

INFORMING EXPANSION OF GENDER INCLUSIVE DATA COLLECTION IN POST-SECONDARY EDUCATION IN BRITISH COLUMBIA

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ABSTRACT

Aim/Purpose	To inclusively consider the diversity within student gender-identification at post-secondary institutions, we investigate expanding gender self-identification options on admissions forms; often the first point of student contact with campuses.
Background	Even if inspired and motivated by inclusion, many of the gender categories in use presently have challenges, including conflating gender identity with sex assigned at birth, providing too many response options giving rise to ethical issues, and using outdated or misunderstood terms.
Methodology	We conducted a sequential mixed-methods exploratory research design that consisted of interviews (n=9) with administrators in post-secondary institutions, followed by a survey of said administrators (n=21), and finally a survey of students (n=45).
Contribution	The data detail experiences and inform best practices for ensuring gender inclusivity, specifically concerning students who identify as transgender or non-binary, when filling out forms.
Findings	Results indicate that moving beyond binary gender categories entails a balance between 1) institutional issues of data integrity for effective use of gender data, and 2) providing flexible and inclusive options for gender-identification that extend within and beyond the gender binary to ensure students are counted where historically they have been invisible.
Recommendations for Practitioners	To balance inclusivity and data management institutions may consider a two-part question, first asking about gender (woman, man, non-binary), and then asking about gender-identification experiences (yes/no).
Recommendation for Researchers	As a system, we must find a way to balance inclusion with data management, and transgender and non-binary students must be free of administrative burdens in order to exercise their voice and access post-secondary education.
Impact on Society	Collecting expanded gender categories in the school system is only the beginning of a shift in how transgender and non-binary students feel welcomed and

	supported on campus. The shift is critical to the focus and wellbeing of these students.
Future Research	Future researchers, we suggest, may wish to focus on gathering examples of implementation of expanded categories and illustrations of how these data are used to inform and shape changes to policy, practices, spaces, services, and programs. More in-depth exploration of the inclusion of Two Spirit identities in ways that allow their identity to remain intact rather than partially represented in response to the gender question.
Keywords	gender diversity, gender categories, gender data, demographics, education, post-secondary students, transgender, non-binary

INTRODUCTION

With overall increased legal and societal recognition of persons who identify as transgender women and men as well as non-binary people (i.e., someone who does not identify as either a man or woman), the distinct needs and interests of students who are transgender (i.e., referring to students with transgender experience) and non-binary are becoming more apparent to higher education administrators. Transgender is broadly defined as someone whose self-reported or culturally defined gender identity does not align with their sex assigned at birth (as opposed to cisgender individuals; whose gender aligns to their sex at birth, Radix, Erickson-Schroth, & Jacobs, 2017; Davidson, 2007).

In almost every sector of society, gender is a foundational demographic and is usually restricted to female and male response options. To date, these binary categories have been a largely unquestioned culturally bounded norm that are deeply imbedded in systems, structures, practices, and perceptions. As more nuanced awareness of gender increases so too do the attempts to determine solutions. However, the corresponding solutions do not always meet the various and complex needs across multiple stakeholders, nor is it always useful to those who are using the data. Ensuring data collected from individuals includes expanded genders is a ubiquitous issue across many sectors with health care and population studies leading the way with various approaches and solutions (Bauer et al 2017; Cahill et al 2014; Deutsch et al 2013; Fenway 2013; Alper & Feit 2012).

Individuals who identify as transgender and non-binary are often at a higher risk of harassment, discrimination, isolation, and systemic challenges (Radix et al., 2017; Veale, 2015; White Hughto, Reisner, & Pachankis, 2015; Rankin, 2010). Rankin (2010) reports 41% of students identifying as transgender have experienced harassment on campuses. Seelman (2013) itemizes the diverse and distinct challenges faced by students who identify as transgender and non-binary on campuses, including circuitous name and gender marker change processes, dismissive interactions with faculty and staff (especially vis-à-vis name and pronouns), lack of informed health care, and difficulties accessing and navigating gendered residences. Each challenge and its associated effect on the student undermines students' levels of academic achievement, self-esteem, mental and physical health, social connection, and wellbeing (Seelman, Woodford, & Nicolazzo, 2016; Dugan, Kusel, & Simounet, 2012; Beemyn, 2005). These reinforce the need for increased support, recognition, and inclusion of broader gender understandings within institutional programs, facilities, services, and systems.

Within an educational setting, gender data has valuable implications for meeting equity objectives, driving decision-making, informing reporting requirements to government, and influencing program-specific policy initiatives (e.g., women in trades and men in nursing) (Clow & Ricciardelli, 2011; Clow, Ricciardelli, & Bartfay, 2015). Dugan, Kusel, and Simounet (2010) first highlighted the lack of empirical research on student who are transgender and non-binary. They later identified the heart of the issue of invisibility and exclusion in the lack of quantitative information on this population within educational institutions:

It is difficult to determine the exact number of students currently included in the transgender college population, since measurement techniques do not exist to properly capture this data with most survey research not even listing transgender as a response option (Dugan et al., 2012: 719).

One of the first areas of exclusion is collection of gender on institutional application forms that often only include binary gender options. The collection of gender data on forms and within systems is often a cause of confusion, frustration, and invisibility for students who are transgender and non-binary (Seelman, 2013; Nicolazzo, 2019). Debate continues as to whether gender can be categorized quantitatively. Some recognize the limits of broad categories, but still see the importance of the effort to expand categories beyond the gender binary of women and men (GenIUSS, 2013; Bauer et al., 2017). This is especially relevant in educational institutions where decisions are often made with support of quantitative data. In the absence of data, the invisibility of challenges persists unabated. Said data erasure is a key factor in ongoing marginalization of students who identify outside the binary of men and women. Others are more circumspect about the value of categorizing gender considering it an elusive and potentially harmful effort:

In other words, by not taking the profusions of trans* identities into account, or by trying to contain who is deemed trans*, or by rigidly determining who is ‘trans* enough’ to count as trans*, educational researchers may not only be getting further from the trans* populations they are attempting to know, but in so doing, they may be reinforcing harmful boundaries about how trans* can be understood in the future (Nicolazzo, 2019).

Similarly, scholars point to complexity regarding the term Two Spirit as a concept that defies simplification as part of quantification. While used by individuals who identify as Indigenous to express gender and sexual diversity (Wilson, 1996; Wilson, 2008; Robinson, 2017), there are nation-, role-, and geographic-specific contexts that inform how people relate to the term’s particular meaning. Laing (2018) reaches this conclusion in their Master’s thesis where research participants:

[G]rapple with and push back against the expectation of a singular, stable, intelligible definition of two-spirit in their everyday lives (Laing 2018: 215).

Across post-secondary institutions in the United States and Canada, increasing efforts to expand gender categories on application forms and within student information systems is apparent, especially in the last three years (Lannon, 2015). However, there is a surprising amount of variation in use to try and resolve this issue (see Table 1 for examples) and insufficient evidence that these solutions are meeting data needs or are meaningful to students (Sorbel, 2014; OUCA, 2016; SUNY, 2016; UCLA, 2015; Purdue, 2018; Campus Pride, 2018). Expanding gender categories is obviously more difficult than simply adding a third category; it requires careful consideration. As such, we designed the research project to help identify and balance the issues and rate the potential options for gender nomenclature across various perspectives, including transgender and non-binary students, administrators in the post-secondary system, government representatives, student information systems providers, students and community members. Our objective here is to provide considerations for the higher education sector as a way to work toward identifying the most inclusive and comprehensive ways to collect gender data collection, recognizing the needs of institutions and students.

Table 1. Summary of Types of Gender Questions Being Implemented and Key Issues

Type	Sample Questions	Key Issues or Dynamics
Broad	Are you part of LGBT community? (Yes/No)	Does not differentiate between gender and sexual orientation.
	Are you transgender? (Yes/No)	Lacks of distinction across gender diversity.
	Other	Stigmatizing, unwelcoming and does not provide any information to the institution about the needs of the student
Specific to Sex	What is your sex assigned at birth? (Female, Male, and occasionally Intersex)	There is no compelling reason for institutions to know the sex of their students (i.e., their anatomy). For many transgender people, there is also uncertainty whether this is inquiring about

Specific Gender	<p>to <u>Different features</u>: Select one, check all that apply, fill in the blank, prefer not to say, and two-part question</p> <p><u>Many terms</u>: Female-to-male, male-to-female, transgender man, transgender woman, genderqueer, gender variant, non-binary, transgender, another gender, and other</p>	<p>sex assigned at birth or legal sex.</p> <p>Some of these features present ethical issues related to back-end aggregation of categories or terms (as a way to avoid data suppression) that respondents may not have chosen themselves. Prefer not to say may introduce full or partial missing data.</p> <p>Diverse and ever emerging terms make standardization of categories challenging. Some people identify with the umbrella term “transgender,” others may not (including non-binary, women, and men). Nervous and unsure administrators’ response is to include many or all terms in hopes to not offend or exclude anyone.</p>
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METHODS

We used A Structured Decision-Making (SDM) mixed methods process to identify a meaningful and practical solution for a guided decision-making process based on stakeholder needs and interests. SDM is a method for balancing the various diverse criteria that stakeholders’ consider valuable, across multiple options of change, by selecting indicators using quantitative and qualitative scales to rate and rank the options (Gregory et al., 2012; Johnson, 2004; Ralls & Starfield, 1995). We use the SDM process because gender data exist within a broader institutional ecosystem that has various interested parties, including students, registrars, systems providers, faculty, executives, and government agencies. The SDM method allows for the inclusion of diverse needs across parties; rather than only the experience of students identifying as transgender and non-binary who provide gender information to the institutional system. SDM is also about if and how institutional staff are able to manage and apply these data to identify needs and/or track student experiences over time. As a method, SDM helps unpack whether system providers managing platforms collecting gender data can offer the technological solutions to gather gender in expanded forms. It assists in understanding if government agencies are able to receive gender data from institutions in expanded ways. Thus, as a broader approach, we adopted SDM to respond to these complex considerations, as well as user needs for visibility and inclusivity, within the whole data lifecycle (Figure 1).

In support of the structure decision-making model, qualitative and quantitative data were collected using a mixed methods sequential exploratory design. First, we conducted interviews with nine university and college administrators employed in the United States or Canada. Following, a survey was designed for registrars within the post-secondary sector to garner insight into the effects of the inclusion of broader gender understandings when registering students. Reflecting on findings from interviews, registrars were asked to rate their interpretations of the importance of the issues identified as essential by interviewees and to identify any concerns they may have with the collection (e.g., how would you rate the importance of transgender inclusivity in expanding gender nomenclature on application forms?), storage (e.g., how would you rate the importance of data flexibility in expanding gender nomenclature on application forms?), and use of expanded registrant gender information (e.g., how would you rate the importance of reportability to support provincial and federal buy-in for expanding gender nomenclature on application forms?). Registrars also ranked their preference for response options for collecting gender data from one to five.

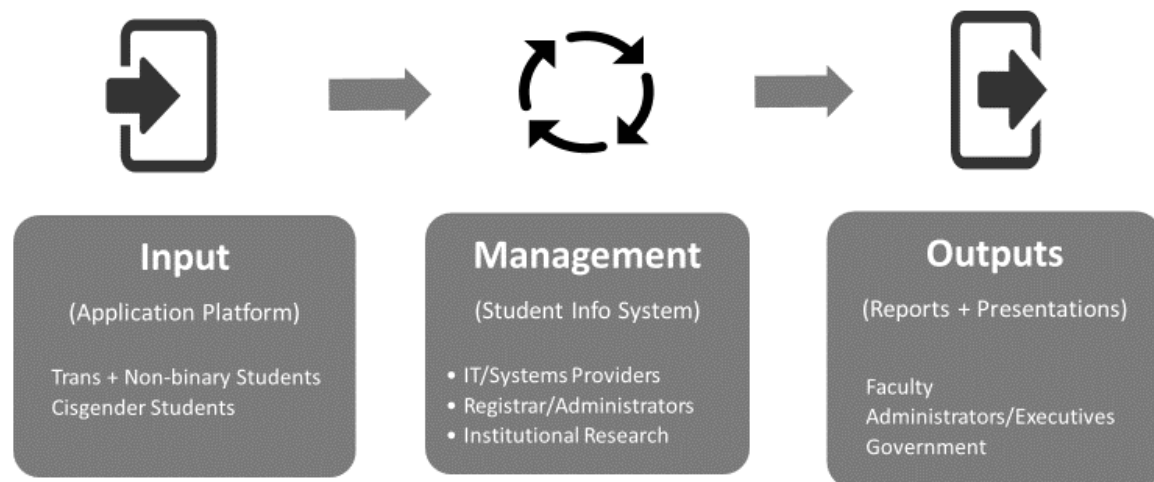


Figure 1. Model of gender flow within institutions.

Using information gained from interviews and registrar surveys, a 12-part survey was developed for student participants that presented six terminology options for collecting gender-related demographic information that collectively capture the variation in how students may choose to report their gender in the post-secondary system. The survey items solicited participant demographic information (although limited to not allow the individual identities of participants to be determined), preferred pronouns and language, and a rating of experience in responding to the six data collection options presented (see Table 2). Participants from four post-secondary institutions in British Columbia, Canada were invited to participate in the online survey through transgender and non-binary groups on campus, women and indigenous groups and through gender studies classes. Participants were asked to select the type of answer that best represented how they self-identify when asked about their gender.

Table 2: The six data collection options presented to participants

Option	Question
Option A:	Status Quo (i.e., only female and male response options)
Option B:	Woman, Man, Other (select one)
Option C:	Woman, Man, Gender Variant (select one)
Option D:	Woman, Man, Gender Variant, Transgender, Cisgender (select all that apply)
Option E: Two Part Question	Part 1 – Gender? Woman, Man, Gender Variant (select one) and Part 2 – Trans? Yes or No
Option F:	No gender data collected

INTERVIEWS

In the first step of the research project, we designed interviews to understand the experiences of individuals, including stakeholders, who had already incorporated expanded gender categories in the demographic information on applications. We selected interviewees because of their practices collecting expanded gender information for their institutions in our exploratory stage of the project, as only by doing so could we learn what was already in practice. Here, we used a snowball sampling technique to expand our sample and knowledge base, asking each interviewee to refer the researchers to any literature or other individuals that were also using expanded categories for gender collection. Recruitment criteria ensured each participant (n=9): i) had at least one year of experience with the collection of gender identification among registrants that

extend beyond binary options and had documented the experience; ii) held the position of an administrator in a public/private sector organizations; and iii) was employed in the United States or Canada. We asked participants about the implementation of expanded gender categories, use of the expanded gender data by the institution, and lessons learned during the implementation. Those who volunteered to be interviewed included four upper level administrators in the post-secondary system in the United States, two Canadian Registrars, two individuals within government, and one student information systems designer. Interview field notes were taken and interviewees were provided an opportunity to review and approve the notes. An emergent theme analysis was conducted across all transcripts to identify primary themes through a constructivist-interpretive approach (Charmaz, 2006; Hesse-Biber, 2010). The data from the interviews, together with the literature review, informed the development of a survey distributed to registrar's and a survey distributed to students both of which included the following issues: how the terms selected affected inclusivity, shared challenges of identifying as transgender, overall data management, compliance and system challenges, and issues related to privacy and disclosure.

SURVEY FOR REGISTRARS

We designed the first survey for Registrars within the British Columbia public post-secondary system. Students had been asking BC registrars' for many years to make this change as institutions in BC largely were only collecting gender data in a binary format and there was an eagerness to make change across the post-secondary system. Registrars came together to seek expertise on the appropriate way to manage the question and be united in their response. The BC post-secondary system has a history of collecting uniform demographic data across the sector, and the inclusion of Indigenous student data had set a precedent for expanding inclusion. Additionally, at that time, BC had launched a shared application portal and wanted to collect the data on the common application for all public institutions. The survey asked registrars to rate the issues on a scale of one to five in level of importance with one being of low importance and five being high. All 25 public post-secondary institutions in British Columbia were invited to participate in the survey with an 84% response rate (n=21). As each was an institutional response, no demographics were collected on those who submitted the response on behalf of the institution.

SURVEY FOR STUDENTS

Information from the literature review, the key informant interviews and the registrars' survey informed a survey for students. Specifically, it informed the aforementioned development of six response options (provided in Table 2) for gathering gender self-identification data. Options developed were presented to students via an online survey and they were first asked to rate each configuration (including a binary male-female option) on a three-point scale including like, dislike, and neither like or dislike. Next, they ranked which options they preferred and the impact of these changes on their experience filling in the gender data. The survey was sent to the four institutions in British Columbia where ethics approval had been granted, which included two large research institutions, one institute and one college. The survey was administered to students through select student organizations (e.g., Pride resource centres, women's centres, Indigenous centres, and other related student groups) and to students in gender studies courses who volunteered to participate. Students were also invited to send the survey out to other students or student organizations who may be interested in the issue and thus participating. The student voice was an important element of our research—many had already voiced their desire to disclose their gender beyond the binary. Allowing students the opportunity to inform how to include expanded gender data, specifically how to ask for said data, remains a central outcome of the research. The student survey was posted online and could be accessed through a secure weblink.

STRUCTURED DECISION-MAKING PROCESS

Indicators were developed using quantitative (i.e., Likert scale) and qualitative (interview and open-ended responses) information to represent various stakeholders. A total of 11 indicators were selected and used for testing the options across distinct stakeholder interests (see Table 3 for definitions). We developed the

indicators based on issues that surfaced from the literature review, survey results from registrars, and interviews conducted with representations from institutions already implementing expanded gender categories. The options were selected from a review of question types currently being implemented in universities and in other corporate and research settings. Ratings were applied to each indicator across all the options based on the greatest number of survey respondents and professional judgement. For example, individuals identifying as transgender and non-binary indicated their level of like, neutral, or dislike of each option, which informed the rating (e.g., a rating of one of an option corresponded to >75% of respondents identifying as transgender and non-binary (e.g. two spirit) disliking the option).

Rating of these 11 indicators revealed insights into the balance between costs and benefits across stakeholders and issues, including key trade-offs. The aggregate for each option across indicators produced a ranking of the options.

Table 3. Summary issues and indicators with rating scale

Issue Ratings Scale					
Issue	Measure	1 (least favorable)	2	3	4 (most favorable)
Overall Inclusivity	<i>Number of gender categories provided</i>	No additional gender categories included	One additional gender category included	Two to three additional gender categories included	Most or all additional gender categories included
Inclusion of Non-binary Students	<i>Level of data available on non-binary students</i>	No tally of non-binary students	Some tally of non-binary students	Complicated, mostly full tally of non-binary students	Clear, full tally of non-binary students
Inclusion of Binary Trans Students	<i>Level of data available on binary trans students</i>	No tally of binary trans students	Some tally of binary trans students	Complicated, mostly full tally of binary trans students	Clear, full tally of binary trans students
TNB2S Student Experience	<i>Level of TNB2S student rating of options as provided in the student survey results</i>	Majority of trans students surveyed disliked the option (>75%)	Some trans students surveyed disliked the option (50% to 74%)	Low level of trans students surveyed disliked the option (15% to 49%)	Few or no trans students surveyed dislike the option (<14%)
Cis Student Experience	<i>Level of understanding among cis students</i>	None	Low	Moderate	High
Data Manageability	<i>Level of effort to manage data</i>	High level of effort	Medium level of effort	Low level of effort	No effort
Data Applicability	<i>Level of applicability</i>	No data usability or applicability	Low level of data usefulness and applicability to	Medium level of data usefulness and applicability to	High level of data usefulness and applicability to

			a few contexts and inquiries	some contexts and inquiries	most contexts and inquiries
Data Sufficiency	<i>Level of data available to apply to institutional objectives and operations</i>	High level of data suppression because insufficient data in a large number categories	Moderate level of data suppression because insufficient data in a medium number categories	Low level of data suppression because insufficient data in a few categories	No data suppression because of ample data in each category
Data Collapsibility	<i>Level of ability to expand and contract gender data set</i>	No collapsibility feature	Some collapsibility feature	Medium collapsibility feature	Full collapsibility into 3 categories
Government Compliance	<i>Level of fulfilling 99% threshold for gender</i>	Nowhere near threshold (<70%)	Somewhat close to meeting 99% threshold (71 to 84%)	Proximate to meeting 99% threshold (85 to 98%)	Meeting 99% threshold
Systems Capability	<i>System ability to collect gender as per option (as of May 2017)</i>	Not able to support data collection	May be possible based on future releases	Partially able to support data collection	Fully able to support data collection

RESULTS

Registrar's survey

Responses from the registrar's survey (n=21) were collected around the five common issues identified in the literature review and the key informant interviews. The categories included the following: 1) differences in inclusivity, 2) shared challenges of identifying as transgender, 3) overall data management 4) compliance and system challenges, and 5) privacy and disclosure. Each of the categorical nuances are described in more detail below.

Differences between inclusivity of students who are non-binary and binary transgender

The registrar's responses revealed that sex assigned at birth was considered irrelevant and invasive to ask of students in an educational context. It is viewed as primarily historical – i.e., anatomical circumstances at birth – that may not have bearing on the student's current lived reality and/or identity.

Overall Data Management

There are four considerations when thinking about the collection and usability of the data and they include: 1) the level of effort to manage data, 2) how institutions intend to use the data 3) having enough data in categories that justify the effort required to collect it and 4) the ability to expand and collapse the data as needed. Registrars underscored the importance of keeping data management reasonable with 67% of the respondents indicating that this was a 'very important' consideration. The collection and utilization of the data informed the overall rating of gender question options, described below.

Compliance and administrative concerns

In British Columbia, institutions are required to report aggregate gender data to the Ministry of Advanced

Education. However, annual reporting requirements are based on the binary notions of gender (BC MAVED, 2017). If institutions report categories beyond male and female, they will have errors in their report and will be asked to resolve the issue or explain the variance. Given the reporting requirements, 62% of registrars placed a high value on the data being in a format that would meet the reporting requirements. In addition, registrars reported issues with the capability of their systems to handle expanded gender nomenclature. Software companies are aware that this is a timely issue and are working on a solution. All registrar's participating in the survey (100%) indicated the need for continuous improvement in their system to implement a solution for gender-based data collection.

Privacy and Disclosure

All institutions are aware of the importance of securing data and protecting students from security breaches. Ensuring confidentiality of data is invaluable for transgender students as choosing when, where, and what to disclose as it relates to gender identification was raised as a concern in the registrar's survey. Here, 67% of participants agreed that students should be able to opt out of the gender question. If opting out is not a possibility, then registrars felt strongly that the data element required additional security or some way to have gender separate from other personal permanent records.

STUDENT SURVEY

Forty-five participants from four institutions completed the student survey. The majority of the participants came from the two largest institutions in the province (33% each), with the remaining institutions ranging from 7 to 16% of the total sample. Of the total sample, 43 provided gender. Twenty-two (51%) of the participants self-identified as transgender, non-binary, or two spirit, 17 identified as cisgender (40%), while four did not answer the gender question (9%). Participants were distributed across educational levels, with 10 in the first two years of their program, 23 in third or fourth year, and 9 in graduate studies (three did not disclose).

One student who identified as transgender summarized the issues related to asking for sex assigned at birth as follows:

Why does anyone need to know what sex I was assigned at birth? Unless someone self discloses, it is none of anyone's business. Why do we need to know what genitals you have in documentation at a university?

As evidenced in the fact that biological sex at birth is deemed irrelevant by some students, the essence of the common assumption that "transgender" is a homogenous category of people with common experiences and needs that could be used as a stand-alone gender response option alongside woman and man appears flawed. Our research, unsurprisingly, revealed a much more complex reality.

As such, there is a seeming need to need to avoid using the phrase "identify as transgender" within the gender question in order to allow for accurate completion of question by both non-binary and binary transgender students. Instead the preferred option includes a question that asks "Do you have transgender experience (i.e., does your gender differ from your sex assigned at birth)?" rather than "Do you identify as transgender?" This nuance is underscored by one of the transgender/non-binary student respondent of the student survey:

"I like 'does your GI [gender identity] align with your SAAB [sex assigned at birth],' as a follow-up question, because it allows room for folks who identify as men/women, 'of trans experience'."

Without this shift in language, some students may avoid filling out the gender question altogether, or respond in ways that create inaccuracies (e.g., a transgender woman responding "no" to identifying as transgender and thus being incorrectly categorized as a cisgender woman). Inclusivity clearly requires close attention to language.

Furthermore, students were asked about what they thought was the leading term that captures those who do not exclusively identify either men or women with response options of gender variant, gender non-conforming, genderqueer, gender creative, and non-binary. Of these options, 58% of respondents indicated

“non-binary” as the preferred third term and 17% of respondents identified “gender variant” as the leading term.

Two Spirit respondents shared a range of opinions regarding the inclusion of Two Spirit in the gender response options. Most respondents noted the nuance of Two Spirit identities in that it spans gender identity and sexual orientation. With only the question about gender and no corresponding question on sexual orientation, the information is incomplete for some Two Spirit people. While some indicated their desire to have Two Spirit as a gender category, others underscored the importance of having it as a separate question to which only people identifying as Indigenous could respond. In particular, respondents suggested that the Two Spirit response option be subsumed under questions about being Indigenous. There were divergent opinions on whether individuals identifying as Two Spirit should also be asked about their gender identity after responding to a separate question on Two Spirit.

Student participants were asked to rate their preferences among six gender identification options. Figure 2 indicates how the students rated the options. The option with the least dislikes contained the greatest diversity in gender options (Option D), followed by Option C with woman, man and gender variant options.

Shared Challenge with “identifying as transgender”

The phrase “identifying as transgender” can be difficult for both binary transgender and non-binary students to relate to – each for different reasons. For transgender men and women, some do not identify with the term ‘trans’ after they consider their transition complete. That is, they consider themselves simply as men and women. And some non-binary people do not identify with the term of ‘trans,’ because of the way that some people insist there are only two genders and non-binary people struggle with “not being trans enough” (especially if a non-binary person does not opt for the medical aspects of transition).

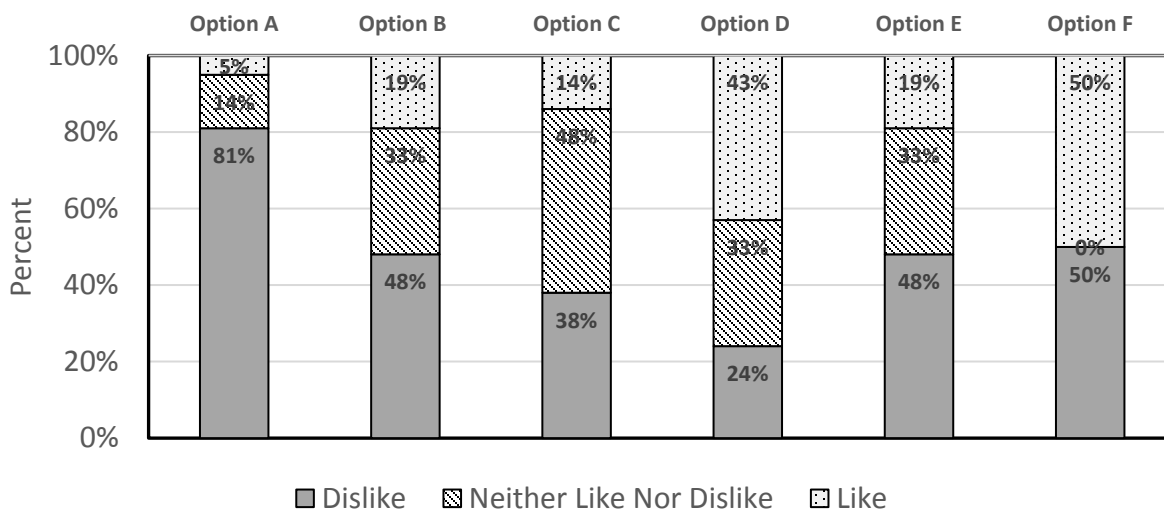


Figure 2: Student ratings of the various gender nomenclature options presented.

- Option A: Status Quo (i.e., only female and male response options)
- Option B: Woman, Man, Other (select one)
- Option C: Woman, Man, Gender Variant (select one)
- Option D: Woman, Man, Gender Variant, Transgender, Cisgender (select all that apply)
- Option E: Two Part Question: Part 1 – Gender? Woman, Man, Gender Variant (select one)

and Part 2 – Trans? Yes or No

Option F: No gender data collected

Overall Ratings of Gender Options

Using the responses from each stakeholder group, rating of items across the 11 indicators identified in Table 4 provides an overall rating of each of the six gender identification options. The aggregate for each option across indicators produced a ranking of the options as summarized in Table 4. Option E, the two-part question had the largest sum of favourable ratings, which made it the highest ranked option, followed by Option C.

Table 4. Summary of ratings by options

Issue	Measure	OPTION RATING (1 Least Favorable to 4 Most Favorable)					
		A. Binary (W/M)	B. W/M/ Other	C. W/M Gender Variant	D. Select All That Apply	E. 2-Part Question	F. No Data Collected
Overall Inclusivity	<i>Number of gender categories provided</i>	1	2	2	4	3	1
Inclusion of Non-binary Students	<i>Level of data available on non-binary students</i>	1	2	4	3	4	1
Inclusion of Binary Trans Students	<i>Level of data available on binary trans students</i>	1	1	1	3	4	1
TNB2S Student Experience	<i>Level of TNB2S student rating of options as provided in the</i>	1	3	3	3	2	1

Post-Secondary Gender Data Considerations

	<i>student survey results</i>						
Cis Student Experience	<i>Level of understanding among cis students</i>	4	3	3	2	3	4
Data Manageability	<i>Level of effort to manage data</i>	3	2	2	1	2	4
Data Applicability	<i>Level of applicability</i>	3	2	4	2	4	1
Data Sufficiency	<i>Level of data available to apply to institutional objectives and operations</i>	4	3	3	1	3	1
Data Collapsibility	<i>Level of ability to expand and contract gender data set</i>	1	1	1	2	4	1
Government Compliance	<i>Level of fulfilling 99% threshold for gender</i>	4	3	3	1	4	1
Systems Capability	<i>System ability to collect gender as per option (as of May 2017)</i>	4	4	4	2	4	4

Total Score (out of 44)	27	26	30	24	37	20
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DISCUSSION

In this research we examined the collection of gender data within the British Columbia post-secondary environment and issues reported by the various stakeholders including students, registrars, university administrators, government officials and a student information system vendor. In striving to understand how to inclusively consider the diversity within student gender-identification at post-secondary institutions, we investigated the complex factors needing attention and consideration for adopting expanding gender self-identification options for measuring gender within student information systems. Some approaches are currently being explored; however, few are done in a systematic and rigorous way that sheds light on needs and tensions related to gender data collection and its uses. More specifically, by focusing only on the input stage of gender data within institutions, there is a lack of strategic vision to the overall system, including considerations of data management and how the data will be secured in the system and used by others in the institution. Without consideration for all the issues, the original intention of inclusivity can be unintentionally and unwittingly thwarted. Given the issues surfaced, there is a trade-off between the importance of response options for student identifying as binary and non-binary and ease of data management. In particular, when there are too many response options (such as in Option D), respondents scatter into a diffuse set of categories, some of which only have one or a few respondents. This then presents the need for data suppression to protect the identity and confidentiality of the respondents. The lack of data for a particularly vulnerable set of students leaves them where it all began; with no data to determine or highlight their needs.

Alternatively, institutions can collapse multiple adjacent categories to be able to report the data. However, this presents its own ethical considerations by amalgamating categories at the back-end without the respondents input or validation. For example, in Option D, how would institutions determine what categories to combine (e.g., do people who select man + woman + gender variant “belong with” those who selected man + woman + transgender). Recognizing the sensitivities and complexities of transgender identity such collapsing is a return to gender categories, arguably even encourages binaries and othering (Connell, 2012), and ignores that the respondents did not agree to the broader category and did not chose to identify in that manner.

While Option D, select all that apply, was favoured by many students (43%) and rated high on inclusivity, it does not perform well on the issue of data management. The administrative reality is that the more gender categories, the more difficult it is for institutions to report and apply these data in concrete and practical ways that are valuable to transgender and non-binary students. Each new gender option creates a new data branch with large amounts of data related to small numbers that become difficult to analyse and report in a meaningful way without collapsing data. In sum, Option D appears to be inclusive at the point of data collection; however, it has the back-end reality of data dumping or amalgamation with related ethical implications, which are largely invisible to respondents.

Option E, the two-part question seems come closer to balancing inclusion and data management. The option scored relatively high with the student population (48% in favour) and provides the greatest ease in the issues identified by registrars and others. Although Option E allows for collapsing of data to three broad categories, the issue of compliance with the government’s binary-only reporting requirements still requires resolution in discussions between registrars and government representatives. Furthermore, this option aligns with where healthcare and population studies have landed (Fenway, 2013; Tate, 2012; Bauer et al., 2017; Deutsch et al., 2013); with the exception that health care has an understandable need to know sex assigned at birth (which is less of a need within administrative contexts).

The need to consider the explicit needs of two spirit individuals was also evident, despite the small number of two spirit participants (e.g., four interviewees and one survey respondent). Other participants, by participating in the study, learned about the meaning of two spirit; a cultural identity spanning sexual orientation and gender identity (Robinson, 2017). However, too few participant responses around this construct were made, which limits our ability to draw any conclusions with confidence. Nonetheless, self-identifying Two Spirit

participants expressed both a need for and concern about providing their sensitive and personal gender information within school system processes of data collection. Some reflected on past experience to explain why they felt there would be no benefit (e.g., supports or services) tied to such personal disclosure.

At the crux of the matter is that the Two Spirit cultural identity represents a nuanced interplay between sexual orientation and gender identity that defies Western categorization (Laing, 2018). The information from survey responses and follow-up clarifying interviews among Two Spirit community members points to the need for a distinct question (potentially as part of the questions on Indigenous identities) to allow for Two Spirit identities to remain intact (rather than just indicated only under gender) and avoid non-Indigenous responses by those who may be drawn to the term. Our finding may be surprising to some people whose first impulse is to include Two Spirit in the gender response options. Our preliminary findings show that caution is needed and Two Spirit requires cultural respect and accuracy. In the end, too few participant responses around this construct were made, limiting our ability to draw definitive conclusions. Clearly, additional, more focused research on Two Spirit experiences is warranted if a culturally respectful and inclusive approach to gender is to be constructed.

IMPLICATIONS FOR THE FIELD

Even if inspired and motivated by inclusion, many of the gender categories in use presently have challenges, including conflating gender identity with sex assigned at birth, providing too many response options giving rise to ethical issues, and using outdated or misunderstood terms. As such, there is need for institutions to create a framework that balances administrative needs in data collection with meaningful terminology for students.

The expanded gender categories we explored in this research provide new and additional applications of gender data for consideration when moving towards the change in how gender is collected. We consider it a first step in understanding how students would like to identify and interact with the institution. The simple fact of knowing the number of student who identify as transgender and non-binary on campus raises awareness as a current issue requiring further action. It is not enough to stop at gathering the data but rather to use the data to customize supports and services to a group of students that have historically been invisible (Goldberg, Beemyn, & Smith, 2019). Such data can address supports and access gaps that students, who are transgender and non-binary, including two spirit, currently experience within institutions. Knowing that students with transgender experiences on campus might need additional or particular resources would allow institutions to build appropriate supports and engage these students. Research suggests that unique spaces for special interest groups on campus are important to the successful engagement of students (Marine & Nicollazo, 2014). Garvey (2012) suggests that the sooner an institution can connect a student to these resources the greater and more positive the educational journey.

Tracking trends over time allows institutions to make informed decisions. Data could provide powerful insights into determining personnel and financial resources required to meet all student and administrative needs and interests (Beemyn, 2005). It is probable that institutions will be surprised by where and how many students who are transgender and non-binary they have across various faculties when they begin collecting expanded gender data.

Going from a binary system to a system where gender is understood as existing on a spectrum is difficult and requires a shift in approach and analysis. For many institutions, there needs to be clear strategy and guidelines on how to standardize reporting approaches. Institutions will need to think concretely about where and how to apply these data and use this research as a starting point to inform the shift.

Our research has been the first in a series of steps towards greater representation of the gender diversity within gender data collection and reporting efforts at post-secondary institutions. Future researchers, we suggest, may wish to focus on gathering examples of implementation of expanded categories and illustrations of how these data are used to inform and shape changes to policy, practices, spaces, services, and programs.

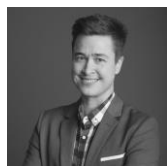
These examples are important to build a case for the benefits of providing gender information for student populations that is inclusive of student who are transgender and non-binary and, most centrally, creating more confidence for students who identify as transgender and non-binary to disclose their gender.

CONCLUSION

We present considerations of how to analyze and apply gender data to support vulnerable segments of the student population. Expanding gender categories, we argue, is a surprisingly difficult issue to consider when wanting to incorporate non-binary students as well as make transgender men and women visible in and to institutions. Our findings indicate that a two-part question with careful use of the term “transgender” in the second part of the question may be one solution, but all institutions will need to carefully assess their own internal processes and concerns to determine how best to proceed. Our findings also suggest the preferred term for participants whose gender was neither male nor female is “non-binary” (as opposed to “gender variant”). As such, we provided important context and nuance when considering the issue. Beemyn (2005) succinctly summarizes the broader and far-reaching implications of including students who are transgender and non-binary throughout institutions beyond gender data:

Addressing the needs of students who do not identify as either male or female will require a fundamental re-organization of colleges and universities, which typically operate on the basis of binary gender categories in everything from bathrooms and locker rooms to housing to institutional forms and documentation (p. 3).

Collecting expanded gender data in the school system is only the beginning of a shift in how students who are transgender and non-binary feel welcomed and supported on campus. The shift is critical to the focus and wellbeing of students. As a system, we must find a way to balance inclusion with data management, and students who are transgender and non-binary must be free of administrative burdens in order to exercise their voice and access post-secondary education.



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