter to the
18 prevailing legal protections in the organization's surrounding region. This is discussed in the
19 *Industry and Role Factors* section below.
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31 ***3.2 Industry and Role Factors***

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33 The industry and role for which the fictitious candidates are applying will naturally be of
34 importance and interest to researchers. Below, industry and role factors that may be more
35 prevalent, relevant, or important in studies of transgender hiring discrimination are outlined.
36 While they are discussed discretely below, in actuality these factors will coalesce; it is up to
37 the researcher(s) to decide what and how to isolate these variables when designing their
38 study. At the risk of complicating a study, but also to provide more findings, multiple factors
39 may also be investigated.
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49 ***3.2.1 Customer-facing roles and co-worker discrimination***

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51 In customer-facing roles, such as bank clerk or sales assistant, negative treatment against
52 transgender candidates might potentially occur not because the hiring manager is themselves
53 discriminatory, but because they believe that the customers themselves may react negatively
54 to having a transgender person attend to them. As discussed above, Van Borm and Baert
55 (2019) found that their student cohort rated transgender candidates lower than cisgender
56 candidates when asked if their colleagues or customers would enjoy collaborating with them.
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3 Similarly, anticipated discrimination from existing employees in the organization could be a
4 reason for a hirer's negative response. More research is needed to empirically explore these
5 concepts in relation to transgender job applicants. For example, an experiment could explore
6 not only discrimination against transgender job applicants in comparison to cisgender
7 applicants, but also on contexts that differ in the degree to which customers are involved. For
8 example, part of a study could focus upon customer facing retail workers and the other part
9 upon non-customer facing retail workers. If discrimination was found to be higher in the
10 former context, one could infer that this it is based upon customer-based discrimination.
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Researchers could investigate both customer-based and co-worker-based discrimination together or separately, and in doing so, garner insights into the varying experiences of transgender employees and job applicants in different industries.

3.2.2 *Male and Female Dominated Industries*

Male-dominated industries, such as law enforcement, construction, and engineering, and female-dominated industries, such as nursing, primary education, and counseling, have been used in multiple studies of hiring discrimination against straight male and female, lesbian and gay candidates (e.g. Ahmed et al., 2013; Riach and Rich, 1995, 2006). Masculinized industries are defined by Collins and Callahan (2012: 455) as those which involve “men embodying heterosexual work styles”, a definition which highlights not only the pervasiveness of males but also of heterosexuality in these industries. Indeed, gay men often have safety, stress and marginalization concerns in working in such industries (Collins and Callahan, 2012; Collins, 2013, 2015; Rumens and Broomfield, 2012), while lesbians can face harassment based on their sexuality, their gender, or a combination of both (Wright, 2008; 2013). Ahmed et al. (2013) found that gay male applicants are discriminated against in typically male-dominated occupations, while lesbian applicants are discriminated against in typically female-dominated occupations. Riach and Rich (1995, 2006) found that women were discriminated against in typically male-dominated occupations. They also found that men were discriminated against in female-dominated occupations (Riach and Rich, 2006). More recently, Drydakis et al. (2018) found that women with more traditionally masculine personality traits had a greater likelihood of gaining access to male- and female-dominated occupations. There is thus an established literature that shows that the existing gender breakdown of an industry is implicated in hiring discrimination against job applicants.

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3 The rate of discrimination against transgender job applicants in either male- or female-
4 dominated industries remains virtually unknown. However, a study looking at this topic may
5 shine a light not only on the experiences on transgender employees but on gendered
6 occupations in general. There are a number of combinations, and possible outcomes, that
7 would be implicated in such a study, wherein the complexity (but also, one could argue, the
8 importance) lies. For example, how do recruiters in a male-dominated industry (e.g.
9 construction) react, on average, to a transmale applicant: in a similar sense to cismale
10 applicants (no transgender-based discrimination), less favorably than cismale applicants but
11 more favorably than cisfemale applicants (transgender-based discrimination present to a
12 lesser degree than sex-based discrimination), or less favorably than any cisgender applicants
13 (trans-based discrimination more prominent than sex-based discrimination)? Carefully-
14 designed studies could reveal the extent to which transgender applicants, both transmale and
15 transfemale, face discrimination in both male- and female-dominated industries, and may also
16 uncover some more generalized findings about the role of gender in these industries.
17 However, regardless of whether or not the researcher includes gendered occupations in their
18 analysis, they should at the least be aware of the existence of male-and female-dominated
19 industries and roles, and either include or control for them in their experiment design, in case
20 they inadvertently distort the collected data.
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37 3.2.3 Large and Small Organizations

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39 As discussed in the *Societal Factors* section, many countries may play host to wide variations
40 in the level of protection against transgender employment discrimination. However, many
41 multi-national organizations have non-discrimination policies that include gender identity –
42 85% of the Fortune 500 (HRC, 2019). These policies may or may not run counter to the laws
43 or ordinances present in the location of the office wherein a job posting is situated. Smaller
44 organizations, however, may not extend their non-discrimination policies to gender identity,
45 or may not have a formalized non-discrimination policy at all, instead following local
46 legislative and cultural contexts. While Baert, De Meyer, Moerman and Omey (2018) did not
47 find a relationship between firm size and hiring discrimination against female, ethnic
48 minority, or older candidates, it is possible that the recency with which transgender issues
49 have gained attention (relative to gender, age and ethnicity discrimination) might result in
50 lesser-developed policies and practices within smaller organizations. In addition, even if a
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3 smaller organization has such a policy, their small staff size and the fact that transgender
4 people make up only a tiny part of the population (Flores et al., 2016) could mean that these
5 policies have not actually been used or actively enforced. Experimenters could therefore
6 develop a study that investigates the size of an organization, the presence/absence of trans-
7 inclusive policies, and the amount of hiring discrimination against transgender job applicants.
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12 Larger organizations may also use different methods of screening in their recruitment
13 process. Computer-assisted screening of résumés is a feature in many large organizations,
14 where an algorithm, rather than a human, decides whether or not to send a candidate past the
15 first stage of the application process. While these algorithms have recently courted some
16 controversy with regard to gender bias (Reuters, 2019), they may in future become more
17 commonly used, and are a consideration for researchers designing hiring discrimination
18 experiments involving larger organizations.
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28 *3.2.4 High Skill and Low Skill Occupations*

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30 The differences between high skill and low skill occupations present another consideration
31 for researchers examining hiring discrimination against marginalized groups. A low skill
32 occupation will, almost by definition, have lower barriers to entry and therefore is more likely
33 to have more applicants; a high skill occupation would have a higher threshold and arguably
34 would have fewer applicants for a job opening. With the former, taste-based discrimination
35 (Becker, 1957, explored below) may be more prevalent, as the hirer could more easily afford
36 to choose not to hire a qualified transgender applicant, because there would most likely be an
37 equally qualified cisgender applicant, and would be less likely to get caught in the act of
38 discrimination. In high-skill occupations, as the applicant pool gets smaller, the economic
39 penalty for not choosing the most qualified applicant because they were transgender would
40 get steeper, as similarly skilled applicants may not be present. Baert et al. (2015) found that
41 candidates with a foreign sounding name would have to apply for twice as many applications
42 for occupations where recruitment was easy. Where recruitment was not easy (e.g. high labor
43 market tightness), the candidate with the foreign sounding name and the native-sounding
44 control candidate received an equal amount of callbacks, suggesting there may be a
45 relationship between hiring discrimination and labor market tightness. Flage (2019) finds in a
46 meta-analysis of hiring discrimination against gay and lesbian job applicants that
47 significantly less discrimination can be found in recruitment for high skill jobs than in low
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3 skill jobs. He points out that, in addition to having more freedom to discriminate because of
4 the higher volume of applications, employers also focus more on skills when recruiting for
5 positions that involve more responsibility and/or specialized skills (e.g. banker). Personal
6 characteristics (such as sexual orientation or being transgender) would therefore be
7 implicated to a higher degree in low skilled jobs.
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12 Transgender job applicants may therefore similarly face increased levels of discrimination in
13 slack labour markets, or when applying for low skill jobs. An exploration of high/low skill
14 occupations and/or labor market tightness with regards to transgender job applicants would
15 not only provide much-needed data on this employee cohort's experiences, but would also
16 shed light on hiring discrimination in general, by exploring the phenomenon in various
17 different occupations and settings.
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26 **3.3 Population-Specific Factors**

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28 As stated above, the term transgender can refer to a number of non-cisgender identities, such
29 as transman, transwoman, and genderqueer, and transgender is often used as an umbrella term
30 to describe any identity that does not conform to traditionally binarized notions of gender.
31 Those with certain intersectional identities, where multiple marginalized identities exist in
32 concert (such as an African American transwomen) face discrimination of different severities
33 and types. When one wants to measure hiring discrimination against transgender job
34 applicants, then, they must first decide on *which* subpopulation(s) within the transgender
35 community they want to base their study upon, as the complicated interplay of these multiple
36 considerations may result in complicated or even unworkable data. Some of the population
37 factors, explored below, will be more of a consideration in studies focusing on résumé
38 experiments, while other factors may be implicated in studies concerning face-to-face
39 interviews or recruitment experiments involving photographs.
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52 *3.3.1 Taste-based Discrimination and Statistical Discrimination*

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54 Two concepts are often cited when attempting to explain the underlying mechanisms of labor
55 market discrimination against minority workers: *taste-based discrimination* and *statistical*
56 *discrimination*. Becker (1957) is credited with the former; taste-based discrimination, as the
57 name suggests, relates to discrimination arising from an aversion on behalf of the hirer for
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3 working with a member of a particular group, or a preference for working for a member of
4 another group, regardless of either worker's perceived productivity (Becker, 1957). For
5 transgender workers, taste-based discrimination would possibly most accurately be related to
6 transphobia, "an emotional disgust toward individuals who not conform to society's gender
7 expectations" (Hill and Willoughby, 2005: 533), which is an unavoidable, prevalent and
8 observable phenomenon in many aspects of society and the lives of transgender people (Hill
9 and Willoughby, 2005).

10
11 The other concept that is commonly associated with labor market discrimination, statistical
12 discrimination, is credited to Phelps (1972) and Arrow (1973), and arises not from a distaste
13 on the part of the hirer but because the hirer has imperfect information about the individual
14 applicant and must "fill in the blanks". They instead use the individual applicant's
15 membership of a group to decide whether or not to hire them, by making generalizations
16 about the group itself. A hirer may therefore stereotype an applicant as probably having
17 certain undesirable characteristics that could interfere with their productivity and, not from
18 any particular distaste for the applicant's group itself, but from this presumption, will decide
19 not to hire them (Phelps, 1972).

20
21 There has been very little research conducted to explore these two concepts in relation to
22 transgender job applicants, and more is needed to explore the roles of and interplay between
23 taste-based discrimination and statistical discrimination in the labor market. Von Borm and
24 Baert (2018) found no taste-based discrimination on behalf of the hirer, but did find evidence
25 suggesting statistical discrimination in relation to health. The roles of taste-based
26 discrimination and statistical discrimination in transgender hiring discrimination, while easily
27 hypothesized, appear to remain as yet empirically tested in the real labor market.

28
29 One potential way of investigating this could be to use applications that include more
30 information (e.g. by including more experience, more education, or a reference letter) in
31 addition to applications with standard information (e.g. just a résumé), as in Drydakis (2012;
32 2014). While an experiment may reveal that transgender job applicants receive fewer call-
33 backs than cisgender applicants, the exact nature of this discrimination would remain
34 unknown. By including an information variable into the analysis, one can determine whether
35 statistical discrimination, taste-based discrimination, or both forms are at play.

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37 For example, if the addition of information leads to a dramatic decline in the rate of
38 discrimination, then one may infer that statistical discrimination is the main cause of the
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3 reduced amount of callbacks for the transgender applicant. The hirer is making
4 generalizations about the transgender applicant because of imperfect information, which is
5 then rectified with the increased information provided – they are, as Flage (2019) puts it,
6 ‘reassured’ by the presence of additional information. If the addition of information to an
7 application results in roughly the same rate of discrimination for the transgender applicant,
8 then taste-based discrimination can be said to be occurring – the hirer’s prejudice is affecting
9 their choice in applicant, regardless of the amount of information they have. If the addition of
10 information leads to a decline in the rate of discrimination, but there is still significant
11 discrimination present, then the presence of a combination of taste-based and statistical
12 discrimination can be inferred. By introducing an information variable, the experiment design
13 is made more complex – a 2x2 design (transgender/cisgender x standard information/more
14 information) rather than a simple comparison (transgender versus cisgender). However, this
15 complexity is perhaps justified by the enhanced explanatory power the study will have as a
16 result.

17
18 Distinguishing between statistical discrimination and taste-based discrimination is important
19 because, as Neumark (1999) suggests, determining the cause of discrimination can help
20 identify how best to counter it. For example, antidiscrimination legislation can help address
21 taste-based discrimination; if statistical discrimination is present then other more informative
22 means of assessing a candidate’s productivity should be used.

37 38 *3.3.2 Transmen and Transwomen*

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40 As discussed above, previous literature has shown that cisgender women and men face hiring
41 discrimination in male and female-dominated occupations, respectively. However, women
42 often face increased and varied forms of employment discrimination, including wage
43 discrimination, the ‘sticky floor’, and the ‘glass ceiling’. Similarly, survey evidence and
44 qualitative research has found that transwomen often face increased, and different forms of,
45 discrimination than transmen (Schilt and Wiswall, 2008; Grant et al., 2011), and, like with
46 cisgender women, transwomen face a workplace ‘gender penalty’ (Schilt, 2006). This has
47 important implications for the design of a study measuring transgender hiring discrimination;
48 gender differences between transgender job applicants is a variable that should be either
49 included or controlled for in an analysis.

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51 However, the different levels of discrimination faced by transmen and transwomen are
52 complicated by gender stereotyping within industries and occupations (see above).
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3 Genderqueer individuals may also face hiring discrimination, but, because this identity has
4 only recently been given attention, any discrimination they face could result from ignorance
5 rather than outright hatred. Like the discussion on male and female-dominated industries
6 above, determining rates of discrimination against transmen versus transwomen may render
7 some interesting findings and discussions in relation to gender in the workplace in general.
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10 11 12 3.3.3 Gender Conformity 13

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15 As discussed above, the transgender umbrella term includes not only those who transition
16 fully from male to female or female to male, but also those who identify with both and
17 neither genders. The latter's visual gender expression may therefore not match traditional
18 binarized ideals of gender expression. Another consideration unique to transgender
19 candidates is that of *passing*, i.e., one's ability to appear as a cisgender person of one's
20 desired gender identity. A transwoman who *passes*, therefore, would appear to most or all as
21 a cisgender woman. In their development of a scale to measure transphobia, Hill and
22 Willoughby (2005: 534) also discussed genderism: "an ideology that reinforces the negative
23 evaluation of gender non-conformity or an incongruence between sex and gender... a cultural
24 belief that perpetuates negative judgments of people who do not present as a stereotypical
25 man or woman". As Budge, Tebbe and Howard (2010) find in their qualitative study, those
26 who do not conform to traditional gender norms or do not pass will be more likely to
27 encounter a negative hiring decision based on a genderist reaction to their appearance.
28 Similarly, Leppel's analysis of data from the National Transgender Discrimination Study
29 shows that perceived gender incongruence increased the likelihood that a transgender person
30 was out of the labor force.
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34 Discrimination arising from gender non-conformity is, of course, predicated on the
35 assumption that the hirer can *see* the gender non-conforming applicant in question. An in-
36 person study could therefore be useful in this instance. A correspondence test may be a viable
37 option, but only in particular countries – one would most likely have to convey this visual
38 information using a photograph on the résumé, which is not customary in many countries, but
39 is common in others countries such as Germany, Japan, and China. Winter et al. (2018) used
40 photos in their correspondence test on transgender hiring discrimination, but only for the two
41 countries (Singapore and Malaysia) wherein it is customary to include a photo. Rich (2018)
42 argues that the researcher cannot completely control the experiment when they use photos, as
43 photos can convey some information unintentionally (for example, Rich's discussion
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3 included perceived attractiveness, which would be another variable in an experiment
4 involving gender conformity). An alternative to the visually-based experiment may be to
5 include non-binary or alternative gender pronouns, such as *they/them*, *ze/hir*, *xe/xem*, but
6 because these and the purpose they serve are less well known, the experimental manipulation
7 may not work as well as hoped. There are thus a number of different avenues, each with their
8 advantages and disadvantages, which a researcher may take to measure hiring discrimination
9 on the basis of gender conformity or non-conformity of transgender job applicants.

10
11 To summarize, there are a great deal of factors to consider when designing an experiment to
12 measure hiring discrimination against transgender job applicants. Some factors (e.g. gender)
13 should be borne in mind whatever the exact focus of the investigation, while other factors
14 (e.g. gender conformity) may be purposefully included by the experimenter. The concluding
15 section provides a flowchart that shows all of the tests and factors discussed above, and
16 discusses the implications, contributions and limitations of this paper.

27 28 29 **4. Conclusion**

30 31 ***4.1 Designing a Study to Measure Transgender Hiring Discrimination***

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33 As we have seen above, choosing a research design is a lot more complex than just choosing
34 the basic method; one must decide what exactly it is they want to research, and, crucially,
35 resolve how to exclude the other mediating factors from their analysis. The flow-chart in Fig.
36 2 shows a research design decision-making process that follows from the discussion above.
37 Firstly, the experimenter chooses their method. After that, they choose the aspect arguably
38 most pervasive to a study of hiring discrimination; the legal context in which the study takes
39 place, with *path a* in Fig. 2 representing a study based in a context with legal protections and
40 *path b* representing a study based in a context without them. Like Bardales (2013), the aim of
41 the study may not just be to study hiring discrimination but also to investigate how effective
42 protections are in combating it, so a researcher may choose to situate their study in both
43 contexts (*path c*).

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54 ---- Insert Figure 2 around here ----

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56 After choosing which legal context they want to base their study within, a researcher may
57 decide to investigate if and how transgender hiring discrimination operates in different
58 industries and roles. As discussed above, there are several different contexts and
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3 considerations one might want to include in their study, including male-dominated industries
4 and/or female-dominated industries (*path d*), high and low skill occupations (*path e*), large
5 and small organizations (*path f*), and the possibility of taste-based proxy discrimination with
6 regard to customers or co-workers (*paths g* and *h*, respectively). If none of these factors are to
7 be investigated, *path i* can be chosen.
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12 Once a particular role or industry factor has been chosen (or not chosen), the factors specific
13 to the transgender population that the researcher wishes to investigate can then be decided
14 upon. At this point, one can decide on which combination of test group and control group to
15 investigate (*paths k, l, m, n, o*), whether they want to investigate statistical or taste-based
16 discrimination (*path p*), or whether their primary focus should be on gender conformity and
17 its effect on hiring (*path j*).
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24 Additional mediating factors may be added by following the red line back to the previous set
25 of factors (e.g. if one wished to measure hiring discrimination on the basis of customers (*g*) in
26 a female-dominated industry (*d*). In addition, as discussed above, this paper focuses only on a
27 number of characteristics most salient to transgender job applicants. Many studies on labor
28 market discrimination have implicated other general personal characteristics, such as
29 educational attainment (e.g. Drydakis, 2012), marriage status (e.g. Allegretto and Arthur,
30 2001; Drydakis, 2012; Weichselbaumer, 2015), and criminal history (e.g. Vargheese, Hardin,
31 Bauer and Morgan, 2009), each of which may also be relevant to this discussion. However, as
32 Van Borm and Baert (2018) conclude, adding complexity to a research design may result in
33 an overly complicated analysis, and increases the possibility of errors on behalf of a
34 researcher. With the literature on this topic at such a nascent stage, it may behoove
35 researchers to focus more on general topics to firstly establish an empirical literature on
36 transgender hiring discrimination, before moving to more specific contexts, combinations, or
37 scenarios.
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51 ***4.2 Implications and Recommendations for Future Researchers***

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53 This paper can hopefully help simplify the experiment design process, and help fuel further
54 research to address the dearth in empirical quantitative research on hiring discrimination
55 against transgender job applicants. The contribution is aimed at two audiences – researchers
56 of transgender, LGBTQ or broader diversity and inclusion topic, and/or researchers who have
57 previously studied labor market discrimination but haven't previously focused on transgender
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3 job seekers. The former audience is introduced to three main methods of measuring hiring
4 discrimination, while both audiences can see how these methods can be adapted for and
5 theoretically extended to a transgender-specific study. The paper synthesizes the existing
6 literatures on both transgender career/work experiences and on previous studies of hiring
7 discrimination to outline what factors one should be cognizant of when designing a study on
8 this topic. The design process is a complicated one, and this paper has hopefully simplified
9 and demystified the main steps to take.

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12 Table 1 below outlines the main advantages and disadvantages, resource requirements and
13 risk of detection associated with each of the three commonly used methods of measuring
14 hiring discrimination discussed in this paper. One can see that each method can be used in
15 different contexts, and the choice of method will depend on which variables the experimenter
16 wishes to investigate. Used in combination, Table 1 and Figure 2 can provide an accessible
17 tool to help researchers design, plan and execute a successful study.

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20 -- Insert Table 1 around here --

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23 As well as simplifying the design process, this paper has outlined some topics that are under-
24 researched and thus require further attention. In addition, the sections below discuss major
25 geographic areas and identities that would benefit from further investigation.

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4.2.1 Areas of Study

Within the business and management literature, research focusing on general transgender issues is overwhelmingly centered on the USA (McFadden & Crowley-Henry, 2016). In his exhaustive review of correspondence experiments performed since 2005, Baert (2018) highlights that almost two thirds of correspondence test have been performed in Europe, with other countries, including some with the largest populations in the world, having no correspondence experiments performed. In addition, as noted above, there appears to be only one experiment performed in relation to transgender job applicants in Europe (Van Borm and Baert, 2019), and only three (with quite small samples) conducted in the USA (Bardales, 2013; Make The Road New York, 2010; Rainey & Imse, 2015). To the author's knowledge, only one experiment (Winter et al., 2018) has been conducted in Asia. The state of the literature on this topic, therefore, can be likened to a blank slate, and thus there is ample opportunity and a pressing need for more research to be conducted around the world.

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3 Sensitivity should, however, be shown when researching non-cisgender identities in other
4 countries; other terminologies, identities, traditions or groups may be present in local cultures
5 that do not resemble the prevailing Western context. For example, within the Indian
6 subcontinent, *hijra* occupy a particular space within Hinduism, are seen as the favored
7 devotees of the Lord Rama, and can bestow blessings, yet are marginalized and often have to
8 perform sex work or engage in begging to survive (Khan et al., 2009). While *hijra* could
9 clumsily be compared to transfemales in the West, they are a distinct and separate group, a
10 third gender, with particular traditions, challenges and issues (Kalra, 2012). Other areas with
11 third gender or transgender inhabitants include Albania (the *sworn virgins*) (Dickemann,
12 1997), Samoa (*fa'afafine*) (Schmidt, 2003) and the Arabian Peninsula (*khanith*) (Murray,
13 1997). Western concepts and phenomena may or may not be applicable to these populations;
14 this also has yet to be tested.
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27 4.2.2 Non-Traditional and Intersectional Transgender Identities

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29 Although it may be disappointing that there has been very little empirical measurement of
30 hiring discrimination against transgender job applicants, the fact that there are few studies
31 could be seen as somewhat of an advantage. Less well-known transgender identities, such as
32 genderqueer, nonbinary, or agender, could be built in these studies from the very start,
33 allowing a fuller picture of the entire transgender community to emerge.
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38 Intersectional identities can lead to some quite specific outcomes; while the differences in
39 experience between transmen and transwomen have been discussed above, race and
40 socioeconomic status are also implicated. For example, a recent survey (Edelman et al., 2015)
41 reports that transgender people of color in the USA were more likely to have been denied a
42 job than white transgender people – 49% versus 30%, respectively. Similarly, Leppel (2016)
43 highlights how unemployment is more likely for Hispanic and African American transgender
44 people. Other such combination of identities may lead to distinctive outcomes in studies on
45 hiring discrimination, and would provide valuable detailed and nuanced information on the
46 state of transgender experiences in the labor market. In deciding (for the sake of simplicity or
47 otherwise) not to consider other personal identities such as ethnicity and social class, one may
48 run the risk of contributing to a suite of studies that has as its primary focus the experiences
49 of white, middle-class transgender job applicants, resulting in a one-dimensional and less
50 representative literature.
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4.2.4 Limitations

This paper has investigated a number of factors at the legal, industry/role and population level, presented in Figure 2, that one might take into account when researching hiring discrimination against transgender job applicants. However, as mentioned, this list is not exhaustive; there are a potentially huge number of factors that could affect the hiring process and could be taken into account when designing a study; this paper has presented only a few major factors. In addition, this paper acts only as an introduction to designing a study on transgender hiring discrimination – a first step for novitiates to the study of hiring discrimination and/or measuring discrimination specifically against transgender job applicants. Although they are shown here on a simple choice framework, one must also be cognizant that the factors and tests presented may involve varying degrees of difficulty to execute successfully; ultimately, the choice of test and factors focused upon must be followed, by necessity, by a deep dive into the literature and previous similar studies.

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23 women's experience in UK construction", *Construction Management and Economics*,
24 Vol. 31 No. 8, pp.832-844.
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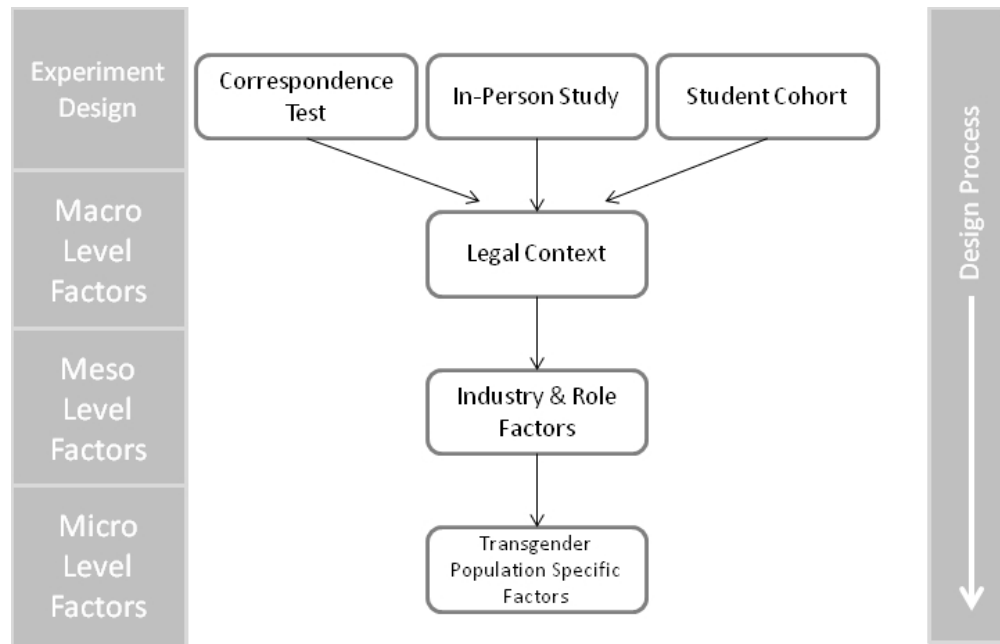


Fig. 1 The stages involved in designing a study on hiring discrimination against transgender job applicants.

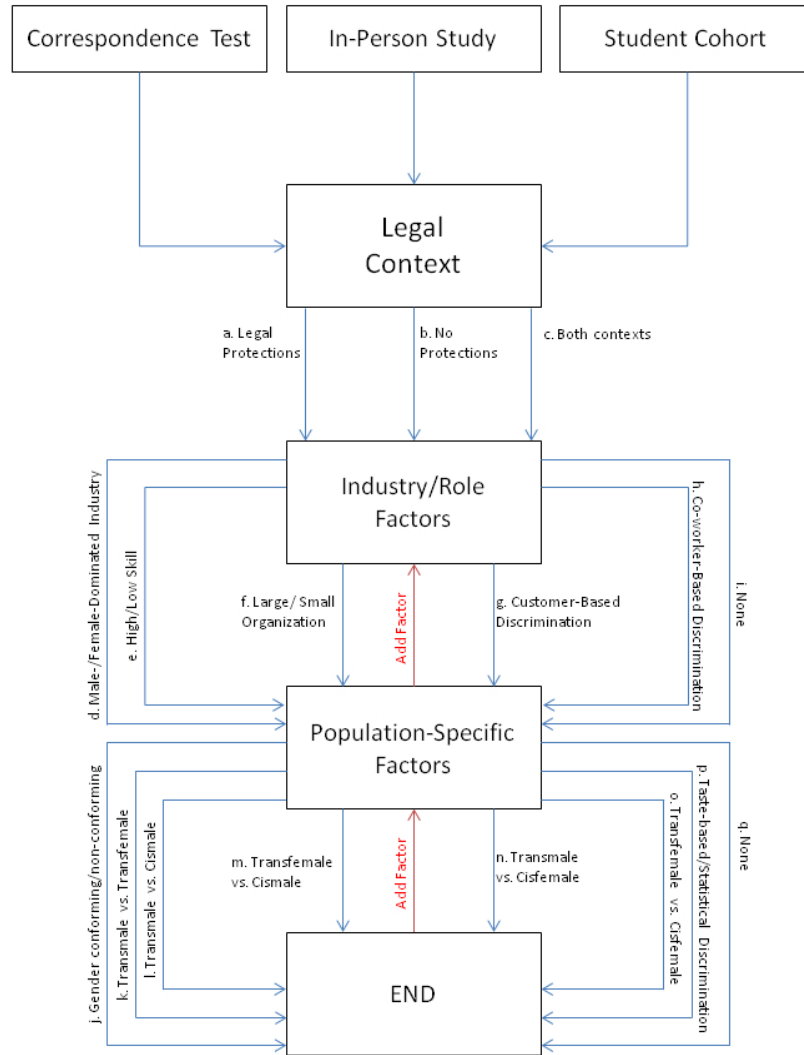


Fig. 2. The major stages and factors involved in the design of a transgender hiring discrimination study.

Table 1. Three commonly-used methods of measuring hiring discrimination, and their advantages, disadvantages, resources and risk of detection

	Advantages / Foci	Disadvantages/Potential Pitfalls	Resources Requirements	Detection Risk
Correspondence Tests	<p>Situated in the real labor market;</p> <p>A large sample can be garnered over time;</p> <p>Focuses on first stage of recruitment – application.</p>	<p>Heckman & Siegelman’s (2012) group variation in unobserved variables critique.</p>	<p>Experiment is time-intensive and requires monitoring over a potentially significant period of time, in order to garner enough observations;</p> <p>Aside from set-up and researcher wages, no additional costs required.</p>	<p>Matched-pairs of résumés increases detection risk;</p> <p>Single-inquiry decreases detection risk but requires more observations to attain statistical power equivalent to matched-pairs.</p>
In-Person Studies	<p>Situated in the real labor market;</p> <p>Is especially useful for experiment including visual aspects;</p> <p>Focuses on second stage of recruitment – the interview.</p>	<p>Must control for many other observable variables;</p> <p>Experimenter is not present and therefore has less control;</p> <p>The actors used may be biased and un/intentionally affect the results;</p> <p>Heckman & Siegelman’s (2012) group variation in unobserved variables critique.</p>	<p>Resource-intensive as actors must be trained to act in a consistent and similar manner;</p> <p>A large sample would require relatively more resources to obtain;</p> <p>Financial costs involved in paying actors for their involvement.</p>	<p>As above, matched-inquiry increases detection risk; single-inquiry decreases risk at the cost of statistical power;</p> <p>Risk of detection if actors are not trained adequately.</p>
Student Cohorts	<p>Presumably easier to access a sample and capture responses;</p> <p>Focuses on first stage of recruitment – application;</p> <p>Experimenter has more control and can isolate variables of interest more readily.</p>	<p>Not situated in the real labor market;</p> <p>Student participants may not accurately resemble real hirers as they have no stake in a firm;</p> <p>Student participants may be more socially liberal than general public, thus affecting hiring decisions.</p>	<p>Financial resources may be required to offer a stipend for complete participation;</p> <p>Potentially less-time intensive as data can be captured at a set time rather than over a period of time.</p>	<p>Student participants will be aware that they are taking part in a study, and may act in a socially-desirable way;</p> <p>They may also be aware of the likely topic of investigation before the experiment begins.</p>

Hiring Discrimination against Transgender Job Applicants - Considerations When Designing a Study

Purpose

~~The purpose of this paper~~ This paper is to provide a discussion ~~discusses~~ of the factors to consider when designing studies to measure hiring discrimination against transgender job applicants.

Design/Methodology/Approach

The paper builds ~~on previous research~~ on ~~hiring discrimination, and~~ academic literature ~~and surveys~~ related to ~~transgender employment~~ hiring discrimination and ,transgender employment to build a detailed discussion of the numerous factors and issues inherent in hiring discrimination against transgender job applicants. By isolating and describing a number of relevant considerations, the paper aims to act as a guide for future studies to build upon.

Findings

Three types of hiring discrimination studies are discussed: correspondence tests, in-person experiments, and student cohort experiments. Three main categories of factors relevant to an experiments design are then discussed: the legal context, industry/role factors, and transgender population-specific factors. A flow-chart detailing the research design-decision making process is given.

Research Limitations/Implications

The discussion within this paper will act as a reference and a guide for researchers seeking to address this dearth of empirical studies in the literature. The list is not exhaustive; while a number of factors relevant to transgender-specific studies are identified, there may be more that could affect an experiment's design.

Originality/Value

Hiring discrimination against transgender people has been recorded in many surveys, but there is little empirical measurement of this discrimination. To the author's knowledge, this paper is the first to examine the experimental design decisions related to transgender hiring discrimination. ~~In doing this, it addresses a dearth in the literature and aims to spark further conversations and studies of this nature to further expand our knowledge of these~~

employees. In doing so, it provides contributions for two primary audiences: those researching transgender employment issues but who have never conducted a study measuring hiring discrimination; and those who have previously conducted studies on hiring discrimination, but have not done so with reference to transgender job applicants. -

1. Introduction

Transgender issues have never been under so much scrutiny. The transgender community, which has always been relatively small (Flores, Herman, Gates & Brown, 2016), has in recent years faced unprecedented attention, both positive and negative, by politicians, the media, and workplaces. Trump's ban on transgender service members serving in the military, and multiple states' proposed 'bathroom bills' (which attempt to block transgender people from using bathrooms corresponding to their gender identity) have garnered much media attention, and both criticism and praise from many advocacy groups. Workplaces, often in response to their LGBT employee networks or to external NGOs, are increasingly more frequently drafting and enacting transitioning policies and transgender-specific inclusion practices. Newspapers, magazines and websites dedicate many pages to celebrities with transgender, genderqueer, ~~or~~ and nonbinary identities, styles, children or causes.

However, despite all this attention, academia – or at least certain domains within academia – has lagged behind. The business, management, and economics literatures have barely broached the subject of transgender people; little research has been conducted on the careers and workplace experiences of transgender employees (Collins, McFadden, Rocco and Mathis, 2015; McFadden and Crowley-Henry, 2016; Pepper and Lorah, 2008), and issues relating to transgender employees are in many cases subsumed (and in so doing therefore often minimized or ignored) under the broader LGBTQ grouping (McFadden, 2015). Quantitative research in particular is lacking (Law et al., 2011; McFadden and Crowley-Henry, 2016). With more people between 18 and 24 years old identifying as trans than in any other age group (Flores et al., 2016), organizsations will be increasingly tasked in forthcoming years with ensuring that their workplaces are inclusive recruiters and employers. To do that, however, they must first be able to access evidence-based, empirical research that paints a true picture of the transgender employee's experience. Allowing the narrative to be constructed, reconstructed, twisted and wrought by popular media and politicians is therefore problematic.

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3 In addition, there are multiple issues that are unique to the transgender community that do not
4 affect cisgender (non-transgender) lesbian, gay or bisexual people, such as physically
5 transitioning, socially transitioning, and the aforementioned bathroom issues. Transgender
6 people also face higher homelessness and unemployment than cisgender people (Drydakis,
7 2017). While discrimination is a problem faced by each subgroup of the LGBTQ community,
8 the exact type of discrimination differs from group to group. Hiring discrimination, the focus
9 of this paper, is a topic that has ~~only~~ recently been studied in relation to lesbian and gay job
10 applicants, in a number of different geographic, cultural, and organisational contexts (e.g.
11 Ahmed, Andersson and Hammarstedt, 2013; Drydakis, 2009; Tilcsik, 2011; Weichselbaumer,
12 2003). Experiences of hiring discrimination have been recorded in many surveys of
13 transgender participants (e.g. Badgett et al., 2007; Grant et al., 2011; McNeil, Bailey, Ellis
14 and Regan, 2013; FRA, 2014; ~~Grant et al., 2011~~; James et al., 2016, Leppel, 2016; Valfort,
15 2017), but only a very limited number of empirical studies, with mostly small sample sizes,
16 have been conducted to quantitatively measure the level of discrimination against transgender
17 job applicants (e.g. Bardales, 2013; Make The Road New York, 2010; Rainey & Imse, 2015;
18 Winter et al., 2018). In his review of research on sexual orientation labor market outcomes,
19 Drydakis (2019) highlights the need for more research on labor market outcomes for
20 transgender people.

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22 Part of the reticence to study transgender hiring discrimination may come from the relatively
23 small-tiny size of the population and its associated perceived importance in comparison to
24 other marginalized groups; in other words, it may not appear as pressing an issue as, for
25 example, discrimination against females or ethnic minorities. Another reason, however, could
26 be due to the complexity of the scenarios one must try to parse when conducting studies of
27 this type; in effect, it is appears to be too difficult a subject to even try ~~even~~-broach. The very
28 concept of 'transgender' is, for many societies and many individuals within those societies, a
29 relatively new or novel consideration, despite the long history of non-cisgender identities
30 within multiple geographical, cultural and religious arenas.

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32 This article attempts to serve as a response to both of these possible qualms/misgivings, and as
33 a research agenda, to hopefully fuel future research in this area. In relation to the complexity
34 of the topic, the paper endeavours/endeavors to break the process of measuring hiring
35 discrimination against transgender job applicants into its most fundamental parts, and in this
36 way to act as an introduction to experiments of this type for relative neophytes, while also
37 providing detail specific to this under-researched population for both new and experienced

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3 scholars alike. In relation to the possible perceived insignificance of this topic relative to
4 similar research with ~~other, larger, marginalised~~marginalized populations, the fundamental
5 importance of studying this vulnerable population, and in particular measuring discrimination
6 against them with an aim to address it more comprehensively, is discussed. This paper is thus
7 part review and part research agenda, bringing together the extant relevant literature on
8 transgender and other minority populations from previous years in order to outline what can
9 and must be done in the forthcoming years.

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11 The rest of the paper is structured as follows. Firstly, the methods by which one may conduct
12 research on this topic (including correspondence tests, in-person studies, and recruitment
13 experiments using student cohorts) are discussed. Then, the paper follows a
14 macro/meso/micro categorization to explore the various factors that should be considered
15 when designing a study exploring this topic; at the macro level, the legal climates in which a
16 study may be situated; at the meso level, various relevant aspects of the industry and roles
17 focused upon; and at the micro level, ~~the factors specific to the~~ transgender population and to
18 the individual job applicant-specific factors that should be considered in a test on hiring
19 discrimination. Fig. 1 depicts this framework and structure. ~~In summation, the~~ structure
20 used in this paper therefore follows the experiment design process itself ~~—~~; from initial
21 conception and ~~the larger choice of~~ experiment method to the particular smaller tweaks and
22 customisations a researcher wishes to add to their study. Where appropriate, reference is
23 made to existing studies that measure hiring discrimination, to provide exemplars ~~to that can~~
24 help guide understanding of the experimental design process. Lastly, the conclusion
25 summarizes the article's main points and discusses ~~the~~ implications for future researchers
26 and for practice.

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28 Before that, a note on terminology. As well as being a descriptive label in itself, the term
29 transgender is often seen as an 'umbrella' term that includes any identities that do not
30 conform to traditional characterisations of gender, including genderqueer, non-binary and
31 agender (Collins et al., 2015). For simplicity, however, this paper uses transgender to refer
32 only to transmen and transwomen, but it is hoped that the paper will also be of use those
33 studying identities with the broader trans umbrella group. In addition, while it more
34 acceptable, inclusive and common to simply refer to transgender people in relation to their
35 gender identity (i.e. man or woman), for the purposes of differentiating between cisgender
36 and transgender job applicants in an experiment design, the terms transmale/transman and
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3 transfemale/transwoman, along with cismale/cisman and cisfemale/ciswoman, will be used in
4 this paper.
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7 As shown in Fig. 1, attention is paid first to the initial choice one may take in the design of a
8 study on transgender hiring discrimination- the choice of ~~experiment type~~method.
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10 11 12 13 14 **2. Types of Experiments**

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16 As ~~discussed~~mentioned above, there are a number of ~~experimental designs~~methods one
17 might use when seeking to measure hiring discrimination. Below, three popular designs are
18 described, each of which has at least one known study concerning transgender job applicants.
19 These designs are discussed with reference to transgender population-specific considerations
20 that may warrant an adaptation of these designs. Reflections and proposals for such
21 adaptations are discussed.
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24 25 26 27 *2.1 Correspondence Tests*

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29 The correspondence test (also known as correspondence experiment, field experiment and
30 résumé experiment) is one of the most ~~wide-spread~~widespread ~~study designs~~methods ~~that to~~
31 ~~measures~~ hiring discrimination. Correspondence tests are usually designed in one of two
32 common ways – a single inquiry design or a matched-inquiry design ([Flage, 2019](#)). Firstly,
33 the experimenter creates fictitious résumés that will be sent to real job adverts, usually within
34 a defined geographical area and/or industry. At least two are created – they are alike in all
35 aspects relevant to the jobs or industry being focused on (education, experience, etc.); the aim
36 being to make both fictitious candidates equally qualified for the job. One key difference is
37 included; a signal (or signals) on one résumé portrays the candidate as a member of the
38 population the researcher is studying (e.g. African American, female, gay, pregnant, Muslim).
39 The signal, naturally, varies depending on what characteristic or feature the researcher aims
40 to convey. The résumés are then sent in response to job postings —; either one résumé per job
41 posting (the cisgender or transgender résumé is randomly chosen), or the pair of matched
42 résumés. The amount of positive replies (in most cases, a ‘callback’, i.e. a request for the
43 fictitious candidate to come for interview) is recorded for each candidate. Any difference in
44 the positive responses between the two candidates can be interpreted as discrimination
45 against one of them, as all relevant factors have been controlled for.
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3 Since the first correspondence test was published (Jowell and Prescott-Clarke, 1970, on race-
4 based hiring discrimination in Birmingham, UK) the method has been used to measure hiring
5 discrimination against women (e.g. Riach and Rich, 1987), racial minorities (e.g. Bertrand
6 and Mullainathan, 2004), gay men (e.g. Tilcsik, 2011), lesbians (e.g. Weichselbaumer, 2003,
7 2015), and Muslims (Pierné, 2013). The method has been adapted for technological advances,
8 moving from mail-based applications and call-backs (e.g. Jowell and Prescott-Clarke, 1970),
9 to an online and email-based experiment (e.g. Bardales, 2013; Baert, Cockx, Gheyle and
10 Vandamme, 2015).

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18 There have been very few correspondence tests conducted to measure hiring discrimination
19 against transgender job applicants, and their samples sizes are quite limited in most.
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21 Bardales' (2013) experiment was conducted within two cities in Texas, Houston (where net
22 discrimination was 37%), and San Antonio (21%). Rainy and Imse (2015) conducted a
23 government-sponsored study on transgender hiring discrimination in the District of
24 Columbia, and found that 48% of employers discriminated against a more qualified
25 transgender applicant in favour of at least one less qualified cisgender applicant. Winter et al.
26 (2018) conducted a larger-scale experiment in four countries in South East Asia, and found
27 discrimination against both male and female transgender job applicants in each country and
28 across a variety of job sectors, with cisgender applicants receiving, on average, 50.6% more
29 positive responses to applications than transgender applicants. While the number of
30 correspondence tests measuring transgender hiring discrimination is small, these first
31 attempts give future researchers valuable insight into designing similar, larger-scale
32 experiments in other contexts, and the potential issues that may arise whilst doing so.

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43 The key component of the correspondence test, the signal, is where some of the complexity
44 lies in conducting this experiment in relation to transgender job applicants. Probably the
45 simplest signal to convey, gender, is performed by using names exclusive to one gender. It is
46 important that the signalling characteristic remains an appropriate feature of a résumé, in case
47 it raises the hirer's suspicion. In addition, however, the experimenter must be careful to
48 ensure that the signal doesn't convey any other characteristics that might affect the hirer's
49 decision to invite the candidate to interview or not (Tilcsik, 2011). Bardales (2013)
50 manipulated both the experience section and the name of the transgender job applicant's
51 résumé in order to signal they were a transfemale; the applicant is given experience in a
52 "Male-to-female" group and a "Transgender Women's Group", and a 'legal name', in
53 parentheses, follows the candidate's name at the top of the résumé. Winter et al. (2018) used
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3 two signals, with some variations associated with regional customs, to convey that the
4 applicant was transgender – a gender/sex marker and a name marker. With the former, the
5 transgender applicant used the term ‘trans man’ or ‘trans woman’, while the cisgender
6 applicant used ‘man’ or ‘woman’. With the latter, the transgender applicant’s résumé had
7 both the applicant’s legal name and a preferred name, while the cisgender applicant had just
8 one name.
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14 These manipulations may still be a viable option in future research; however, in many
15 jurisdictions, such as California and the Republic of Ireland, transgender people are able to
16 legally change their name and gender markers with less trouble or bureaucracy than before,
17 and one might reasonably expect that they would prefer to be known only by their new name,
18 which could render this manipulation somewhat unrealistic in future studies, potentially
19 leading to the hirer detecting the study.
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25 As Badgett et al. (2007) and Tilcsik (2011) discuss, experience in a volunteer organization,
26 such as that used by Bardales (2013), may additionally convey that the candidate is an activist
27 and/or has a particular political leaning, which could (both positively or negatively) affect the
28 hirer’s decision to invite the candidate to interview or not (Flage, 2019). This effect can be
29 moderated however; Drydakis’s (2014) fictitious gay/lesbian applicant and heterosexual
30 applicant both have experience in a volunteer organization (the former specifically in an
31 LGBT organization), but this experience is by the time of application ended and somewhat
32 outdated. Tilcsik’s (2011) fictitious gay candidate has experience in a gay community
33 organization, but the résumé highlights the managerial and financial skills the candidate has,
34 which communicates that this experience more skill-based activities than political activism,
35 and also renders the treatment less open to detection. In addition, Tilcsik’s (2011) heterosexual
36 candidate has experience in a similarly left-leaning organization, as a control.
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47 A key consideration when conducting a correspondence test is the possibility that the
48 company advertising the job may become aware, or suspect, that they are subjects in a study
49 and that their responses are being observed, and a result act in a less discriminatory and more
50 socially-desirable fashion. The single-inquiry method would address this, but would require a
51 larger sample (and thus, time and resources) to provide more statistical power (Flage, 2019).
52 Researchers therefore have multiple choices to make that may affect the interpretation and
53 perceived veracity of the résumés being used.
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3 There is therefore an onus on one using the correspondence test design to ensure that the
4 résumés used (a) unambiguously convey that the fictitious candidate is transgender, (b) look
5 real enough that the hirer doesn't recognize that an experiment is being conducted, and (c)
6 don't contain any factors that could potentially unintentionally convey additional information
7 about the candidate. A potential remedy to each of these concerns could be to simply add a
8 legal name in parentheses after the candidate's name on the résumé, following Bardales
9 (2013), but also include the previous name within the relevant experience section (e.g. "*Sales
10 Associate, as John Smith*"). In doing so, a hirer questioning why someone would out
11 themselves as transgender on their résumé (and potentially realizing that it is a fake used as
12 part of an experiment) would presume they have done so because they have experience under
13 a different name that is relevant to the role applied for. This résumé treatment is not
14 uncommon for transgender jobseekers, and the decision whether or not to list one's previous
15 names is a commonly encountered issue (Transgender Law Center, 2016). In using this
16 signal, it is made clear that the candidate is transgender, the résumé is still realistic looking,
17 and no potentially confounding variables are introduced.

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Correspondence tests remain a popular option for studies focusing on hiring discrimination at
the job application stage of the recruitment process; however, ~~as discussed~~, the method does
have its ~~limitations~~ constraints. For example, this method focuses solely on the application
stage of the hiring process – discrimination could still occur later in the process, but not be
found at this stage. It should also be noted that this ~~experimental design~~ method takes a lot of
resources to conduct successfully – each application and the tracking of call-backs requires
time, effort, and sustained focus on behalf of the researcher(s). An alternative to the
correspondence test is the in-person study, discussed below, which can address different
aspects and stages of the recruitment process.

2.2 In-Person Studies

Before correspondence tests were first conducted, Daniels (1968) conducted a similar
experiment, but instead of using matched résumés, employed pairs of actors to attend job
interviews. Audit studies, or, as they are called here for clarity, in-person studies, have been
used to measure hiring discrimination in relation to gender (e.g. Neumark, Bank and Van
Nort, 1996), race (e.g. Kenney and Wissoker, 1994), and, in the first and perhaps only one of
its kind, transgender identity (Make The Road New York, 2010). While the correspondence

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3 test method above is designed to measure discrimination at the first stage of the hiring
4 process (the job application), the in-person method measures it at the second stage (the job
5 interview), and so can focus on a different part of, and different factors within, the job
6 application process. Like correspondence tests, in-person studies focus on the real labor
7 market, and allow the experimenter more control over the variables that they feel are relevant
8 to hiring, in comparison to a statistical analysis of existing data (Heckman and Siegelman,
9 1993). Discrimination experienced at the job interview stage is an important factor to
10 consider when discussing hiring discrimination against transgender job applicants, and in-
11 person studies provide insight into this stage where other methods (i.e. correspondence tests
12 and student cohorts) cannot. In addition, when combined with field notes or debrief
13 interviews, the actors in these studies could provide experiential information that could serve
14 as valuable, descriptive qualitative data on discrimination, and a suitable addendum
15 counterpart to quantitative analyses. Make the Road New York (2010) conducted the only in-
16 person study involving transgender job applicants, to the author's knowledge. Two pairs of
17 actors, of varying genders and races, were employed to act as job-seekers within Manhattan,
18 and brought with them to interviews equivalent (fictitious) résumés. The researchers found a
19 net rate of discrimination of 42% against transgender job applicants. Like Bardales (2013),
20 this study also used a small sample size, but this study outlines factors and issues that can be
21 useful for researchers considering or conducting an in-person study to measure transgender
22 hiring discrimination.

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38 In-person studies may be criticized, however, because the crucial similarity between the two
39 job applicants/actors in all aspects except the test characteristic can be difficult to achieve –
40 many variables may unintentionally be implicated (Heckman and Siegelman, 1993; Neumark,
41 2012; Neumark and Rich, 2019). Because the researcher conducting the study naturally can't
42 be present at the interview, there is ~~also~~ a loss in control in the experiment's execution, in
43 comparison to correspondence tests. There is also the possibility of bias on behalf of the
44 actors involved, who may consciously or subconsciously confound the experiment (Heckman
45 and Siegelman, 1993). Heckman and Siegelman (1993) offer a well-known critique of both
46 correspondence tests and in-person studies, where they argue that these experiments often do
47 not address group differences in the variance of unobservable determinants of productivity.
48 While the experimenter may perfectly match the assumed relevant characteristics pertaining
49 to both candidates' merit (such as education, experience, etc.), there may still exist certain
50 unobservable characteristics that could affect the hirer's decision. A correctly designed
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3 experiment should render these unobservable characteristics equal across both groups,
4 however, Heckman and Siegelman (1993) argue that it is the (presumed) *dispersion* of these
5 unobservable characteristics within each group that could bias the results in either way. In
6 this context, if a hirer were to consider that there were certain characteristics (of which the
7 experimenter has no knowledge) that would affect a potential employee's productivity, and
8 furthermore believed that there was more variation in the degree of these characteristics in
9 transgender people in comparison to the cisgender people (or vice-versa), this would be
10 implicated in the overall net discrimination found in the analysis (i.e. it could seem that there
11 is less or more discrimination present than there actually is). Baert, Cockx, Gheyle and
12 Vandamme (2015) and Carlsson, Fumarco and Rooth (2014) find that this perceived group
13 variance is higher in minority groups because the hirer is usually less familiar with that
14 group. Therefore, any measurements of discrimination against transgender job applicants
15 should bear this in mind, as well as Neumark's (2012) method of correcting for this potential
16 bias.

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18 There are therefore advantages and disadvantages to in-person studies, and its usage should
19 therefore be predicated on the particular aspects of hiring discrimination the research is
20 focusing upon. For example, in addition to research concentrating on the job interview stage
21 of the hiring process, in-person studies could provide a viable alternative to correspondence
22 tests or student cohort experiments in research that involves an element of visual signalling,
23 such as a study focusing on gender conformity, discussed in Section 3.3.3 below.

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2.3 Student Cohorts

While correspondence tests allow a direct measurement of labor market discrimination, they can be, as noted above, complex to perform and require a relatively long data collection period. In-person studies may be more suitable for more visual manipulations, but can be resource-intensive and be difficult to design successfully. A potential alternative to these two tests is to use student cohorts to make fictitious hiring decisions; in other words, to base the hiring discrimination study not within the real labor market but within a laboratory setting. Student cohorts have been used in studies of hiring discrimination against candidates with facial disfigurements (e.g. Stevenage and McKay, 1999), those with foreign accents (Hosada and Stone-Romero, 2010), and those with a criminal history (Varghese, Hardin, Bauer, and Morgan, 2009).

The exact procedure when using a student cohort can vary according to the test characteristic, and doesn't have to solely be based on résumés. For example, Hosada and Stone-Romero (2010), measuring discrimination against those with foreign accents, had their students listen to a recorded audio interview as well as reading a résumé, before making an employment decision. Stevenage and McKay's (1999) study related to facial disfigurement used a photograph along with the résumé. Van Borm and Baert (2019) conducted their study exploring the mechanisms underlying transgender labour market discrimination using a student cohort, the only such study known to the author. They found that their participants, while not intrinsically biased against fictitious transgender candidates themselves, did rate the transgender applicant lower than a similar cisgender applicant when asked whether customers and co-workers, respectively, would enjoy collaborating with the applicant. This raises the possibility of discrimination not directly from the hirer, but (it is presumed by the hirer) from a colleague or customer, which is explored in more detail in the Industry factors section below.

In comparison to the other experimental designs discussed, - there are a number of advantages to using a student cohort, including the ease of access to a large cohort (from the researcher's or their colleagues' classes), and the relative ease of capturing responses. Because the experimenter has more control over the process than with the other two methods, they can more easily isolate a particular variable of interest to investigate. However, a criticism of using student cohorts in studies like this is that their decisions may not be comparable to hirers in the real labor market (Hosada and Stone-Romero, 2010). Students are, of course, not a stakeholder in the business; while a recruiter, HR employee or manager may face negative job-related consequences if they hire an unsuitable candidate, the students involved in fictitious recruitment experiments are not under this pressure. Agents in the real job market may therefore be more cautious in their hiring decisions, and see hiring a transgender job applicant as more of a risk (either because of their own prejudices, because of assumed prejudices on behalf of their colleagues or co-workers, or because of productivity-related generalizations of the transgender community) than students who are simply making a one-off, consequence-free, hiring decision. In addition, students have been found to be, on average, more socially liberal (Bailey and Williams, 2016), possibly leading to a more favorable evaluation of minority candidates. Student participants are also aware that they are taking part in a study and may thus act in a more socially desirable manner (Van Borm and

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3 Baert, 2019), and can also be aware of the experimenter's research interests and therefore the
4 area of investigation, potentially leading to additional bias.
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7 ~~The exact procedure when using a student cohort can vary according to the test characteristic,~~
8 ~~and doesn't have to solely be based on résumés. For example, Hosada and Stone-Romero~~
9 ~~(2010), measuring discrimination against those with foreign accents, had their students listen~~
10 ~~to a recorded audio interview as well as reading a résumé, before making an employment~~
11 ~~decision. Stevenage and McKay's (1999) study related to facial disfigurement used a~~
12 ~~photograph along with the résumé. Van Borm and Baert (2019) conducted their study~~
13 ~~exploring the mechanisms underlying transgender labour market discrimination using a~~
14 ~~student cohort, the only such study known to the author. They found that their participants,~~
15 ~~while not intrinsically biased against fictitious transgender candidates themselves, did rate the~~
16 ~~transgender applicant lower than a similar cisgender applicant when asked whether customers~~
17 ~~and co-workers, respectively, would enjoy collaborating with the applicant. This raises the~~
18 ~~possibility of discrimination not directly from the hirer, but (it is presumed by the hirer) from~~
19 ~~a colleague or customer, which is explored in more detail in the Industry factors section~~
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32 Because of the associated relative ease in collecting data and isolating a variable in
33 comparison to the other methods above, and their ability to mimic real hiring decisions,
34 student cohorts provide a viable alternative to correspondence tests and in-person studies.
35 However, because they are by design not situated in the real labor market, extra care and
36 perhaps additional studies should be involved to ensure any generalisation of the results is
37 correct. The next part of this paper explores additional relevant factors to consider, when
38 conducting an experiment measuring transgender hiring discrimination.
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48 **3. Mediating Factors**

49 As we have seen above, there are a number of different experiment designs one may use to
50 measure transgender hiring discrimination, and each design lends its own strengths,
51 weaknesses and particular focus. However, once an overall experimental method type has
52 been chosen, there remains an equally complex process in designing the experiment itself.
53 The following sections discuss the various factors that a researcher must be cognizant of in
54 order to carry out a viable and effective study on this topic. ~~As discussed above, the structure~~
55 ~~follows a macro, meso, micro framework, with the larger choice such as where to base the~~
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~~study discussed first, then various industry and role factors, and then the minor tweaks and variations that arise from studying the transgender population in particular.~~

3.1 Legal Factors

A major factor to consider in designing an experiment such as this is whether or not legislation designed to protect transgender employees and potential employees is present in the location being studied, because as different rates of discrimination might be measured in jurisdictions with anti-discrimination protections in place. Associated with this are the differences in socio-political climate; presumably areas with a more socially liberal outlook are more likely to have protective laws of this type. Protection may be city or county-based (an ordinance) or country-wide, depending on the particular country's administrative structures. The question of whether existing anti-discrimination legislation is extended to cover transgender people is somewhat uniquely open to interpretation, and therefore requires the researcher to explicitly confirm before conducting their study. While the European Commission had previously stated that the protected grounds of 'sex' could be extended only to those who had undergone *gender reassignment* (i.e. excluding those who had not fully physically transitioned), in 2015 they revised their position to include *gender identity* (which includes all transgender people) under the 'sex' grounds (TGEU, 2015).

The legal situation in the USA is less certain, however, and is an illustrative example of the ambiguity with regards transgender employment protection in many countries' jurisdictions at present. At the time of writing (September 2019) there is no federal law in the USA that explicitly outlaws discrimination on the basis of gender identity (Movement Advancement Project, 2017). Multiple actors have argued for and against these protections, with the specific point of contention being the exact interpretation of Title VII of the Civil Rights Act of 1964, which prohibits discrimination in employment on the basis of sex, *inter alia*. Meanwhile, at state level, twenty-two states prohibit transgender employment discrimination, and at least 225 cities and counties (Human Rights Campaign, 2019). There is therefore a great deal of variation in the degree of employment protection that transgender people have across different states and cities, and researchers seeking to measure transgender hiring discrimination in the USA, and in other countries with similarly variability, should therefore be cognizant of this possibly mediating factor when designing a study.

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3 As well as being cognizant of the legislative context in which one is basing their study,
4 another consideration is that the study in itself could seek to measure of the effectiveness of
5 legislation designed to protect transgender employees from discrimination. Bardales' (2013)
6 correspondence test discussed above, measured both the level of hiring discrimination against
7 transgender job applicants and how well the laws present in two cities affected the rate of
8 discrimination recorded. However, although protections may differ from area to area, many
9 organizations may offer their own non-discrimination policies that include transgender
10 employees, and presumably, transgender job applicants, which may run counter to the
11 prevailing legal protections in the organization's surrounding region. This is discussed in the
12 *Industry and Role Factors* section below.

23 **3.2 Industry and Role Factors**

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26 The industry and role for which the fictitious candidates are applying will naturally be of
27 importance and interests to researchers. Below, industry and role factors that may be more
28 prevalent, relevant, or important in studies of transgender hiring discrimination are outlined.
29 While they are discussed discretely below, in actuality these factors will coalesce; it is up to
30 the researcher(s) to decide what and how to isolate these variables when designing their
31 study. At the risk of complicating a study, but also to provide more findings, multiple factors
32 may also be investigated.

41 *3.2.1 Customer-facing roles and co-worker discrimination*

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43 In customer-facing roles, such as bank clerk or sales assistant, negative treatment against
44 transgender candidates might feasibly-potentially occur not because the hiring manager is
45 themselves discriminatory, but because they believe that the customers themselves may react
46 negatively to having a transgender person attend to them. As discussed above, Van Borm and
47 Baert (2019) found that their student cohort rated transgender candidates lower than
48 cisgender candidates when asked if their colleagues or customers would enjoy collaborating
49 with them. Similarly, anticipated discrimination against the job applicant by/from existing
50 employees in the organization could be a reason for hiring-discrimination-against-the
51 transgender-job-applicant-a-hirer's-negative-response. More study-research is needed to
52 empirically explore these concepts in relation to transgender job applicants. For example, an
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3 experiment could ~~not only~~ explore not only discrimination against transgender job applicants
4 in comparison to cisgender applicants, but also ~~center their study~~ on contexts that differ in the
5 degree to which customers are involved. For example, , e.g. part of ~~the a~~ study focused could
6 focus upon customer facing sales assistants retail workers and the other part up focused on
7 accountants non-customer facing retail workers. If discrimination was found to be higher in
8 the former context, one could infer that this it is based upon customer-based discrimination.
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14 Researchers could investigate both customer-based and co-worker-based discrimination
15 together or separately, and in doing so, garner insights into the varying experiences of
16 transgender employees and job applicants in different industries.
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22 *3.2.2 Male and Female Dominated Industries*

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24 Male-dominated industries, such as law enforcement, construction, and engineering, and
25 female-dominated industries, such as nursing, primary education, and counselling counseling,
26 have been used in multiple studies of hiring discrimination against straight male and female,
27 lesbian and gay candidates (e.g. Ahmed et al., 2013; Riach and Rich, 1995, 2006).
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30 Masculinized industries are defined by Collins and Callahan (2012: 455) as those which
31 involve “men embodying heterosexual work styles”, a definition which highlights not only
32 the pervasiveness of males but also of heterosexuality in these industries. Indeed, gay men
33 often have safety, stress and marginalization concerns in working in such industries (Collins
34 and Callahan, 2012; Collins, 2013, 2015; Rumens and Broomfield, 2012), while lesbians can
35 face harassment based on their sexuality, their gender, or a combination of both (Wright,
36 2008; 2013). Ahmed et al. (2013) found that gay male applicants are discriminated against in
37 typically male-dominated occupations, while lesbian applicants are discriminated against in
38 typically female-dominated occupations. Riach and Rich (1995, 2006) found that women
39 were discriminated against in typically male-dominated occupations. They also found that
40 men were discriminated against in female-dominated occupations (Riach and Rich, 2006).
41 More recently, Drydakis et al. (2018) found that women with more traditionally masculine
42 personality traits had a greater likelihood of gaining access to male- and female-dominated
43 occupations. There is thus an established literature that shows that the existing gender
44 breakdown of an industry is implicated in hiring discrimination against job applicants.
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58 The rate of discrimination against transgender job applicants in either male- or female-
59 dominated industries remains virtually unknown. However, a study looking at this topic may
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3 shine a light not only on the experiences on transgender employees but on gendered
4 occupations in general. There are a number of combinations, and possible outcomes, that
5 would be implicated in such a study, wherein the complexity (but also, one could argue, the
6 importance) lies. For example, how do recruiters in a male-dominated industry (such as e.g.
7 construction) react, on average, to a transmale applicant: in a similar sense to cis male
8 applicants (no transgender-based discrimination), less favourably than cis male applicants but
9 more favourably than cis female applicants (transgender-based discrimination present to a
10 lesser degree than sex-based discrimination), or less favourably than any cisgender applicants
11 (trans-based discrimination is more prominent than sex-based discrimination)? Carefully-
12 designed studies could reveal the extent to which transgender applicants, both transmale and
13 transfemale, face discrimination in both male- and female-dominated industries, and may also
14 uncover some more generalized findings about the role of gender in these industries.
15 However, regardless of whether or not the researcher includes gendered occupations in their
16 analysis, they should at the least be aware of the existence of male- and female-dominated
17 industries and roles, and either include or control for them in their experiment design, in case
18 they inadvertently distort the collected data.
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3.2.3 Large and Small Organizations

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36 As discussed in the *Societal Factors* section, many countries may play host to wide variations
37 in the level of protection against transgender employment discrimination. However, many
38 multi-national organizations have non-discrimination policies that include gender identity –
39 85% of the Fortune 500 (HRC, 2019). These policies may or may not run counter to the laws
40 or ordinances present in the location of the office wherein a job posting is situated. Smaller
41 organizations, however, may not extend their non-discrimination policies to gender identity,
42 or may not have a formalized non-discrimination policy at all, instead following local
43 legislative and cultural contexts. While Baert, De Meyer, Moerman and Omey (2018) did not
44 find a relationship between firm size and hiring discrimination against female, ethnic
45 minority, or older candidates, it is possible that the recency with which transgender issues
46 have gained attention (relative to gender, age and ethnicity discrimination) might result in
47 lesser-developed policies and practices within smaller organizations. In addition, even if a
48 smaller organization has such a policy, their small staff size and the fact that transgender
49 people make up only a tiny part of the population (Flores et al., 2016) could mean that these
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3 policies have not actually been used or actively enforced. Experimenters could therefore
4 develop a study that investigates the size of an organization, the presence/absence of trans-
5 inclusive policies, and the amount of hiring discrimination against transgender job applicants.
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9 Larger organizations may also use different methods of screening in their recruitment
10 process. Computer-assisted screening of résumés is a feature in many large organizations,
11 where an algorithm, rather than a human, decides whether or not to send a candidate past the
12 first stage of the application process. While these algorithms have recently courted some
13 controversy with regard to gender bias (Reuters, 2019), they may in future become more
14 commonly used, and are a consideration for researchers designing hiring discrimination
15 experiments involving larger organizations.
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26 *3.2.4 High Skill and Low Skill Occupations*

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28 The differences between high skill and low skill occupations present another consideration
29 for researchers examining hiring discrimination (~~against any marginalised group against~~
30 marginalized groups). A low skill occupation will, almost by definition, have lower barriers
31 to entry and therefore is more likely to have more applicants; a high skill occupation would
32 have a higher threshold and arguably would have fewer applicants for a job opening. With the
33 former, taste-based discrimination (Becker, 1957, explored below) may be more prevalent, as
34 the hirer could more easily afford to choose not to hire a qualified transgender applicant,
35 because there would most likely be an equally qualified cisgender applicant, and would be
36 less likely to get caught in the act of discrimination. In high-skill occupations, as the
37 applicant pool gets smaller, the economic penalty for not choosing the most qualified
38 applicant because they were transgender would get steeper, as similarly skilled applicants
39 may not be present.
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50 ~~In a similar vein~~, Baert et al. (2015) found that candidates with a foreign sounding name
51 would have to apply for twice as many applications for occupations where recruitment was
52 easy. Where recruitment was not easy (e.g. high labor market tightness), the candidate with
53 the foreign sounding name and the native-sounding control candidate received an equal
54 amount of callbacks, suggesting there may be a relationship between hiring discrimination
55 and labor market tightness. Flage (2019) finds in a meta-analysis of hiring discrimination
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3 against gay and lesbian job applicants that significantly less discrimination can be found in
4 recruitment for high skill jobs than in low skill jobs. He points out that, in addition to having
5 more freedom to discriminate because of the higher volume of applications, employers also
6 focus more on skills when recruiting for positions that involve more responsibility and/or
7 specialized skills (e.g. banker). Personal characteristics (such as sexual orientation or being
8 transgender) would therefore be implicated to a higher degree in low skilled jobs.

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14 Transgender job applicants may therefore similarly face increased levels of discrimination in
15 slack labour markets, or when applying for low skill jobs. An exploration of high/low skill
16 occupations and/or, or similarly, labor market tightness w, with regards to transgender job
17 applicants , would not only provide much-needed data on this employee cohort's experiences,
18 but would also shed light on hiring discrimination in general, by exploring the phenomenon
19 in various different occupations and settings.
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28 **3.3 Population-Specific Factors**

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30 As stated above, the term transgender can refer to a number of non-cisgender identities, such
31 as transman, transwoman, and genderqueer, and transgender is often used as an umbrella term
32 to describe any identity that does not conform to traditionally binarized notions of gender.
33 Those with certain intersectional identities, where multiple marginalized identities exist in
34 concert (such as an African American transwomen) face discrimination of different severities
35 and types. When one wants to measure hiring discrimination against transgender job
36 applicants, then, they must first decide on *which* subpopulation(s) within the transgender
37 community they want to base their study upon, as the complicated interplay of these multiple
38 considerations may result in complicated or even unworkable data. Some of the population
39 factors, explored below, will be more of a consideration in studies focusing on résumé
40 experiments, while other factors may be implicated in studies concerning face-to-face
41 interviews or recruitment experiments involving photographs.
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54 **3.3.1 Taste-based Discrimination and Statistical Discrimination**

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56 Two concepts are often cited when attempting to explain the underlying mechanisms of ,
57 reasons for, labor market discrimination against minority workers: *taste-based discrimination*
58 and *statistical discrimination*. Becker (1957) is credited with the former; taste-based
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3 discrimination, as the name suggests, relates to discrimination arising from an aversion on
4 behalf of the hirer for working with a member of a particular group, or a preference for
5 working for a member of another group, regardless of either worker's perceived productivity
6 (Becker, 1957). For transgender workers, taste-based discrimination would ~~no doubt~~possibly
7 most accurately be related to transphobia, "an emotional disgust toward individuals who not
8 conform to society's gender expectations" (Hill and Willoughby, 2005: 533), which is an
9 unavoidable, prevalent and observable phenomenon in many aspects of society and the lives
10 of transgender people (Hill and Willoughby, 2005).

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12 The other concept that is commonly associated with labor market discrimination, statistical
13 discrimination, is credited to Phelps (1972) and Arrow (1973), and arises not from a distaste
14 on the part of the hirer but because the hirer has imperfect information about the individual
15 applicant and must "fill in the blanks". They instead use the individual applicant's
16 membership of a group to decide whether or not to hire them, by making generalisations
17 generalizations about the group itself. A hirer may therefore stereotype an applicant as
18 probably having certain undesirable characteristics that could interfere with their productivity
19 and, not from any particular distaste for the applicant's group itself, but from this
20 presumption, will decide not to hire them (Phelps, 1972).

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22 There has been very little research conducted to explore these two concepts in relation to
23 transgender job applicants, and more is needed to explore the roles of and interplay between
24 taste-based discrimination and statistical discrimination in the labor market. ~~In one such~~
25 ~~study, however,~~ Von Borm and Baert (2018) ~~empirically tested hiring discrimination against~~
26 ~~transgender candidates in an attempt to discern whether the root cause was taste-based~~
27 ~~discrimination or statistical discrimination. Using a student cohort that evaluated fictitious~~
28 ~~transgender and cisgender job applicants, they~~ found no taste-based discrimination on behalf
29 of the hirer, but did find evidence suggesting statistical discrimination in relation to health.
30 ~~The authors did, however, find that the participants were less likely to hire a transgender~~
31 ~~applicant when asked to consider the applicant collaborating with co-workers and customers~~
32 ~~—as explored in more detail above.~~ The roles of taste-based discrimination and statistical
33 discrimination in transgender hiring discrimination, while easily hypothesized, appear to
34 remain as yet empirically tested in the real labor market.

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36 One possible potential way of investigating this could be to use high-quality and low-quality
37 applications that include more information (e.g. by including more experience, more
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3 education, or a reference letter) in addition to applications with standard information (e.g. just
4 a résumé), as in Drydakis (2012; 2014). While an experiment may reveal that transgender job
5 applicants receive fewer call-backs than cisgender applicants, the exact nature of this
6 discrimination would remain unknown. By including an information variable into the
7 analysis, one can determine whether statistical discrimination, taste-based discrimination, or
8 both forms are at play.

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14 For example, if the addition of information leads to a dramatic decline in the rate of
15 discrimination, then one may infer that statistical discrimination is the main cause of the
16 reduced amount of callbacks for the transgender applicant. The hirer is making
17 generalizations about the transgender applicant because of imperfect information, which is
18 then rectified with the increased information provided – they are, as Flage (2019) puts it,
19 ‘reassured’ by the presence of additional information. If the addition of information to an
20 application results in roughly the same rate of discrimination for the transgender applicant,
21 then taste-based discrimination can be said to be occurring – the hirer’s prejudice is affecting
22 their choice in applicant, regardless of the amount of information they have. If the addition of
23 information leads to a decline in the rate of discrimination, but there is still significant
24 discrimination present, then the presence of a combination of taste-based and statistical
25 discrimination can be inferred. By introducing an information variable, the experiment design
26 is made more complex – a 2x2 design (transgender/cisgender x standard information/more
27 information) rather than a simple comparison (transgender versus cisgender). However, this
28 complexity is perhaps justified by the enhanced explanatory power the study will have as a
29 result.

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35 Distinguishing between statistical discrimination and taste-based discrimination is important
36 because, as Neumark (1999) suggests, determining the cause of discrimination can help
37 identify how best to counter it. For example, antidiscrimination legislation can help address
38 taste-based discrimination; if statistical discrimination is present then other more informative
39 means of assessing a candidate’s productivity should be used. – Bertrand and Mullainathan
40 (2004) use high-quality and low-quality résumés when investigating race-based
41 discrimination to investigate the differences in call-backs for high and low-quality White and
42 African-American applications. By providing a high-quality application for a transgender
43 candidate (e.g. by including more relevant experience, more prestigious education, or a
44 glowing reference letter), the experiment provides more information about the candidate’s
45 productivity, meaning the hirer has less need to generalise (and engage in statistical
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3 ~~discrimination). The experiment could then interpret any discrimination that does occur as~~
4 ~~being more likely to be taste-based rather than statistical.~~
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7 3.3.2 Transmen and Transwomen

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10 As discussed above, previous literature has shown that cisgender women and men face hiring
11 discrimination in male and female-dominated occupations, respectively. However, women
12 often face increased and varied forms of employment discrimination, including wage
13 discrimination, the 'sticky floor', and the 'glass ceiling'. Similarly, survey evidence and
14 qualitative research has found that transwomen often face increased, and different forms of,
15 discrimination than transmen (Schilt and Wiswall, 2008; Grant et al., 2011), and, like with
16 cisgender women, transwomen face a workplace 'gender penalty' (Schilt, 2006). This has
17 important implications for the design of a study measuring transgender hiring discrimination;
18 gender differences between transgender job applicants is a variable that should be either
19 included or controlled for in an analysis.
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27 However, the different levels of discrimination faced by transmen and transwomen are
28 complicated by gender stereotyping within industries and occupations (see above).

29 Genderqueer individuals may also face hiring discrimination, but, because this identity has
30 only recently been given attention, any discrimination they face could result from ignorance
31 rather than outright hatred. Like the discussion on male and female-dominated industries
32 above, determining rates of discrimination against transmen versus transwomen may render
33 some interesting findings and discussions in relation to gender in the workplace in general.
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40 3.3.3 Gender Conformity

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42 As discussed above, the transgender umbrella term includes not only those who transition
43 fully from male to female or female to male, but also those who identify with both and
44 neither genders. The latter's visual gender expression may therefore not match traditional
45 binarized ideals of gender expression. Another consideration unique to transgender
46 candidates is that of *passing*, i.e., one's ability to appear as a cisgender person of one's
47 desired gender identity. A transwoman who *passes*, therefore, would appear to most or all as
48 a cisgender woman. In their development of a scale to measure transphobia, Hill and
49 Willoughby (2005: 534) also discussed genderism: "an ideology that reinforces the negative
50 evaluation of gender non-conformity or an incongruence between sex and gender... a cultural
51 belief that perpetuates negative judgments of people who do not present as a stereotypical
52 man or woman". As Budge, Tebbe and Howard (2010) find in their qualitative study, those
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3 who do not conform to traditional gender norms or do not pass will be more likely to
4 encounter a negative hiring decision based on a genderist reaction to their appearance.

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6 Similarly, Leppel's analysis of data from the National Transgender Discrimination Study that
7 perceived gender incongruence increased the likelihood that a transgender person was out of
8 the labor force.
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12 This Discrimination arising from gender non-conformity is, of course, is presumably
13 predicated on the assumption that the hirer can *see* the gender non-conforming applicant in
14 question. An in-person study could therefore be useful in this instance. A correspondence test
15 may be a viable option, but only in particular countries – one would most likely have to
16 convey this visual information using a photograph on the résumé, which is not customary in
17 many countries, but is common in others countries such as Germany, Japan, and China.
18 Winter et al. (2018) used photos in their correspondence test on transgender hiring
19 discrimination, but only for the two countries (Singapore and Malaysia) in-wherein which it
20 is customary to include a photo. Rich (2018) argues that the researcher cannot completely
21 control the experiment when they use photos, as photos can convey some information
22 unintentionally (for example, Rich's discussion included perceived attractiveness, which
23 would be another variable in an experiment involving gender conformity). An alternative to
24 the visually-based experiment may be to include non-binary or alternative gender pronouns,
25 such as *they/them*, *ze/hir*, *xe/xem*, but because these and the purpose they serve are less well
26 known, the experimental manipulation may not work as well as hoped. There are thus a
27 number of different avenues, each with their advantages and disadvantages, which a
28 researcher may take to measure hiring discrimination on the basis of gender conformity or
29 non-conformity of transgender job applicants.
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44 To summarize, there are a great deal of factors to consider when designing an experiment to
45 measure hiring discrimination against transgender job applicants. Some factors (e.g. gender)
46 should be borne in mind whatever the exact focus of the investigation, while other factors
47 (e.g. gender conformity) may be purposefully selected-included by the experimenter. The
48 concluding section provides a flowchart that shows all of the tests and factors discussed
49 above, and discusses the implications, contributions and limitations of this paper.
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58 **4. Conclusion**

59 ***4.1 Designing a Study to Measure Transgender Hiring Discrimination***

As we have seen above, choosing a research design is a lot more complex than just choosing the basic method; one must decide what exactly it is they want to research, and, crucially, resolve how to exclude the other mediating factors from their analysis. The flow-chart in Figure 2 shows a research design decision-making process that follows from the discussion above. Firstly, the experimenter chooses their methods. After that, they choose the aspect arguably most pervasive to a study of hiring discrimination: is the legal context in which the study takes place, with *path a* in Fig. 2 representing a study based in a context with legal protections and *path b* representing a study based in a context without them. Like Bardales (2013), the aim of the study may not just be to study hiring discrimination but also to investigate how effective protections are in combating it, so a researcher may choose to situate their study in both contexts (*path c*).

---- Insert Figure 2 around here ----

After choosing which legal context they want to base their study within, a researcher may decide to investigate if and how transgender hiring discrimination operates in different industries and roles. As discussed above, there are several different contexts and considerations one might want to include in their study, including male-dominated industries and/or female-dominated industries (*path d*), high and low skill occupations (*path e*), large and small organizations (*path f*), and the possibility of taste-based proxy discrimination with regard to customers or co-workers (*paths g* and *h*, respectively). If none of these factors are to be investigated, *path i* can be chosen.

Once a particular role or industry factor has been chosen (or not chosen), the factors specific to the transgender population that the researcher wishes to investigate can then be decided upon. At this point, one can decide on which combination of test group and control group to investigate (*paths k, l, m, n, o*), whether they want to investigate statistical or taste-based discrimination (*path p*), or whether their primary focus should be on gender conformity and its effect on hiring (*path j*).

Additional mediating factors may be added by following the red line back to the previous set of factors (e.g. if one wished to measure hiring discrimination on the basis of customers (*g*) in a female-dominated industry (*d*). In addition, as discussed above, this paper focuses only on a number of characteristics most salient to transgender job applicants. Many studies on labor market discrimination have implicated other general personal characteristics, such as educational attainment (e.g. Drydakis, 2012), marriage status (e.g. Allegretto and Arthur,

2001; Drydakis, 2012; Weichselbaumer, 2015), and criminal history (e.g. Vargheese, Hardin, Bauer and Morgan, 2009), each of which may also be relevant to this discussion.

~~However~~ However, as Van Borm and Baert (2018) conclude, adding complexity to a research design may result in an overly-complicated analysis, and increases the possibility of errors on behalf of a researcher. With the literature on this topic at such a nascent stage, it may behoove researchers to focus more on general topics to firstly establish an empirical literature on transgender hiring discrimination, before moving to more specific contexts, combinations, or scenarios.

4.2 Implications and Recommendations for Future Researchers

This paper can hopefully help simplify the experiment design process, and help fuel further research to address the dearth in empirical quantitative research on hiring discrimination against transgender job applicants. The contribution is aimed at two audiences – researchers of transgender, LGBTQ or broader diversity and inclusion topic, and/or researchers who have previously studied labor market discrimination but haven't previously focused on transgender job seekers. ~~New researchers~~ The former are audience is introduced to three main methods of measuring hiring discrimination, while both ~~new and experienced researchers~~ audiences can see how these methods can be adapted for and theoretically extended for to a transgender-specific study. The paper synthesizes the existing literatures on both transgender career/work experiences and on previous studies of hiring discrimination to outline what factors one should be cognizant of when designing a study on this topic. The design process is a complicated one, and this paper has hopefully simplified and demystified the main steps to take.

Table 1 below outlines the main advantages and disadvantages, resource requirements and risk of detection associated with each of the three commonly used methods of measuring hiring discrimination discussed in this paper. One can see that each method can be used in different contexts, and the choice of method will depend on which variables the experimenter wishes to investigate. Used in combination, Table 1 and Figure 2 can provide an accessible tool to help researchers design, plan and execute a successful study.

-- Insert Table 1 around here --

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3 As well as simplifying the design process, this paper has outlined some topics that are under-
4 researched and thus require further attention. In addition, the sections below discuss major
5 geographic areas and identities that would benefit from further investigation.
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10 11 4.2.1 Areas of Study 12

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14 Within the business and management literature, research focusing on general transgender
15 issues is overwhelmingly centered on the USA (McFadden & Crowley-Henry, 2016). In his
16 exhaustive review of correspondence experiments performed since 2005, Baert (2018)
17 highlights that almost two thirds of correspondence test have been performed in Europe, with
18 other countries, including some with the largest populations in the world, having no
19 correspondence experiments performed. In addition, as noted above, there appears to be
20 only one experiment performed in relation to transgender job applicants in Europe (Van
21 Borm and Baert, 2019), and only three (with quite small samples) conducted in the USA
22 (Bardales, 2013; Make The Road New York, 2010; Rainey & Imse, 2015). To the author's
23 knowledge, only one experiment (Winter et al., 2018) has been conducted in Asia. The state
24 of the literature on this topic, therefore, can be likened to a blank slate, and thus there is
25 ample opportunity and a pressing need for more research to be conducted around the world.
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35 Sensitivity should, however, be shown when researching non-cisgender identities in other
36 countries; other terminologies, identities, traditions or groups may be present in local cultures
37 that do not resemble the prevailing Western context. For example, within the Indian
38 subcontinent, *hijra* occupy a particular space within Hinduism, are seen as the favoured
39 devotees of the Lord Rama, and can bestow blessings, yet are marginalised and often have to
40 perform sex work or engage in begging to survive (Khan et al., 2009). While *hijra* could
41 clumsily be compared to transfemales in the West, they are a distinct and separate group, a
42 third gender, with particular traditions, challenges and issues (Kalra, 2012). Other areas with
43 third gender or transgender inhabitants include Albania (the *sworn virgins*) (Dickemann,
44 1997), Samoa (*fa'afafine*) (Schmidt, 2003) and the Arabian Peninsula (*khanith*) (Murray,
45 1997). Western concepts and phenomena may or may not be applicable to these populations;
46 this also has yet to be tested.
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59 4.2.2 Non-Traditional and Intersectional Transgender Identities 60

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3 Although it may be disappointing that there has been very little empirical measurement of
4 hiring discrimination against transgender job applicants, the fact that there are few studies
5 could be seen as somewhat of an advantage. Less ~~well-known~~well-known transgender
6 identities, such as genderqueer, nonbinary, or agender, could be built in these studies from the
7 very start, allowing a fuller picture of the entire transgender community to emerge.
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12 Intersectional identities, ~~where an individual has a combination of marginalised identities,~~
13 can lead to some quite specific outcomes; while the differences in experience between
14 transmen and transwomen have been discussed above, race and socioeconomic status are also
15 implicated. For example, a recent survey (Edelman et al., 2015) reports that transgender
16 people of color in the USA were more likely to have been denied a job than white
17 transgender people – 49% versus 30%, respectively. Similarly, Leppel (2016) highlights how
18 unemployment is more likely for Hispanic and African American transgender people. Other
19 such combination of identities may lead to distinctive outcomes in studies on hiring
20 discrimination, and would provide valuable detailed and nuanced information on the state of
21 transgender experiences in the labor market. In deciding (for the sake of simplicity or
22 otherwise) not to consider other personal identities such as ethnicity and social class, one may
23 run the risk of contributing to a suite of studies that ~~have~~has ~~ast~~ its primary focus the
24 experiences of white, middle-class transgender job applicants, resulting in a one-dimensional
25 and less representative literature.
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40 **4.2.4 Limitations**

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42 This paper has investigated a number of factors at the legal, industry/role and population
43 level, presented in Figure 2, that one might take into account when researching hiring
44 discrimination against transgender job applicants. However, as mentioned, this list is not
45 exhaustive; there are a potentially huge number of factors that could affect the hiring process
46 and could be taken into account when designing a study; this paper has presented only a few
47 major factors. In addition, this paper acts only as an introduction to designing a study on
48 transgender hiring discrimination – a first step for novitiates to the study of hiring
49 discrimination and/or measuring discrimination specifically against transgender job
50 applicants. Although they are shown here on a simple choice framework, one must also be
51 cognizant that the factors and tests presented may involve varying degrees of difficulty to
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execute successfully; ultimately, the choice of test and factors focused upon must be followed, by necessity, by a deep dive into the literature and previous similar studies.

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