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## **A Review of Literature: Identifying Barriers to Academic Success among Students with Disabilities Attending College in Rural Regions**

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**Abstract.** College students who have disabilities are an oppressed population that faces many challenges related to accessibility barriers in higher education located in rural environments. The number of adults with disabilities attending college has been steadily increasing over the past decade. As the number of college students with disabilities continues to rise, it is essential for researchers to identify the barriers education attainment barriers they face in rural college settings. This study is a systematic review of literature that analyze past studies in order identify the challenges students with disabilities face in higher education settings located in rural regions. It also identifies gaps in prior disability research. A discussion is included that provides implications for future rural social work research and future directions.

**Keywords:** disabilities, disability education, higher education, rural social work, rural universities

Education obtainment plays a vital role in increased job opportunities and increased income in the United States. In the United States, individuals who have a four-year college degree are more likely to have higher incomes than those who do not have a four-year college degree (Juszkiewicz, 2017; Hout, 2012). In 2009, adults who held a bachelor's degree made on average \$20,000 a year more than those who only had a high school diploma or GED (Juszkiewicz, 2017; U.S. Census, 2012). It is possible that college students who have a disability attending rural higher education intuitions have unique experiences.

Prior studies have shown that adults who have a disability are less likely to obtain a four-year college degree in comparison to other populations residing in rural regions (O'Shea & Meyer, 2016; Cortiella & Horowitz, 2014). Since having a college degree often results in increased job opportunities and the average household income, it is imperative that individuals who have a disability are provided with equal opportunities to earn an undergraduate degree. Since the number of adults with disabilities pursuing an undergraduate degree in rural regions has continually increased over the past 10 years, it is crucial predictors of academic success for individuals with disabilities in rural regions are examined (Walker, 2016).

Several studies have been conducted to demonstrate variables attributing to college success among the general population in non-rural regions of the United States. This systematic review of literature seeks to identify barriers that could be preventing students with disabilities from obtaining a four-year degree at universities located in rural regions in the United States.

## Variables Impacting Academic Success

### Student Demographics

**Income.** Individuals who have disabilities and reside in rural regions disproportionately come from low-income homes in comparison to residents in rural communities who do not have disabilities (Loopstra & Lalor, 2017). Additionally, poverty and other financial barriers have been found to adversely impact academic achievement among college students (Ishanti, 2006; Loopstra & Lalor, 2017). Specifically in rural regions, several past studies reveal that there are considerable differences in academic achievement levels when comparing middle to upper-class students to students living in poverty among the general population in the United States (Loopstra & Lalor, 2017; Rowan, Cohen, & Raudenbush, 2004; Bergeson, 2006; Lacour & Tissington, 2011). Concoran, Gordon, Laren, and Solon (1992) found that welfare receipt rates were inversely correlated with the level of education attainment among both the non-disability population and among the disability population. In support of these past findings, Ishitani (2006) found that students with disabilities who came from a household income that was between \$20,000 to 34,999 were 72% more likely to drop out of their academic program than students who came from household incomes with incomes of \$50,000 or more.

Many adults who have disabilities are more likely to come from communities experiencing high poverty rates (Loopstra & Lalor, 2017). When examining childhood poverty and neighborhood poverty, it was found students with disabilities experiencing childhood poverty and neighborhood poverty were significant variables that negatively impacted college degree obtainment (Nikulina, Widom, & Czaja, 2011). Bailey and Dynarski (2011) found that students coming from high-income families are six times more likely to obtain a bachelor's degree than students coming from low-income families. Thus, meaning college students with disabilities who grew up experiencing poverty are less likely to be successful in college. Poverty and its negative relationship to academic success are also attributed to the lack of community resources, education resources, and stress (Simplican et. al., 2015; Lacour & Tissington, 2011). Since students with disabilities often require more financial and community resources than students without disabilities, poverty levels could have an even more detrimental effect.

**Students' assets.** Individuals who have disabilities often need more access to family, community, and social resources in order to be successful in college settings (Simplican, Leader, Kosciulek, & Leahy, 2015). When examining the general population as a whole, studies have shown students with more family assets exhibit higher academic success than students who do not have as many assets (Simplican, et al., 2015). Additionally, students with more family assets often have more resources that provide them with more access to loans, scholarships, grants, and other financial aid (Elliott & Friedline, 2013). Thus, providing them with more methods to pay for college. Elliott and Friedline (2013) also found students who had parents who kept a savings account or a college investment fund were less likely to pay for college with their own funds. Academic achievement and household assets positively correlate to expected education outcomes. Studies have shown that families with more household assets often have higher education expectations for their children, thus resulting in higher education attainment (Elliot, Destin, & Friedline, 2011). Unfortunately, students with disabilities are less likely to have the same access to asset resources than the general population (O'Shea & Meyer, 2016).

**Race and ethnicity.** Along with economic status, race and ethnicity have also been demonstrated to be a predictor of education attainment in the United States (Strayhorn, 2010; Bailey & Dynaski, 2011). Several studies reveal that there are disparities in education level among different racial groups. For example, prior studies reveal that Latino and African American adults disproportionately have lower education attainment than Caucasian students (Strayhorn, 2010; Bailey & Dynaski, 2011). However, these studies only examined race and ethnicity variables. When applying the intersectionality of race and disability to these past findings, it is possible that students with disabilities who are also a part of a minority race may struggle more than students with disabilities from a majority race.

**Gender.** When analyzing students with disabilities in higher education, it is essential to look at gender differences. Women with disabilities are more likely to attend college than men who disabilities (Bills, 2017), thus emphasizing the importance of examining gender. Although the gender gap of educational attainment levels has become smaller within the last few decades, there are gender differences when examining academic success among males and females (Pekkarinen, 2008). Historically, studies have shown that men have higher educational attainment than women (Day & Newburger, 2002). However, more recent studies are showing that women are beginning to surpass men when analyzing education attainment levels (Goldin, Katz, & Kuziemko, 2006; DiPrete & Buchmann, 2013). Despite more women beginning to hold higher degree levels in comparison to men, women are significantly behind men when analyzing higher education attainment in sciences, mathematics, and engineering (DiPrete & Buchmann, 2013). These numbers decrease even more Thus, showing that gender affects educational attainment.

### **Size of University**

Students with disabilities are more likely to attend smaller universities with the hopes of obtaining more individualized attention (Walker, 2016; Wasielewski, 2016). When studying the general student population, Bradford and Farris (1991) found that private universities had overall higher graduation rates than public universities did. Supporting these findings, In support of Bradford and Farris (1991), Ishitani (2006) also found college students who attended small private universities were twice as likely to complete their degrees than students who attended large public or state universities. However, smaller universities are often less diverse, have fewer resources, and are more expensive (Thelin, 2004; Strayhorn, 2016; Wasielewski, 2016). Thus, indicating that students with diverse needs may not be as successful at smaller universities in comparison to the general population. Since student services have been demonstrated to play a vital role to students with disabilities, it is important to examine the size of the university and the services they offer when researching academic success for college students with disabilities. This is an additional barrier that students with disabilities have to consider, one that non-disabled students do not have to think about.

### **Disability Type**

There are several types of disability categories. However, even when combining all of the different disability categories, students with disabilities still make up the smallest diverse demographic of students at rural universities and colleges, making them a minority population in

rural higher education settings (Kilpatrick, Johns, Barnes, & Magnussen, 2016). Studies have shown that success rates vary depending on the category/type of disability a student is classified as having (Dong & Lucas, 2013). For example, students with physical disabilities have consistently shown to have the highest success rate among college students with disabilities (Pingry O'Neill, Markward, & French, 2012; Dong & Lucas, 2013). However, recent findings have found that students with physical disabilities in rural environments have more accessibility challenges such as transportation and accessibilities into buildings in comparison to other types of disabilities (Bills, 2017). Thus, emphasizing the need to do more studies on the barriers associated with the different disability categories.

In comparison to students with physical disabilities, cognitive and learning disabilities have consistently shown to have lower success rates than all of the other disability categories at rural colleges (Pingry O'Neill et. al., 2012; Lucas & Dong, 2013; Kilpatrick et. al., 2016). Many of the students who fall under this category have comorbid diagnoses, meaning they fall into more than one disability category. Having multiple disability diagnoses leads to additional challenges compared to students who only have one disability (Verdugo, Gomez, Arias, Navas, & Schalock, 2014). Specifically in rural environments, students with comorbid disabilities have also been demonstrated to have lower success rates than students who only have on disability (Budd, Fichten, Jorgensen, Havel, & Flanagan, 2016).

### **Type of Accommodations/Services Received**

Students with disabilities attending colleges in a rural environment are more likely to seek disabilities accommodations than those who attend urban schools (Hodge, 2017). Disability accommodations and support services are essential for the success of college students with disabilities (Kim & Lee, 2016; Fullarton & Duquette, 2016). Some common disability accommodations include extended time on tests, isolated testing settings, preferential seating in the classrooms, note takers, transcribers, and other assignment accommodations specific to the student's needs (Kim & Lee, 2016; Fullarton & Duquette, 2016). Studies show that students with disabilities who utilize disability services and accommodations have higher success rates than students with disabilities who do not use their accommodations (Fullarton & Duquette, 2016; Abreu, Hillier, Frye, & Goldstein, 2017). When examining students with disabilities, Troiano, Liefeld, and Trachtenberg (2010) found that students who took advantage of student services and their disability accommodations had higher GPAs and were more likely to complete their degree than the students who did not.

When looking at the specific types of services and accommodations available in rural settings, studies indicate that different accommodations have higher success rates than others (Fullarton & Duquette, 2016; Kim & Lee, 2016). Studies have shown that isolated test settings and extra time on tests has had the most significant impacts on student success rates (Fullarton & Duquette, 2016; Kim & Lee, 2016). Other disability accommodations have not shown to have as much impact on student success. Pingry O'Neill et al., (2012) found that students who utilized adaptive equipment and note takers were less likely to graduate than the students who utilized other disability accommodations and services.

## Method

The method used for this study was a systematic review of articles that examined the predictors of academic success for adults with disabilities attending four-year universities. In order for an article to be included in this study, the article must: (a) be published in the English language; (b) be included in EBSCO ERIC, PsychINFO, Education Source, Social work Abstracts, and CINHALL databases; (c) include research conducted between January 2010 to September 2019; (d) examine participants who are college students with disabilities in a rural setting; (e) discuss the predictors of academic success using GPA or degree obtainment as outcomes; (f) use any quantitative method of design; (g) use any qualitative method of design; (h) analyze independent covariates of student situations and characteristics; and (i) study students who are attending a private or public university to earn a bachelor's degree or higher.

Articles that were excluded from this review: (a) did not provide a specific focus on variables that impact academic success of young adults with disabilities at four-year universities; (b) were a systematic review; (c) did not examine students; (d) were published before January 2010; (e) examined post-secondary schools that were not four-year universities; (f) did not use GPA or degree obtainment as a measure of academic success; and (g) were not written in the English language.

### Justification for Search Criteria

Search criteria included articles written in the English language in order to attain research conducted in areas that are culturally similar to the United States. Articles from all countries that have similar education structures in rural environments as the United States were included. To ensure the most recent data, studies conducted from January 2010 to September 2019 were included. Quantitative and qualitative studies were included in order to represent varied research methods. In order to promote specificity, articles had to be based on predictors of academic achievement of young adults with disabilities attending four-year universities in rural regions were included. Academic success had to be in evidence of GPA and degree obtainment. Articles that studies post-secondary education that was not a four-year university setting was excluded. All ages and all disabilities were included in order to provide a broad outlook of the education system as a whole in order to determine if age or disability type play a role in academic achievement.

### Conducting Search

During the first phase of this analysis, databases that were searched included ERIC, PsychINFO, Education Source, Social Work Abstracts, CINAHL, and Pubmed. During the first search phase, Boolean terms used were, "Disabilities OR disability OR disabled AND rural AND students AND college OR university OR higher education AND academic achievement NOT high school." Time periods used for this search were January 2007 to September 2016. During the second phase, the Boolean terms were narrowed to "Disabilities OR disability AND students AND college OR university OR higher education AND rural AND academic achievement NOT high school NOT children NOT professors NOT attitudes OR perceptions." The date was also narrowed to January 2010 to September 2019.

## **Results**

Using those search terms, 408 studies were found. The articles deprived from PsychINFO (n=82), Education Source (n=140), Social Work Abstracts (n=0), ERIC (n=83), CINAHL (n=81), and Pubmed (n=22). Next, a distillation phase implemented where articles were individually examined to ensure they met overall admission criteria. Out of 408 articles listed in the initial search, 385 of them were discarded during the distillation phase. Articles were discarded due to the following reasons; they did not examine rural colleges, repeated literature, were systematic reviews, did not fit academic success criteria, did not study college students, and did not examine covariates relating to academic success. At the end of the distillation phase, 23 articles (N=23) met the criteria. Of these 23 articles, 19 of them utilized quantitative methods, three of them used qualitative methods, and one of them used mixed methods of inquiry.

### **Disability Type**

Fourteen of the articles examined the impact of disability type. The results were inconsistent among the articles on which disability had the highest academic success rates. Every study provided differentiating results regarding which disability category had the most detrimental impacts on academic success. Three of the studies examined comorbid disabilities and both found that having more than one disability resulted in lower academic success rates in rural environments.

### **Disability Accommodations**

Out of the 23 articles discussing college students with disabilities attending a rural school, 20 of them examined whether a student received disability accommodations or not. Fourteen articles had statistically significant results demonstrating a positive correlation between disability accommodations and student GPAs. Five of the articles stated that there were more women who requested accommodations from the office of disability than men. Alternative testing accommodations was consistently the most beneficial services when examining academic success.

### **Race and Ethnicity**

There was a lack of studies examining the intersectionality between race and disability status in rural settings. Only six articles analyzed whether race and ethnicity had a negative impact on academic success among students who have disabilities. However, none of the studies were statistically significant, nor did they focus on rural settings. Out of the six articles, only one found statistically significant results when correlating the intersectionality between race/ethnicity and disability status to college academic success.

### **Gender**

Thirteen of the articles factored the impact had gender in their results when analyzing students in rural environments. Twelve of the articles stated that there were more females than

males with documented disabilities. None of the articles found statistically significant results when looking at the impacts gender had on academic success.

### **Socio-Economic Status**

Students with disabilities in rural environments are more likely to have a poorer excellent socio-economic status (Loopsstra & Lalor, 2017). Seven articles examined the impact of economic status to academic success. All seven of the articles found that economic status inversely relates to academic success of college students with disabilities. One study found that students who had more out of pocket expenses were more likely to drop out than students with less out of pocket expenses. Seven articles also examined whether the student was a first generation student or not. All of the results showed that first generation students had lower academic success rates than students who were not first generation students.

### **Size/Type of University**

Of the 23 articles, zero of them examined whether or not the size of the university impacted academic success among students with disabilities in rural regions. Several of the studies used Ex-Post-Facto data from the Office of Disabilities at a specific college, meaning the samples all came from one school. Other articles utilized cross sectional surveys or secondary datasets; however, these studies did not use the size of the university as a covariate when examining academic success.

## **Discussion**

Results from the systematic review demonstrated that there is a lack of consistent literature pertaining to the multiple predictors of academic success among students with disabilities attending four-year universities in rural regions. The only consistent disability related finding among all of the studies was that students who have only one disability demonstrated higher success rates than students with comorbid disabilities. Thus, emphasizing the need for more disability studies in higher education and social work.

### **Implications for Future Disability Research**

**Disability type.** When examining disability classification, the studies were inconsistent, making it impossible to find a conclusion in this review. All of the studies examining the impacts disability type have on college students in rural colleges indicated different findings. For example, Pingry O'Neill et al., (2012) indicated those with physical disabilities had the highest success rate, while Mamiseishvili and Koch (2011) indicated that those with physical disabilities had the lowest success rate. In fact, Bills (2017) indicated that students in rural schools had less accessibility to schools located in rural regions. It is imperative for social work researchers to conduct more studies on this topic in order to have results that are more consistent.

Similar to physical disabilities, Herbert et al. (2014) revealed students with cognitive disabilities had the highest success rate, while Dong and Lucas (2013) demonstrated that cognitive disabilities had the lowest success rates among the disability categories. In contrast,



other studies showed psychiatric disabilities as having the highest success rates. Due to the inconsistent results found in all of the studies, it is unclear as to which disability type has the most impact on academic success for college students with disabilities. Thus, demonstrating the need for more studies that examine the impacts that a student's disability type has on college academic success.

**Accommodations.** Since students with disabilities who attend colleges in rural environments are more likely to seek disability services (Bills, 2017; Ryan 2014), accommodation types and services were the most heavily studied covariate of academic success among college students with disabilities. Results among these studies consistently indicated that alternative testing accommodations were the most beneficial accommodation for students with disabilities in rural regions. Since disability accommodations are determined by specific disability type (Ryan, 2014), it is possible the success rate of this accommodation could be attributed to disability type.

**Demographics.** None of the studies that factored gender into their analysis found significant results when college students with disabilities enrolled in rural schools. However, several of the studies indicated that there were more females who reported their disability to the university to receive services. Several of the studies also indicated females with disabilities were more likely to ask for accommodations than males with disabilities. Thus, indicating the results of the prior gender studies may have been skewed due to a lack of representation of males with disabilities. This adds an additional implication for future research for rural and disability social workers.

There are several past studies that have demonstrated that race is a predictor of academic success for college students enrolled in rural locations (Gordon & Cui, 2018). These past studies have shown that minority races have lower college academic success than students who are white in rural universities (Astin, 1996; Strayhorn, 2010; Bailey & Dynaski, 2011). Although there are several studies examining the impact race and ethnicity have on college academic success in rural settings, there was only one study that examines the intersectionality of race and having a disability among students enrolled in rural institutions. Only one article demonstrated statistically significant results when factoring race along with disability status into academic success at rural colleges. It is assumed that since students of minority races and students with disabilities are both disadvantaged groups, they would have significantly lower academic success rates than students who are white and do not have a disability at a rural college. Thus, meaning there is a crucial need for more social work studies that factor both the intersectionality of race and disability status when analyzing predictors of academic success among in rural college settings.

**Income.** Several past studies have shown students who come from low-income families have lower rates of college success (Rowan, Cohen, & Raudenbush, 2004; Bergeson, 2006; Lacour & Tissington, 2011). Although there were not many articles that examined socioeconomic status of students with disabilities, none of them examined how it impacted their academic success at rural higher education settings. However, there were studies that examined socio-economic status and academic success among the general population. Thus, it is assumed that students with disabilities from lower socio-economic statuses would also have lower academic success rates.

**Assets.** When examining other socio-economic factors, zero of the articles found in the review examined the effects of liquid assets for academic among students with disabilities attending school in rural settings. However, one article did briefly mention that students with disabilities who had to pay more out of pocket expenses were more likely to discontinue school. As discussed by Simplican (2015), individuals who have disabilities often require more asset resources in order to be successful. In addition to this study, past studies also indicate that people with disabilities in rural environments have less liquid asset resources in comparison to their non-disabled counterparts (Parish, Roderick, Rose, Swaine, & Ellen, 2012). Thus, showing there is a dire need to closely examine socio-economic status among college students with disabilities and its impact on their academic success.

A vital gap in the literature found in this review is that no studies examined whether the size of the university impacted academic success for students with disabilities attending school in rural regions. The past studies only examined the general student population as a whole, rather than focusing on different demographics. In support implication, Walker (2016) stated that students with disabilities are more likely to attend smaller universities. Thus, emphasizing the need to examine if the size of the university has an impact on academic success for specifically for students with disabilities located in rural areas. When examining all college students as a whole, Additionally, Ishitani (2006) found that students at smaller universities have higher success rates than students attending larger universities. However, Ishitani's (2006) results may differ when examining only students with disabilities. Smaller rural universities often have less disability resources than larger universities (Thelin, 2004; Strayhorn, 2016). Thus, meaning students with disabilities will have different experiences than the general population at smaller schools in rural regions.

### **Conclusion and Future Directions**

When examining rural high education institutions, students with disabilities have diverse experiences in comparison to the general population that often result in lower academic success rates (Bills, 2017; O'Shea & Meyer, 2016; Cortiella & Horowitz, 2014). The findings of this systematic review demonstrate that there is ample existing literature pertaining to predictors of academic success among college students in rural regions. However, many of these studies focus only on the general student population as a whole. There were a few studies that focused on disabilities, those studies focused on disability status, rather than other intersectional covariates such as race/ethnicity, socioeconomic status, sexual orientation, age, and other diverse differences that are experienced differently in rural settings.

Based on the studies analyzed in the systematic review, implications for future disability research includes conducting studies that incorporate more covariates in the analysis in order to address oppression related to intersectionality. These covariates can include disability type, disability accommodations offered, race/ethnicity, gender, socio-economic status, and the size of the university in rural regions. It is yet to be determined which of the listed covariates has the most detrimental affect on college students with disabilities attending rural colleges. Specifically, more recent studies pertaining to disability type need to be further examined in order to determine which disability type has the lowest academic success rates at rural colleges. This would allow rural social workers and educators to create better policies and accommodations to

further enhance the academic success rates of college students with disabilities in rural communities.

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