

Wright State University

CORE Scholar

---

International Symposium on Aviation  
Psychology - 2013

International Symposium on Aviation  
Psychology

---

2013

## Able Flight: Increasing Aviation Opportunities for People with Disabilities

Jennifer Kirschner

Branden Avery

Wes Majors

Erin Bowen

Bernard Wulle

Follow this and additional works at: [https://corescholar.libraries.wright.edu/isap\\_2013](https://corescholar.libraries.wright.edu/isap_2013)



Part of the [Other Psychiatry and Psychology Commons](#)

---

### Repository Citation

Kirschner, J., Avery, B., Majors, W., Bowen, E., & Wulle, B. (2013). Able Flight: Increasing Aviation Opportunities for People with Disabilities. *17th International Symposium on Aviation Psychology*, 465-470.

[https://corescholar.libraries.wright.edu/isap\\_2013/37](https://corescholar.libraries.wright.edu/isap_2013/37)

This Article is brought to you for free and open access by the International Symposium on Aviation Psychology at CORE Scholar. It has been accepted for inclusion in International Symposium on Aviation Psychology - 2013 by an authorized administrator of CORE Scholar. For more information, please contact [library-corescholar@wright.edu](mailto:library-corescholar@wright.edu).

## ABLE FLIGHT: INCREASING AVIATION OPPORTUNITIES FOR PEOPLE WITH DISABILITIES

Jennifer Kirschner

Department of Aviation Technology, Purdue University  
West Lafayette, IN, USA

Branden Avery

Department of Aviation Technology, Purdue University  
West Lafayette, IN, USA

Wes Majors

Department of Aviation Technology, Purdue University  
West Lafayette, IN, USA

Erin Bowen

Department of Technology Leadership and Innovation, Purdue University  
West Lafayette, IN, USA

Bernard Wulle

Department of Aviation Technology, Purdue University  
West Lafayette, IN, USA

Access to certain aviation careers has traditionally been limited for people with disabilities. Although the Americans with Disability (ADA) Act of 1990 mandated that disabled applicants be given equal consideration for jobs for which they can perform the essential job functions, stereotypes and lack of knowledge about career opportunities may prevent qualified disabled people from apply in the first place. In order to remove perceived barriers to participation and to increase the visibility of opportunities for both life success and employment within the aviation industry for people with disabilities, the Purdue University Aviation Technology department has begun to participate in the Able Flight program. Able Flight offers a select number of applicants with significant physical impairments each year scholarship funds toward aviation-related training. This longitudinal study will survey former Able Flight participants to estimate the effect that training has had on their career aspirations, either in aviation or other industries.

A large percentage of Americans live with some type of disability. Compared to their able-bodied counterparts, they may be more likely to be unemployed or underemployed, due to a number of factors. Employer perceptions and lack of accessible facilities may limit career choices. Even though federal changes to employment laws have increased access to employment opportunities, hidden biases may negatively impact the perception of disabled individuals during the selection process. Simply having the opportunity to make career-related choices and

decisions, however, does not ensure that a person will have the self-determination to actively pursue those opportunities and overcome potentially negative perceptions. Educational interventions designed to increase autonomy, competence, and relatedness have the potential to provide transferable skills that increase self-confidence and the willingness to try again. Additionally, it may also help raise awareness of the need for better access to employment opportunities for disabled individuals.

## **Literature Review**

A vast number of people in the United States live with a disability. Over the years laws have been enacted to facilitate job opportunities for the disabled, but individuals with a disability still remain scarce in the employment sector. Statistics provided by the Census Bureau makes this apparent.

Disabilities are extremely prevalent within the United States. According to the 2011 American Community Survey (ACS), a yearly survey conducted by the Census Bureau, out of 241 million individuals age 16 and over currently living in the United States, almost 35 million are living with a disability (U.S. Department of Commerce, 2011). Thus, it is estimated one out of every 14 people age 16 and older presently deal with some sort of disability on a daily basis, making persons with a disability one of the largest minorities in the United States. The ACS lists six disability types - hearing, vision, cognitive, ambulatory, self-care, and independent living difficulty.

The Bureau of Labor Statistics reported 17.8% of persons with a disability were employed during 2011, less than the previous year's employment-population ratio of 18.6% (U.S. Department of Labor, 2011). In contrast, almost 64% of non-disabled persons were employed during this time period. In 2011 the unemployment rate for individuals with a disability was almost double the unemployment rate for their able bodied counter parts (8.7% versus 15.0%). These rates remained unchanged from the previous year for individuals with a disability, while the rates for individuals without a disability dropped. Especially in turbulent economic times, unemployment rates among the disabled can rise sharply.

The industries with the highest levels of representation of disabled employees were the education and health services, retail services, as well as business and professional services; 21.9%, 12.8%, and 10.6% respectively. The types of occupations that were most likely to employ persons with a disability were - management, 31.7%, followed by sales and office related work, 24.6%. The majority worked in the private sector (72.5%), while 15.6% had government jobs, and 11.8% were self-employed (U.S. Department of Labor, 2011).

Individuals with a disability are underrepresented and underemployed in the job market, even with legislation to ensure equal opportunity hiring. This is made obvious when the Bureau of Labor Statistics released 2011's employment-population ratio for individuals with a disability. Additional evidence is found in the unemployment rates for the handicapped, which are nearly doubled that of non-disabled individuals. Although disabled individuals are willing to work, a large portion has not been given the opportunity to do so. Preconceived opinions and perceptions by employers may have left a potentially productive talent pool untapped.

Since the Rehabilitation Act of 1973, hiring decisions involving physically disabled applicants have been subject to much research. Studies have shown mixed results; some managers have shown positive reactions toward hiring disabled employees, and others are more negative.

Depending on the severity of the disability, those with disabilities can be limited in the activities that they can perform during a normal work day. In certain work environments, the ability to perform physically demanding or socially demanding tasks may be considered “essential” job functions, which limits their accessibility to those with disabilities. In these instances physically disabled persons may be limited to very specific offers of employment (Drehmer & Bordieri, 1985). Additionally, Florian (1978) conducted a survey that concluded that, regardless of the severity, the cause of a disability was directly related to workforce acceptance. Those suffering paralysis due to a war related injury were more likely to receive offers of employment than those with an external source injury (such as a car accident), even though the injuries were the same.

While some studies that requested hiring managers or business students to compare resumes of disabled applicants with non-disabled disabled ones have found a marked preference for disabled applicants (Krefting & Brief, 1977; Premeaux, 2001; Stone & Sawatzki, 1980), experimental research has found the opposite bias to be true during interviews (Johnson & Heal, 1976) Johnson and Heal (1976) examined different interviews that took place between different employers and an actor. The results from this study provided evidence that when the actor in a wheelchair was interviewed, he was viewed negatively and offered fewer employment opportunities.

There are several reasons for the different findings from the studies, mostly due to the difference in methods. A person who is wheelchair-bound may be perceived as less threatening on paper than in a face-to-face encounter. Block and Yuker (1979) explain that prejudice towards a person with disability is normally hidden, particularly in survey data, because it is not socially desirable or acceptable to display such bias.

Although federal amendments to employment law and changing societal norms have led to increases in the availability of employment opportunities for the physically disabled, simply having the opportunity to make career-related choices and decisions does not ensure that a person will have the self-determination to actively pursue those opportunities and overcome potentially negative perceptions, much the same way that having equal access to employment opportunities does not ensure that one will be able to find a suitable job. The concept of self-determination is a very common theme in the narrative of both opportunities and career success for those with disabilities. It can be defined as “acting as the primary causal agent in one’s life and making choices and decisions regarding one’s quality of life free from undue external influence or interference” (Wehmeyer, 1997, p. 177), and is an outgrowth of follow-up research conducted after the first generation of children completed schooling under the Education for All Handicapped Children Act in 1975. Now that access to educational opportunities was federally mandated, researchers hoped to find disabled individuals acting as productive, integrated members of society. While rates varied between states, longitudinal studies showed that the vast

majority of youths with disabilities were either unemployed or underemployed, and most lived in residential communities, instead of living independently, even after finishing high school. Self-determination was shown to distinguish between those who held jobs and lived independently, and those who did not.

Self-determination theory (SDT) asserts that people are inherently drawn towards personal development and growth, but that this need must be nurtured in order for it to develop properly. Three basic drives or motivations that pull us toward personal growth are our need for competence, relatedness, and autonomy (Deci & Vansteenkiste 2004). Competence is a need for task mastery. Relatedness is a universal urge to be connected in a meaningful way to those around us. Autonomy is not necessarily a need for independence, but a desire to be a change agent in one's own life. In order to meet these three needs, there are two different types of motivation: intrinsic and extrinsic (Perreault & Vallerand, 2007). Intrinsic motivation is an internal drive to complete tasks associated with cognitive and social development, because they are inherently enjoyable. In order for tasks to be perceived as being caused by intrinsic motivation, both competence and autonomy must be present. Extrinsic motivation, on the other hand, refers to external pressure to complete a task, either from parents, peers, or others. Extrinsic motivation can be accompanied by differing levels of autonomy, competence, and relatedness, but in order for goals to be internalized as meaningful, all three should be high.

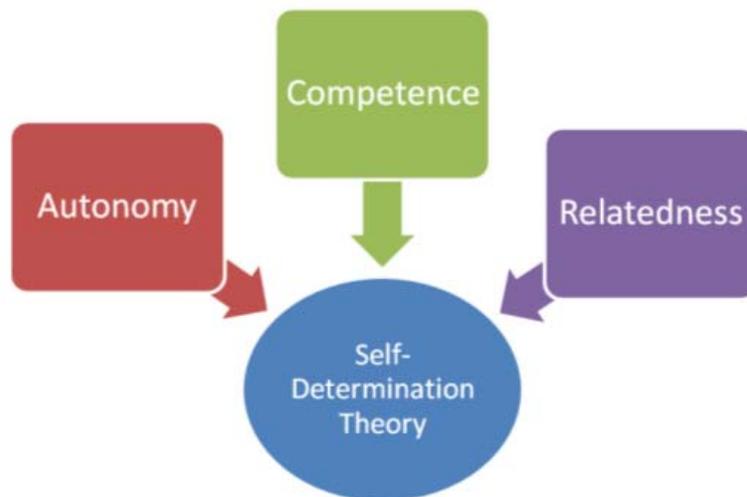


Figure 1. Self-determination theory.

Opportunities to practice self-determination skills can increase self-confidence and the willingness to try again (Stoner, Angell, House, & Goins, 2009). Educational interventions can also increase self-determination, and should be designed to foster developing decision-making skills, goal-setting skills, risk-taking skills, self-observation and evaluation, and an internal locus of control (Wehmeyer, 1997).

People with disabilities have been recognized as productive employees in many other industries, but have not yet been accepted into aviation careers in large numbers. While deaf pilots have been able to gain some traction within the industry (Moore, 2012), people with other disabilities can have a much more difficult time attempting entry. The Federal Aviation

Administration recently announced that it has set a goal of hiring at least three percent per fiscal year for individuals with severe disabilities (Federal Aviation Administration, 2012).

### **Proposed Methodology**

In order to more clearly examine the effect that a focused skills-based training intervention has on the career aspirations and self-determination of those with disabilities, this research study will survey participants who have received either a flight or a career training scholarship from Able Flight, a non-profit organization that seeks to increase the accessibility of aviation. Since 2006, approximately 20 students with significant physical impairments have received training scholarships toward attaining a Sport Pilots licenses, maintenance certificates, and dispatcher licenses. Able Flight's "mission is to offer people with disabilities a unique way to challenge themselves through flight training, and by doing so, to gain greater self-confidence and self-reliance" (Able Flight, 2011, para. 1).

This longitudinal study will seek to determine the effect that such training had made on the career paths that students choose, either in aviation or in another industry. Survey participants will be contacted using email, and surveys will be distributed using Qualtrics, in order to increase their accessibility. The survey will use both open ended questions and Likert scale responses. Participants will be asked to discuss the specific skills they gained during the training intervention and what career paths or opportunities they have taken since completion. Other areas covered include what aviation careers they see as being accessible to those with disabilities, how the training intervention impacted their view of themselves, and, if they are not currently employed in aviation, what skills gained during the training intervention were transferable to their current employment situation.

Survey data, once gathered, will be analyzed using the NVivo qualitative data analysis software package. Particular emphasis will be placed on mentions of the three drives in self-determination theory (autonomy, competence, and relatedness) to determine if these three areas were important to the Able Flight participants, and if the training intervention led to changes in the career opportunities that they see as being accessible, even if they have not been able to pursue a career yet.

### **Conclusions**

In conclusion, when completed, this research project will seek to better understand the employment opportunities available for and perceptions of those with disabilities. Additionally, it will attempt to better define the means by which educational interventions such as Able Flight impact the self-determination and perceived career opportunities available to those with disabilities. Research of this nature has the potential to better enable educators to design future interventions that facilitate self-determination in those with disabilities. Lastly, it may also help raise awareness of the need for better access to employment opportunities for disabled individuals.

### **References**

Able Flight. (2011). *Able Flight: About Us*. Retrieved from <http://ableflight.org/about-us>

- Bordier, J. E., & Drehmer, D. E. (1986). Hiring decisions for disabled workers: Looking at the cause. *Journal of Applied Social Psychology, 16*(3), 197-208.
- Deci, E. L., & Vansteenkiste, M. (2004). Self-determination theory and basic need satisfaction: Understanding human development in positive psychology. *Ricerche di Psicologia, 27*, 17-34.
- Drehmer, D. E., & Bordieri, J. E. (1985). Hiring decisions for disabled workers: The hidden bias. *Rehabilitation Psychology, 30*(3), 157-164.
- Federal Aviation Administration. (2012). *People with Disabilities Program*. Retrieved from [https://www.faa.gov/about/office\\_org/headquarters\\_offices/acr/outreach/pwd/](https://www.faa.gov/about/office_org/headquarters_offices/acr/outreach/pwd/)
- Moore, J. (2012, January 25). *Deaf pilot spreads word: You can fly*. Retrieved from <http://www.aopa.org/aircraft/articles/2012/120125deaf-pilot-spreads-the-word.html>
- Perreault, S. & Vallerand, R. J. (2007). A test of self-determination theory with wheelchair basketball players with and without a disability. *Adapted Physical Activity Quarterly, 24*, 305-316.
- Premeaux, S. F. (2001). Impact of applicant disability on selection: The role of disability type, physical attractiveness, and proximity. *Journal of Business and Psychology, 16*(2), 291-298.
- U.S. Department of Labor, Bureau of Labor Statistics. (2011). *Persons with a disability: Labor force characteristics – 2011* (USD-12-1125). Retrieved from <http://www.bls.gov/news.release/pdf/disabl.pdf>
- U.S. Department of Commerce, United States Census Bureau. (2011). *Selected economic characteristics for the civilian noninstitutionalized population by disability status* (S1811). Retrieved from [http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_11\\_1YR\\_S1811&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1811&prodType=table)
- Stoner, Angell, House, & Goins. (2009). Self-determination: Hearing the voices of adults with physical disabilities. *Physical Disabilities: Education and Related Services, 25*(1), 3-35.
- Wehmeyer, M. (1997). Self-determination as an educational outcome: A definitional framework and implications for intervention. *Journal of Development and Physical Disabilities, 9*(13), 1997.