

An exploration of depressive symptoms and motivation for higher education students:

Comparisons between Dutch institutions and American universities

Clarise Sky-Johnson, S5212812

Youth 0-21, Society, and Policy

Faculty of Behavioral and Social Sciences, University of Groningen

Pauline Schreuder

Laura Baams

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Preface

Author Positionality

I received a BA in psychology from Reed College and am currently finishing a MSc in pedagogical sciences from the University of Groningen. Previously I worked in a primary school in Hungary and multiple alternative schools and a college in the United States. In this work, I learned how certain groups of students are underserved or alienated by the traditional education system and developed an interest in VET and alternative forms of education.

As an American immigrant in the Netherlands, I have become especially interested in the differences between these education systems. I recognize that both have useful elements and hurtful elements and I seek to understand how education systems can better serve underserved minorities.

I grew up in poverty going to underfunded schools in the United States, and earned a scholarship to be able to attend a private college. Thus, I have seen both economic extremes, and am especially sensitive to the socioeconomic status of students and families, and how to better serve this population. As a queer person, I am also personally sensitive to the needs of LGBTQ+ students. In addition, I am professionally interested in the unique needs of other minority groups and participate in anti-racist work internally and externally.

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Abstract

The value of a college education is being increasingly questioned, and those who choose to attend higher education institutions have various reasons for doing so. At the same time, students are overworked and depressed, and some students—such as students in vocational education and training (VET)—experience stigmatization because of their attendance at less prestigious institutions. Reasons for attending higher education institutions today, as well as depressive symptoms and stigmatization of VET may differ depending on a student's institution. Moreover, these may vary widely by country. The purpose of this study was to compare students at HBO and WO in the Netherlands and college students in the United States on their reasons for attending college, their depressive symptoms, and their stigmatization of VET. No significant differences were found between HBO and WO students in the Netherlands. Dutch students in general had higher extrinsic motivation for attending higher education and fewer depressive symptoms than American students. No significant differences were found in stigmatization of VET. Stigmatization of VET was positively correlated with intrinsic motivation. Although no differences were found between HBO and WO, it would be worthwhile for future studies to compare depressive symptoms and motivations between university and VET students to determine what support is most needed. However, it is clear that depression prevalence is high, especially for American students, and on-campus support which limits the barriers marginalized students face to seeking treatment should be prioritized. Researchers and practitioners must work together in order to improve the wellbeing of students so that mental struggles faced in youth are not exacerbated in adulthood.

Introduction

“We got people spending more money than ever to get a degree that means less than ever” (The Daily Show, 2023, 6:59). Roy Wood Jr., journalist and guest-host of The Daily Show boldly asked if college should be abolished because it is increasingly expensive and less valued by workplaces. The cost of attending university had been consistently rising until freezes and reductions were put in place during the COVID-19 pandemic, but those measures are now leaving (Hoger Onderwijs Persbureau, 2022; McGurran, 2022), which leaves potential students to face the once again rising cost of attending higher education. Because this increase is largely due to rising operational costs of university (McGurran, 2022), price increases do not likely coincide with an increase in educational quality. Furthermore, modern college graduates are less likely than their predecessors to have job prospects that pay enough to eliminate college debt because businesses no longer value degrees as highly (Busteed, 2015). In the United States, the cost of college is quickly rising, but this varies greatly by institution. The cost of attending a public university is lower and increasing more slowly than the cost of attending a private university, and these are even lower for community colleges (Hanson, 2021). Vocational Education and Training (VET), which is largely done by community colleges within the United States, has been a hot topic for policy-makers and researchers alike. Because higher education is becoming more of a commercial enterprise, universities now have to vie for credibility with alternative institutions such as community colleges (Santelices et al., 2019). Students as consumers are looking for the best-suited institution for them.

In the Netherlands, VET is far more common than in the United States, and is seen as more useful. Although the two types of higher education enrollments are growing, VET retains the largest share of enrollment for students under 25, more than 437 thousand (Statistics Netherlands, 2022). Curricula for VET schools are made in collaboration with businesses and students may choose to spend up to four days per school week training at the workplace (Cedefop, 2021). Research has indicated that VET is good for the economy and obtaining a job (Gauthier, 2020), and most Europeans acknowledge this (Spruyt et al., 2015), but this has not translated into respect. There is a great deal of pressure for young people to attend university rather than VET, but this may be counter to employment after graduation (Cedefop, 2021; Gauthier, 2020; Olofsson & Panican, 2017). Young people do not make decisions in a vacuum: the history of universities as prestigious institutions as well as more proximal influencers like family and teacher suggestions may be factors young people consider when choosing a higher education institution.

Roy Wood Jr. ends his skit saying that college should be abolished, but then is seen getting a phone call from his mother who works in higher education. After hanging up, he rescinds his statement, stating in a monotone voice that the experiences he got in college and the friendships he cultivated made college worth the cost (The Daily Show, 2023). The influence of parental figures on college decisions is clear even for adults despite the regret many graduates face. Research into institutional choice and its impacts are preceded by an examination of the educational systems in both the United States and the Netherlands.

Higher Education Institutions in the Netherlands and the United States

Depending on the country different higher education institutions are available, and some are more or less accessible based on socioeconomic factors and previous academic performance. This section will focus on higher education institutions in the Netherlands and the United States, including the various types and how a student qualifies, enrolls, and pays to attend.

The Netherlands has a tracked education system, meaning that students are in different schools based on perceived ability. Tracking starts in secondary school, where there are three types of public institution (excluding special education institutions, which will not be discussed in this paper): VMBO, HAVO, and VWO (Nuffic, n.d.). As shown in Figure 1, these traditionally lead directly into MBO, HBO, and WO, but movement is possible between types. HBO and WO are both considered tertiary education in which students can pursue bachelor's and master's degrees. However, technically WO is considered university education in the Netherlands and these institutions are called research universities, and HBO is called higher vocational education though they are labeled universities of applied sciences (Government of the Netherlands, n.d.). Additionally, a HBO bachelor's degree takes four years to complete and a WO bachelor's only three. MBO can take between 1 and 4 years, with each level number associated with a different name (Nuffic, n.d.). Notably, because students are obliged to attend school until at least a level 2 MBO degree, MBO is still often considered an extension of secondary school and the government does not recognize it as higher education (Government of the Netherlands, n.d.). Despite this, MBO is included in higher education for the purposes of this study since it is similar in function to VET training in community colleges in the United States.

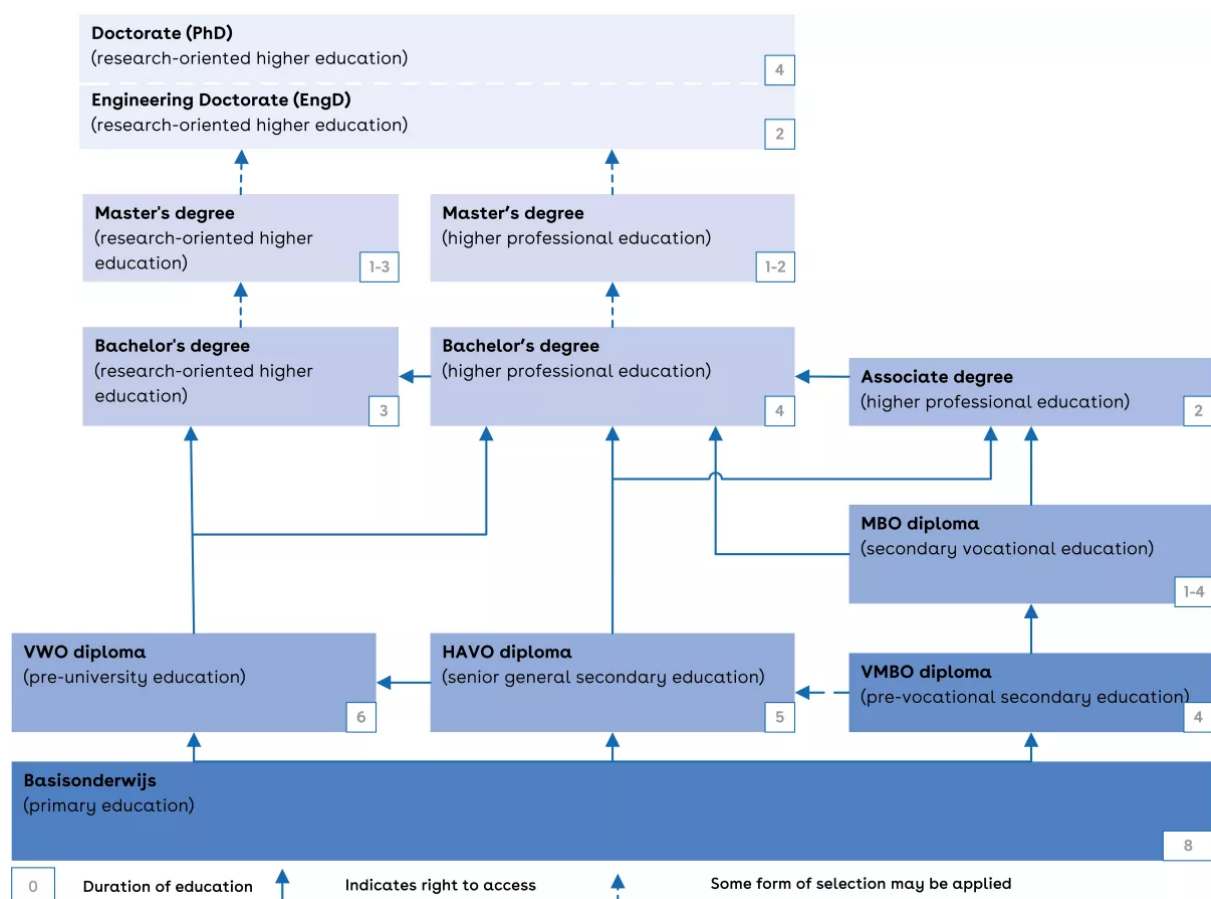
The Dutch education system limits participation in higher education by being tracked, but if a student is in the proper track, getting into higher education is not as difficult as it can be in other countries. The application process via Studielink only requires a student select the program they want and answer a few questions. Most students in the typical level are

accepted (for example, from VWO into WO). Furthermore, the cost of higher education is subsidized by the Dutch government, and students paid about 2200 euros for 2022 and about 2300 in 2023, regardless of the type of institution they attend (Rijksoverheid, n.d.). Higher education institution options are thus limited in the Netherlands mostly based on academic performance rather than money or time. However, it must be noted that despite the cost being equal and relatively low, there is a monetary cost, so some students cannot afford it.

The Dutch method of higher education system provides a clear ranking of higher education institutions. Due to the tracked system, pupils must pass higher levels of secondary education in order to attend university, or make the difficult climb from one type to another.

Figure 1

The Education System in the Netherlands



Note. From *Chart: education system in the Netherlands*, by Nuffic, n.d.,

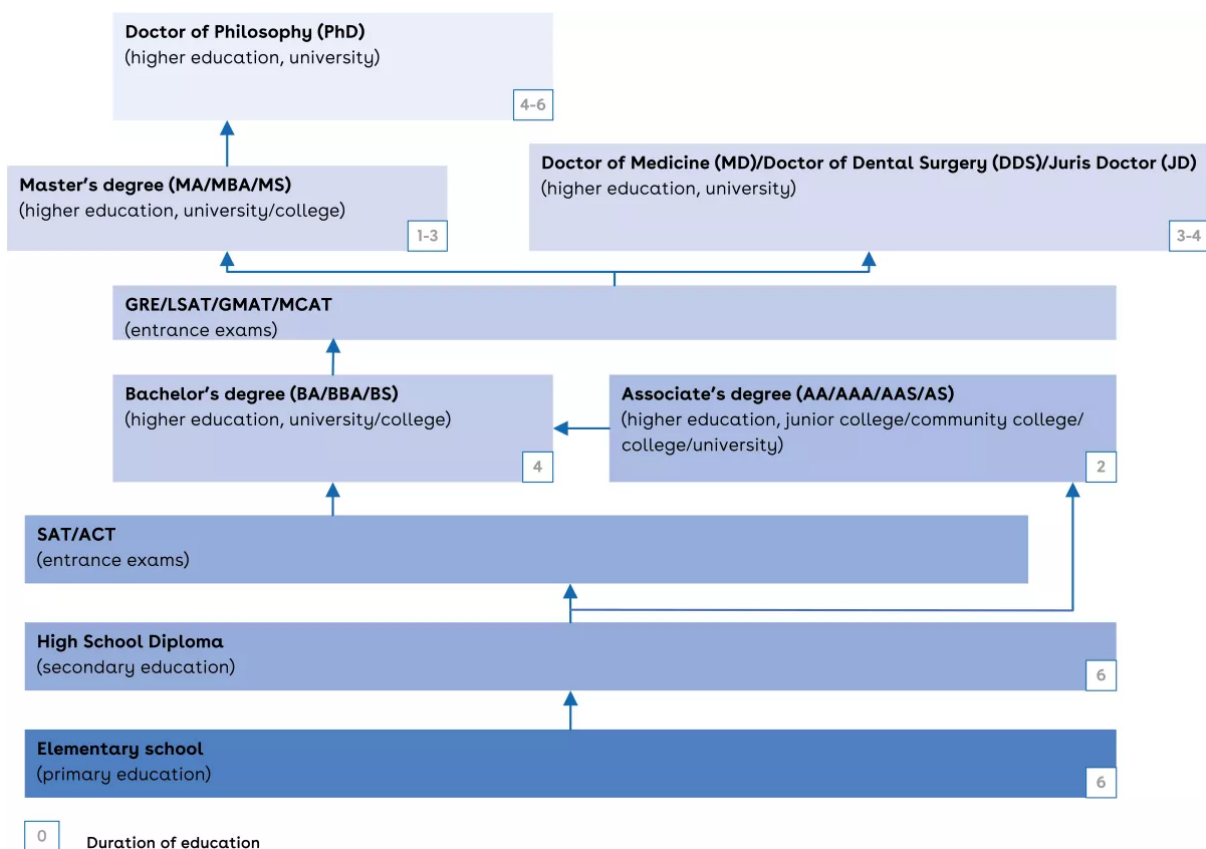
(<https://www.nuffic.nl/en/education-systems/the-netherlands/chart-education-system-in-the-netherlands>). Reprinted with permission.

Going from one institution to a lower one may be perceived poorly. Kloosterman and de Graaf (2010) found that after controlling for academic performance, children with highly-educated parents were more likely than children with low-educated parents to redo their academic year rather than be demoted to a lower level of schooling, suggesting that graduating from the more challenging degree program is important in the Netherlands, even during secondary school. Additionally, this shows that parental education status influences a student's educational options and outcomes.

In the United States, by contrast, there are fewer formal levels of schooling. Figure 2 shows the education pathways of the United States education system. Firstly, the public secondary school a student should attend is based on the location of their house. Students usually attend the secondary school in their district, unless their parents arrange their attendance with the board of another school or pay to attend a private school (The Good

Figure 2

The Education System in the United States



Note. From Chart: *education system United States*, by Nuffic, n.d.,

(<https://www.nuffic.nl/en/education-systems/united-states/chart-education-system-united-states>). Reprinted with permission.

Schools Guide, n.d.). School funding depends on the wealth of the district, so schools in more affluent neighborhoods have more resources, and even within districts schools with more students in poverty often have less funding (García Mathewson, 2020). Therefore, school quality is based mostly on socioeconomic status rather than previous academic performance like in the Netherlands, especially considering the prevalence of private high schools which are typically considered much more rigorous than public schools.

The United States government has a decentralized higher education system, and they claim that this diversity of institutions means there is a perfect fit institution for each student (Education USA, n.d.). To assist in finding the perfect fit, websites have arisen such as the Carnegie Classification of Institutions of Higher Education (n.d.) which provides information about institutions like their size, location, and selectivity in accepting applications. They also note whether a college is public, which are funded primarily by the government, or private, which are funded privately and may be for-profit. One type of public college is the community college, which typically offer two-year degrees in VET and transfer programs for students to transfer to a bachelor program after finishing. Most students at community colleges intend to transfer to a four-year college, but only 31% do, and only 14% actually manage to obtain a bachelor's degree. Black and Latinx students, and low-income students, are half as likely to transfer as their white and higher-income peers (Community College Research Center, 2021). Due to the huge cost differences between community colleges, four-year public colleges, and private colleges, the main limiting factor for attending a more prestigious institution is money.

College applications in the United States are more complex and varied than in the Netherlands. Firstly, around 1.7 million graduating students take the SAT,¹ an exam by the College Board which most colleges require for application (College Board, 2022), as shown in Figure 2. Although community college applications are usually free and simple and do not require the SAT, many college applications cost money, with the average around \$45 (Wood, 2022), and acceptance isn't guaranteed so most students apply to several. According to the College Board (n.d.)—who also offer the SAT—students should apply for five to eight colleges, including “safety” schools, the term Americans use to describe colleges they can easily get into and attend if they aren't accepted at their schools of choice. There is also no national application system to apply in the United States, though there are now over 1,000 higher

¹ For the class of 2022, 1.7 million took the SAT at some point in secondary school. Approximately 3.7 million students are in their final year of high school (Bouchrika, 2023). Therefore, this amounts to about 46% of high school graduates taking the SAT.

education institutions on the Common App, a non-profit application which allows students to apply for multiple colleges at once instead of requiring separate applications for each program (Common App, n.d.). The application process requires answering several questions in addition to uploading official transcripts and writing a motivational essay (sometimes multiple essays). If students desire any kind of financial aid, they must also fill out FAFSA, the Free Application for Federal Student Aid, which not only requires student information as well as detailed information about parental income.

Students from less privileged backgrounds have additional barriers. For example, FAFSA would be difficult or nearly impossible to fill out for students who do not have contact with their families. Additionally, students whose parents did not go to college may lack the knowledge to support them in the process and students may misunderstand their prospects in higher education. For example, although private colleges in the United States cost more, they often offer much larger financial aid packages to students from low-income families, making it actually cheaper than a state college (Barnes, 2022). School counselors may provide this information, but are often overworked, and so rely on parents, continuing the issues mentioned above, and they sometimes exert specific pressures that limit college choices, like attending a school nearby (Mitchall & Jaeger, 2018). In a nationally-representative sample of over 15,000 high school students, Bryan et al. (2022) found that while decisions to attend college were positively associated with counselor support before the final year, support with applications and financial aid, and information about colleges among other things, it was negatively associated with counselor workload even after controlling for several variables, an issue more common in underfunded schools in low-income areas. Counselor workload is too high and parental involvement is critical regardless since parents have the strongest influence on college decisions (Dockery & McKelvey, 2013; Rutter et al., 2020). Young people whose parents went to college are more likely to have plans to attend themselves (Moon & Bouchey, 2019). Furthermore, students of color have lower expectations than white students of counselors' abilities to help them with college preparation. Holland (2020) found that the methods used by students whose parents did not attend college to evaluate the best college fit were culturally-dependent and did not match the methods suggested by counselors. All of these factors add up to a complicated and culturally-dependent college application process with steps that may require assistance that is not available to all.

Impacts to Attending Higher Education Institutions

Choice of educational institution may have a strong impact on young people's success in college and future careers. Motivational research indicates that young people who are intrinsically motivated to pursue their majors are more satisfied with their majors and less likely to regret them (Yawen & Chi, 2022) and those who attended college for intrinsic reasons were less likely to experience burnout than college students with more external regulation or amotivation to attend (Pisarik, 2009). These motivational effects may also apply to institutional choice. In 1979, Haccoun and Breslaw found that university students who reported parental or counselor advice as the main reason for attending college were less satisfied with university than students attending for other reasons. Research has indicated that unfortunately intrinsic motivation to attend higher education has declined since the 1970's. A report on generational differences in motivations for attending college from 1971 to 2014 found that Millennials were more likely to attend college for extrinsic reasons than Boomers (Twenge & Donnelly, 2016). Parents still seem to play a large role, including both direct and indirect effects on students' intentions to attend college (Christofides et al., 2015). These external influences may not always be positive. In a preliminary study of two master's students, Pizzolitto (2021) found the main emerging themes about their vocational identity and college choice were counterfactual thinking—namely regret and disappointment—and the influence of external conditions like job opportunity and family influence. It is clear that the type of external influence young people perceive is critical to their higher educational experience. In addition, motivation is not the only outcome from choosing to attend a higher education institution. Students' mental health is also at stake.

Some studies have found differences in depression prevalence among college students in different countries (Baron & Matsuyama, 1988; Musa et al., 2020) while others have not (Bettmann, 2019; Chigerwe et al., 2020), indicating that it depends on which countries are being compared. Nevertheless, each of those studies indicates a concern for the high prevalence of depression symptoms in college students around the world. Auerbach et al. (2018) surveyed almost 14,000 full-time first-year college students across several countries on various measures. They found that across countries there was an 18.5% 12-month prevalence of major depression. In addition, students who reported an extrinsic top reason for going to college and those who were ranked lowly in high school were at increased risk of mental disorders. However, because samples were quite different, including public schools in some countries and private in others, direct comparisons were not possible in this study.

Students who attend VET institutions in addition to the stressors of higher education also face stigmatization based on their educational institutions. This is especially concerning given emerging research indicating that people in multiple stigmatized groups view the different forms of stigma differently, and they may have intersectional effects on wellbeing (Brinkley-Rubinstein, 2015; Moino et al., 2023). In a study with more than 100,000 college students, Lipson et al. (2021) found that community college students have higher rates of mental health problems than their same-age peers at universities, and students at community colleges are less likely to seek treatment. Due to differential funding, community colleges also have far fewer resources to support students academically and mentally (Yuen, 2020). This likely only widens the mental health gap between students at community colleges and other higher education institutions.

Spruyt et al. (2015) report that adults in Flanders generally believe VET helps young people to obtain jobs, but do not respect it. They found that VET students whose mothers were more highly educated perceived more contempt from peers for their educational track. Even while in college, parents have a strong influence. Furthermore, because feelings of futility were not related to performance on intelligence tests, but only to feelings of contempt, Spruyt et al. (2015) conclude that VET students experience feelings of futility due to stigma rather than lower intellectual capacity. In a qualitative study which included students, alumni, and administrators in the vocational focus of a United States community college, Gauthier (2020) found that VET is still stigmatized, especially by family, and that this stigmatization recurs because staff employed in VET programs usually have a university background instead of a VET background. Gauthier (2020) proposes that stigmatization of VET continues because of antiquated views about the purpose of education. Olofsson and Panican (2017) would likely support this, as they concluded in their research about Swedish educational policy that VET is stigmatized due to the current “policy paradigm” in which university is viewed as the correct institutional choice despite VET providing better prospects of employment.

The choice of higher education institution also affects mental health directly. Alshloul et al. (2021) found that medical students endured more stress and higher risk of depression than their peers. The poor mental health of college students, and the divide between students whose parents are and are not college-educated, was further exacerbated by the COVID-19 pandemic (Regan et al., 2023). Although many campuses provide their own mental health services, students from ethnically-diverse backgrounds report lack of awareness as well as distrust towards mental health services, so most do not utilize them (McSpadden, 2021). It is

therefore becoming a critical concern to address the mental health needs of students in ways which serve their diverse needs, which likely differ not only by country, but by institution.

The Present Study

The current sociopolitical tension about the value of college and VET is the foundation for this thesis. The goal of the present study is to examine differences in motivation to attend higher education and depressive symptoms in students at different types of higher education institutions in the Netherlands compared to the public college in the United States. It also includes a single-item measure of stigmatization of MBO and community college to see if there may be differences between the two countries. Due to the limited sample size and few preceding studies directly comparing types of higher education, this study is exploratory in nature. Hypotheses are unsuited for this type of study, so it will instead address two general research questions:

1. What similarities and differences exist between students at different types of higher education institutions with regard to depressive symptoms, motivation to go to higher education, and stigmatization of VET?
2. What similarities and differences exist between higher education students in the Netherlands and the United States with regard to depressive symptoms, motivation to go to higher education, and stigmatization of VET?

Method

Sample

Participants were required to be Americans 18 or older attending a community college, state college, or private college in the United States or Dutch people 16 or older attending MBO, HBO, or WO. Most of the sample were respondents from SurveySwap.io. The final sample contained 18 American students—17 in a state college and one in a private college—and 36 Dutch students, 3 in MBO, 16 in HBO, and 17 in WO. Due to this sample, comparisons with VET students were not possible.

Measures

The measure of reasons to attend university by Auerbach et al. (2018) was used for this study because it was already used in a large, diverse, and international sample, and they were one of few researchers to find clear factor loadings for a measure which includes items like “Family wanted me to go to university/college” as extrinsic and “To improve my job prospects generally” as intrinsic. Because family seems to be such an important factor, it must be included in the measure, and using a measure which can indicate intrinsic and extrinsic motivators is useful for making conclusions based on previous research about motivation to attend university. Auerbach et al. (2018) asked only for the top reason, but this study used Likert-like scales for each item to encapsulate a more nuanced understanding of individuals’ motivations to attend higher education.

Because stigmatization is not central to the present study, a single item was adapted from Spruyt et al. (2015) to measure stigmatization of VET in order to keep down survey fatigue. The Beck Depression Inventory-II in English (Beck et al., 1996) and in Dutch (Van der Does, 2002) was used to assess depressive symptoms because it is the most reliable measure. At 21 items, the BDI-II took up more than half of the survey. As mentioned, the Dutch version of the BDI-II was used, and the other items were translated from English into Dutch by a bilingual Dutch native.

Materials

This is a quantitative study based on data from two online surveys: one in English for American students and one in Dutch for Dutch students. The surveys, two Google Forms, included educational motivation (from Auerbach et al., 2018; 9 items), the Beck Depression Inventory-II (from Beck et al., 1996; 21 items), perceived stigma of VET (adapted from Spruyt et al., 2015; 1 item), and type of institution (1 item) in this order to reduce question

order bias for VET students who might be biased towards reporting more depressive symptoms after reporting stigmatization of VET. At the end of the survey, students could optionally provide their email to be entered in a raffle to win a gift card worth 10 USD or 10 euros depending on the survey. A winner was selected from each survey from a random name picker.

The Google Forms each began with brief descriptions of the study and ended with thank you messages, both of which included a number for emergency mental help services in their country. Both forms and the messages accompanying them on posts and emails also includes a message that the author hopes it will be a step towards destigmatization of VET and improved mental health conditions for students, especially for those at institutions who most need those resources.

Procedure

First, the links were sent out via Facebook and LinkedIn and to staff contacts working in each of the six types of institutions with instructions to share the 32-item survey with students. In addition, it was shared with current student contacts who did not know about the goals of the survey and sent by email to three large MBOs and three large community colleges. Due to low response rate from these methods, each survey was posted to SurveySwap.io, with settings so that they are only shown to students in the United States for one survey and the Netherlands for the other. The surveys were live for 7 weeks from the end of April until mid-June.

Analyses

Due to only three MBO responses and zero community college responses, comparisons with VET institutions were unfortunately not possible for this paper. Nevertheless, HBO and WO samples in the Netherlands and university samples in the United States were large enough to compare universities between countries and to compare HBO and WO on the dependent variables. For most analyses, MBO students were not included, but all data was included for the Shapiro-Wilk tests for normality and correlational analyses.

BDI-II scores were entered as a continuous variable rather than an ordinal variable based on level of depression. This allowed for more nuanced calculations rather than using the cutoffs for categories of no, mild, moderate, and severe depression since the BDI-II was included to represent recent mental struggles of students rather than diagnostic criteria.

The 9-item motivations for attending higher education scale were divided into two separate dependent variables. The motivational items loaded as extrinsic by Auerbach et al. (2018) were averaged into an extrinsic motivation score and those which loaded as intrinsic into a separate intrinsic motivation score. This was done rather than reverse coding one type because extrinsic and intrinsic motivation are not opposites but complementary aspects of motivation (Reiss, 2012; Vallerand, 2000).

Results

Due to small sample size in the final dataset, normality tests were needed to determine appropriate analyses. For both these analyses and the correlational ones, all data was included. According to Shapiro-Wilk tests, both extrinsic motivation ($W = .93, p = .003$) and intrinsic motivation ($W = .94, p = .012$) were non-normally distributed. From another Shapiro-Wilk test, the single-item stigmatization item was found to be non-normally distributed ($W = .81, p < .001$). A final Shapiro-Wilk test revealed that BDI-II scores were also non-normally distributed ($W = .90, p < .001$). Visual examination of the data confirmed these findings. Due to the non-normal distribution of the dependent variables and the small sample size, non-parametric statistical analyses were conducted.

Correlational Analyses

First, to see whether maintaining motivation as two separate variables was justified, the correlation between the two motivational variables was calculated. A Spearman's rank correlation test determined that extrinsic and intrinsic motivation are correlated, but minimally so ($\rho = .28, p = .040$). Therefore, these variables, while correlated, represent distinct factors. In addition, they are positively correlated, indicating that extrinsic motivation is not the opposite of intrinsic motivation, but more likely the opposite of amotivation in the realm of motivation to attend college.

Because this is an exploratory study, Spearman's rank correlation coefficients were calculated for each of the dependent variables. Extrinsic motivation was not significantly correlated with either stigmatization of VET ($\rho = .23, p = .091$) or raw BDI-II scores ($\rho = -.06, p = .677$). Raw BDI-II scores were also not significantly correlated with either intrinsic motivation ($\rho = -.09, p = .529$) or stigmatization of VET ($\rho = -.03, p = .853$). However, intrinsic motivation was positively correlated with stigmatization of VET ($\rho = .35, p = .009$). In other words, higher intrinsic motivations were related to reporting that some people look down on VET students. Possible reasons for this unexpected finding are discussed later.

Differences in Motivation, Depression, and VET Stigmatization Between Institutions

These analyses address research question 1. Not enough data was available to test differences for VET institutions in the Netherlands or the United States. Therefore, between-institution data was limited to HBO and WO in the Netherlands. Independent-samples Mann-Whitney U tests determined that there were no significant differences between HBO ($Mdn = 3.00, n = 16$) and WO ($Mdn = 3.00, n = 17$) students in extrinsic motivation, $U = 153.5, p = .533$, or

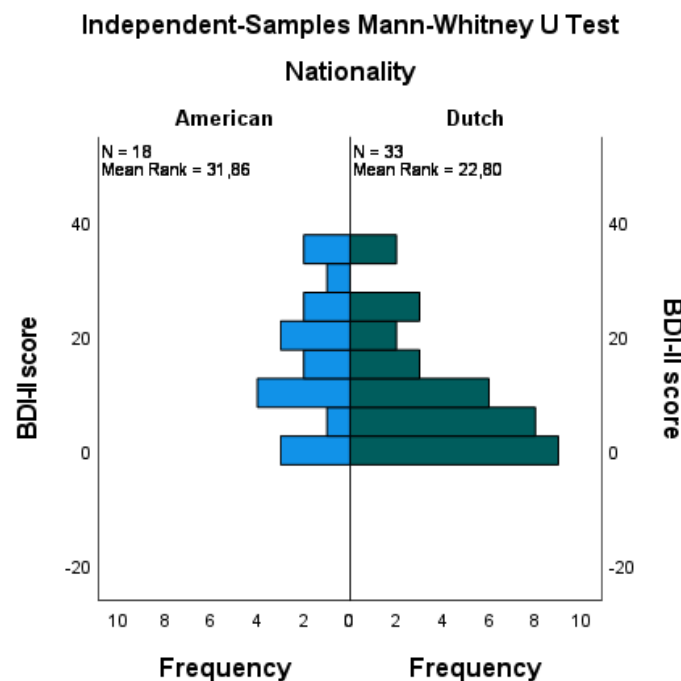
between HBO ($Mdn = 2.80$, $n = 16$) and WO ($Mdn = 3.00$, $n = 17$) students in intrinsic motivation, $U = 178.5$, $p = .127$. Two more Mann-Whitney U tests determined there were also no significant differences between HBO ($Mdn = 10.00$, $n = 16$) and WO ($Mdn = 5.00$, $n = 17$) students in raw BDI-II scores, $U = 93.0$, $p = .127$, or between HBO ($Mdn = 3.00$, $n = 16$) and WO ($Mdn = 3.00$, $n = 17$) students in stigmatization of MBO students, $U = 130.5$, $p = .845$. Because no significant differences were found in any of the dependent variables between HBO and WO students and Mann-Whitney U tests do not require equal sample sizes, both types of students were included in comparisons with American university students. Moreover, because state and private schools in the United States are both universities, the single private school student was included in the American sample.

Differences in Motivation, Depression, and VET Stigmatization Between Countries

The rest of the analyses pertain to research question 2. Regarding stigmatization of VET, a Mann-Whitney U test indicated that Dutch ($Mdn = 3.00$, $n = 33$) and American ($Mdn = 3.00$, $n = 18$) university students do not significantly differ, $U = 377.5$, $p = .086$. Despite

Figure 3

Frequency of BDI-II Scores by Nationality



Note. This figure was produced in SPSS and includes mean ranks of BDI-II scores for Dutch and American students from the Mann-Whitney U test.

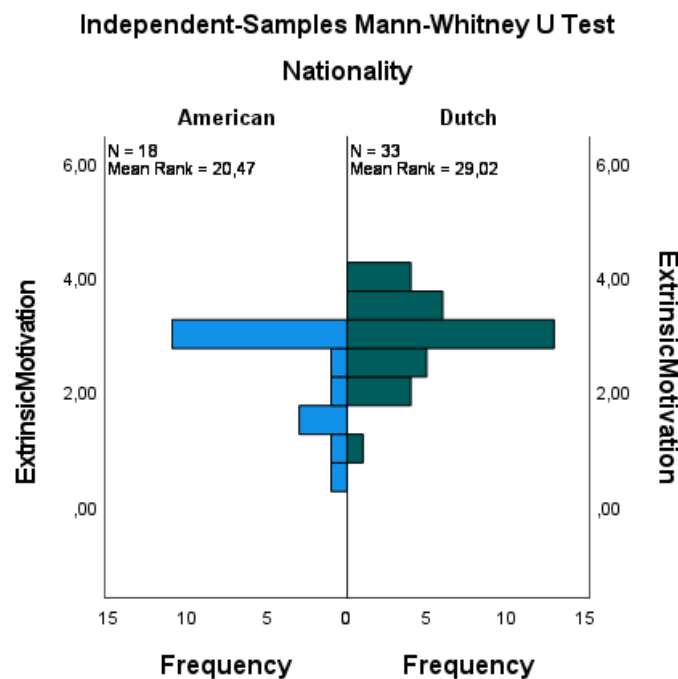
differences in the VET landscape, self-reports of stigmatization of VET are similar for Dutch and American students. Another Mann-Whitney U test revealed that Dutch students ($Mdn = 7.00, n = 33$) have significantly fewer depressive symptoms than American students ($Mdn = 14.50, n = 18$), $U = 191.5, p = .037$, with a small effect size, $r = .29$, as shown in Figure 3. This indicates that university students in the United States report significantly more depressive symptoms than university students in the Netherlands.

Mann-Whitney U tests indicated that there was no significant difference between Dutch ($Mdn = 2.80, n = 33$) and American ($Mdn = 2.70, n = 18$) students in intrinsic motivation to attend university, $U = 374.5, p = .123$, but that Dutch students ($Mdn = 3.00, n = 33$) had a significantly higher extrinsic motivation than American students ($Mdn = 2.75, n = 18$) to attend university, $U = 396.5, p = .045$, with a small effect size, $r = .28$, as shown in Figure 4. This indicates that internal motivation to attend university is similar between countries, but Dutch students have higher extrinsic motivation.

Each item of extrinsic motivation represents different external factors which may have unequal weight. Table 1 displays all motivation items, the first four of which represent

Figure 4

Average Extrinsic Motivation Scores by Nationality



Note. This figure was produced in SPSS and includes mean ranks of extrinsic motivation for Dutch and American students from the Mann-Whitney U test.

extrinsic motivation. In order to examine which factors drive the difference between Dutch and American students in extrinsic motivations to attend university, a test was conducted for each extrinsic item. Firstly, a Mann-Whitney U test revealed that Dutch university students ($Mdn = 3.00, n = 33$) reported “My friends were going to university/college” as a significantly more important motivating factor than American university students ($Mdn = 3.00, n = 18$), $U = 395.0, p = .034$, with a small effect size, $r = .30$. Thus, Dutch students are more motivated by friends going to university than American students. A Mann-Whitney U test indicated that there was no significant difference between Dutch ($Mdn = 3.00, n = 33$)

Table 1

Means and Standard Deviations of Dutch and American Single-Item Motivations

Item in English and Dutch as it appeared on the survey	Dutch ($n = 33$)	American ($n = 18$)
My friends were going to university/college Mijn vrienden gingen naar het hoger onderwijs	$M = 2.94$ $SD = 0.90$	$M = 2.17$ $SD = 1.30$
Teachers advised me to go to university/college Mijn leraren raadde aan om een hoger onderwijs opleiding te volgen	$M = 2.73$ $SD = 1.04$	$M = 2.39$ $SD = 0.98$
Family wanted me to go to university/college Mijn familie wou dat ik naar het hoger onderwijs ging	$M = 2.58$ $SD = 0.97$	$M = 2.72$ $SD = 0.58$
I didn't want to get a job right away Ik wou niet gelijk een baan nemen na de middelbareschool	$M = 3.18$ $SD = 0.92$	$M = 2.11$ $SD = 1.02$
I want to achieve a degree Ik wil een diploma halen	$M = 3.61$ $SD = 0.66$	$M = 2.83$ $SD = 0.38$
I enjoy learning and studying Ik hou van leren en studeren	$M = 2.55$ $SD = 1.23$	$M = 2.56$ $SD = 0.62$
To improve my job prospects generally Ik wou een betere kans om een baan te krijgen	$M = 2.97$ $SD = 1.13$	$M = 2.56$ $SD = 0.78$
To study a subject that really interests me Ik wou een onderwerp bestuderen waar ik van hou	$M = 3.06$ $SD = 1.03$	$M = 2.50$ $SD = 0.86$
To train for a specific type of job Ik wou een opgeleid worden voor een specifieke baan	$M = 1.97$ $SD = 1.26$	$M = 2.39$ $SD = 1.04$

Note. University/college was used in the American items because smaller institutions are called colleges and larger are called universities. The Dutch translations were done by a native Dutch friend and approved by the supervising professor.

and American ($Mdn = 3.00, n = 18$) university students in extrinsic motivation based on family to attend university, $U = 279.5, p > .637$. There was also no significant difference between Dutch ($Mdn = 3.00, n = 33$) and American ($Mdn = 3.00, n = 18$) university students in extrinsic motivation based on teachers to attend university, $U = 345.5, p = .313$. Therefore, of the people in students' lives, it is the friends that make the difference between Dutch and American university students. For the final item, "I didn't want to get a job right away," a Mann-Whitney U test revealed that Dutch university students ($Mdn = 3.00, n = 33$) are significantly more motivated by not wanting to join the workforce yet than American university students ($Mdn = 2.50, n = 18$), $U = 466.5, p < .001$.

Although motivation was split into an average of extrinsic motivation and an average of intrinsic motivation, since part of the reason for including these measures was the specific items, the means and standard deviations (SD) by country for each single item are listed in Table 1. As shown in Table 1, the item "I want to achieve a degree" was the top reason overall for both Dutch and American students. For Americans, the second-highest reason was family, but for Dutch students family was one of the lowest-rated reasons despite the ratings being similar. This is especially interesting given that Dutch students' extrinsic motivation was significantly higher than American students' extrinsic motivation to attend university.

Discussion

This exploratory comparative study identified some significant differences between Dutch and American university students, and some noteworthy non-significant results. Firstly, no significant differences were found in motivation, depressive symptoms, or stigmatization of VET between HBO and WO students. Both Dutch HBO and WO students reported fewer depressive symptoms than American university students. Additionally, Dutch HBO and WO students reported higher extrinsic motivations for attending university, though no significant differences were found in intrinsic motivations for attending university. Another notable non-significant result is that no differences were found in stigmatization of VET between Dutch and American students. The final unexpected result was that intrinsic motivation was correlated with stigmatization of VET in the whole sample. There are several possible explanations for both the significant differences and the non-significant results.

The lack of significant differences between HBO and WO students indicates that they do not differ in terms of stigmatization of VET, depressive symptoms, or motivation. Instead, they appear to report similar levels of VET stigmatization and depressive symptoms, and attend higher education for similar reasons. In the Netherlands, HBO is not considered proper university, but these findings begin to indicate that HBO and WO students are more similar than they are different. HBO students attend HBO due to lower motivation to attend higher education but rather limited options due to their secondary school performance or possibly motivation to attend a different type of institution. Too few HBO responses from the survey meant that comparisons between all three institutions were not possible, but perhaps fewer motivational differences exist between these groups than originally thought.

As a group, Dutch students in both HBO and WO reported significantly fewer depressive symptoms than American students. According to the World Health Organization (2017), the United States has one of the highest prevalences of depression disorders in the world at 5.9% of the population compared to the Netherlands at 4.7%. Therefore, these rates are likely reflective of the general populations of the Netherlands and the United States. However, this difference could also be from self-reporting bias. Dutch people may be less likely to indicate depressive symptoms than Americans due to cultural differences. Although it is possible Dutch students reported fewer or no symptoms because they did not feel comfortable sharing them, data like that from the World Health Organization (2017) which compares diagnostic data indicates a difference in prevalence rather than reporting.

The other significant difference found between Dutch and American students was that Dutch students reported higher extrinsic motivations for attending higher education. From

analyzing individual items in the measure, it was revealed that this is likely driven by significantly higher motivation based on friends and based on not wanting to get a job right after secondary school. The motivations based on teachers and family were not significantly different between Dutch and American students. Although Dutch students may be significantly more motivated by extrinsic factors, they are equally motivated by intrinsic factors. This is precisely the reason that the two forms of motivation were analyzed separately. In examining the means in Table 1, it becomes clear that Dutch students generally reported higher motivation in general. Perhaps one explanation for this difference is that American students are more amotivated to attend university or do not have clear ideas of why they went to university.

One of the most interesting findings was that there was no significant difference between Dutch and American students in stigmatization of VET students. In the Netherlands, it is common for secondary students to redo an academic year rather than move to a lower track (Kloosterman & de Graaf, 2010), implying that moving to a lower track like VMBO—which leads to MBO—is undesirable. In the United States, although the education system is not so neatly tracked, there are different negative associations with VET schools. Community colleges are known to be underfunded (Yuen, 2020), which may decrease the perceived value of community college education. Additionally, community colleges are cheaper, so class stigmatization could be at play. Based on this non-significant result, it may be that the stigmatization of VET is at a similar level for Dutch and American students, but of a different nature. It is also possible that there would be different results if students were asked if they personally look down on VET students rather than reporting whether society does. Lastly, this was a small sample with a non-normal distribution, which meant that parametric statistics were not appropriate. The Mann-Whitney U test indicated no significant difference in mean ranks, though the difference in means between Dutch ($M = 2.91$) and American ($M = 2.28$) students' perception of VET stigmatization indicates a possible trend that may be worth examining in a larger, more normal dataset using parametric statistics. An independent-samples t-test which directly compares means—rather than mean ranks—may indicate different results.

There was another unexpected finding regarding stigmatization of VET: it was positively correlated with intrinsic motivation. This may imply that students who are very intrinsically motivated develop more stigmatization towards VET students or that students who have higher stigmatization towards VET students become more intrinsically motivated themselves. There could also be an unmeasured variable that drives both of these variables

upwards. More research is needed to determine the direction of this relationship, whether it is driven by a third variable, or whether it is not replicable.

Limitations

There are several limitations to this study which should be taken into consideration when examining the results. The most obvious limitation is the sample, which was relatively small and likely not representative of the Dutch and American student populations. The Dutch participants were drawn half from local connections in Friesland and Groningen, and half from SurveySwap.io, and all but one of the American participants were from SurveySwap.io. Because the purpose of the website is to swap surveys, the type of student who uses it is likely conducting their own research. This limits participants to those recruiting for their own studies. Moreover, because there is a direct reward for participants filling out surveys (to get responses for their own surveys), people will be more likely to fill out many surveys in quick succession. This not only makes survey fatigue more likely, but it also means they are less likely to think about their answers. Unlike others on the website, the survey time was listed honestly to limit rushing through, but no attention check or other measure was taken to see if participants paid attention. In calculating BDI-II total scores, individual surveys were checked for answer combinations that did not make sense and none were spotted. However, they could for instance fill out the first option for every question on the BDI-II resulting in a score of 0, which could be honest or dishonest. Fortunately, because American participants were all from SurveySwap.io, the bias would have been in the direction of Americans reporting fewer depressive symptoms, which was not reflected in the results.

Another limitation is the measure for stigmatization of VET. It was measured using only a single item in order to reduce the likelihood of survey fatigue, but it therefore only measures one aspect of stigmatization. Additionally, it was adapted to reflect the views of “some people” rather than the participants themselves to reduce bias, but it therefore does not measure the individuals’ stigmatization of VET necessarily. It may indicate a greater understanding of the societal stigmatization against VET rather than individual discrimination.

Although the BDI-II has been shown to be psychometrically sound with nonclinical adolescent samples (Osman et al., 2008) and the Dutch version (Van der Does, 2002) has been widely used (Roelofs et al., 2012), the other measures and items were translated for the purpose of this study. Although the items are short and one-to-one translations were possible for many items, this was not sensible for all of them and cultural differences in meanings may

have affected how participants responded. It is plausible that differences between Dutch and American participants were due—at least in part—to differences present in the translation of the items themselves. Future studies would be needed to determine if the items are valid in Dutch and if they are reliable in Dutch samples.

Both of these surveys were open for a month and a half, but it was at the end of the academic year, when students tend to be more busy and therefore more likely to rush through, if they take the time at all. This also limited the reach to VET students, who may finish the school year sooner, which was obviously a huge shortcoming of this research. Future research on the subject will want to ensure that data collection can be open for a long time earlier in the year, and account for time to be approved by other schools' internal review boards to expand the reach of the study.

Future Directions

Future studies should of course try to collect larger and more representative samples from both (or all) countries studied in order to make some generalizable claims. In addition, they may want to take the time to apply to internal review boards in advance at many of the institutions at which they hope to gather data so that they can work with them in making the survey accessible. Based on the results of this study, they will likely want to focus on the missing comparisons of universities with VET institutions and use an internationally reliable and validated measure of stigmatization of VET in order to make better comparisons.

There may also be intersectional identities at play. Students of color may experience unique barriers to accessing higher education and in feeling welcomed at universities. In the United States, even after policies were put in place to improve the chances of minorities to be accepted at university, Black and Hispanic students are still underrepresented in the college student population, especially at more prestigious colleges, and the gap has only been increasing (Ashkenas et al., 2017). Furthermore, a student at a private school in the United States from a low socioeconomic background may experience more negative symptoms than one from a high socioeconomic background. Due to the monetarily restricting nature of college attendance in the United States, this may be quite different from the experiences of students from low and high socioeconomic backgrounds at WO in the Netherlands. In the Netherlands, students of color are also underrepresented at universities, and in 2020 released an action plan to improve inclusion and diversity in higher education by 2025 (Ministry of Education, Culture and Science, 2020), though some university leaders believe the progress is too slow and that Dutch culture focuses more on tolerance than inclusion (Upton, 2022).

Future research may want to include items about identity to answer more nuanced questions about how various marginalized groups experience university compared to the majority population.

This study was quite limited in scope, but its findings along with findings of relevant literature indicate some strategies and policies for practice. Firstly, due to the comparatively high rate of depressive symptoms in American college students and the potentially life-ending consequences of untreated depression, steps should be taken to ensure students can receive mental health treatment on campus (Eisenberg et al., 2010; Mullen, 2018). However, simply providing a clinician on campus is not enough. American research on the barriers to mental health service utilization indicates that only a quarter of college students would seek help for a mental problem, and barriers included preferring to solve the problem oneself or with friends and family, or feeling embarrassed by seeking professional help (Ebert et al., 2019). Additionally, certain minority groups may experience unique barriers to accessing mental health supports, and focus groups with youth indicated that school-based health centers should be made more comfortable and that institutions should work on raising awareness of mental health problems and making connections between academic staff and the health center because students are more likely to go to a teacher for support (Ijadi-Maghsoodi, 2018). If a teacher can point the student in the direction of clinical treatment in a way that the student feels safe to do so, the student may be more likely to seek treatment than when receiving the information in a non-personal manner. Research as well as practice should center the voices of students who struggle to access mental health services in order to continuously improve the support they can provide.

Next, policymakers can work with students from various backgrounds in order to produce policies about campus mental health services so that institutions are required to provide mental health services which are accessible to more students. The inclusion of student participation in this development is critical to ensuring that the policies reflect the actual needs and barriers of students rather than what professionals perceive as their needs and barriers. In addition, students from different backgrounds and with different identities will experience different barriers to accessing mental health support, so the inclusion of only a couple student voices would be insufficient to address the needs of the student population at large.

Lastly, although there is a bulk of research on both the stigmatization of mental health and of VET, research is not always implemented in practice. In order to further evidence-based practices which are validated in the field, researchers and practitioners must

work together in interdisciplinary teams (Bauer et al., 2015). It is not enough for researchers to identify problems in isolation and propose solutions; practitioners must be actively involved to ensure that proposed solutions are able to be implemented effectively in practice. Together, researchers and practitioners can reduce stigma and mental health problems in institutions, and over time, throughout whole societies. First, students, professors, and policymakers alike must recognize the value in each other in the process of improving higher education institutions. Only then can they work towards making higher education institutions welcoming to students from all backgrounds and identities, and improve equitable access to education.

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