Original Research Article

Examining the Association between Disability Types and Employment Status of Cypriots with Physical Disabilities

Petasis
Examining the Association between Disability Types and Employment Status of Cypriots with Physical Disabilities

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Abstract
Access to employment is a standout among the most troublesome issues confronted by disabled people in Cyprus, as more than 10,000 who have appropriate qualifications remain unemployed. Worldwide estimations indicate that disabled people are either unemployed or underemployed at a much higher rate when compared to individuals with no disability. This study aimed at examining the association of the unemployment and underemployment status of disabled people with their demographic characteristics as it appears in other countries with similar cultural and legal environments. This correlational and regression study encompassed collecting primary data using 117 online questionnaire responses gathered from the 6,000 registered members with physical disabilities in related organizations in Cyprus. The study used cross-sectional survey utilizing judgment (purposive) sampling to simultaneously measure demographic variables and type of disability, toward the unemployment and/or underemployment status of disabled individuals in Cyprus, to identify possible relationships between them hence to identify if demographic variables and type of disability significantly relate to unemployment and underemployment. Results indicate that people with certain disability types have higher probabilities of being employed than others with different types of disability. People with paraplegia, quadriplegia, dystrophy, and neurological disabilities hold lower employment rates than other types of disability. People with visual disability and people with absent limb/reduced limb function rank high in both unemployment and employment rates at an equal rate. There is a significant association between the type of disability and the employment status of disabled people. The study findings relating to the employment status of disabled people in Cyprus differ to the literature findings, as it is unexpectedly much lower to what it is reported in the literature.

Keywords: Employment status; Disability; Discrimination; Unemployment.

1. INTRODUCTION
Approximately 1 billion people worldwide are considered to have a disability (Disability Overview, 2016; Sun et al., 2017; World Report on Disability, 2011; Zheng et al., 2016), referring to the idiom covering physical, mental, and intellectual impairments, restrictions on activities, and participation boundaries (WHO, 2012). Worldwide estimations state that only 25% of the disabled adults participate in the labor market as compared to the remaining 75% of the adult population (Snyder et al., 2010). Disabled adults hold a higher unemployment rate of 60% compared to the 20% of nondisabled people, 22% receive incomes below minimum wage compared to the 12% for nondisabled people, and occupy lower status positions in the workplace (Coffey, Coufopoulos, and Kinghorn, 2014; Parlalis, 2013; Snyder et al., 2010). This situation indicates that disabled people are either unemployed or underemployed at a much higher rate when compared to individuals with no disability (Coffey et al., 2014; Vickers, 2009). This being a worldwide phenomenon, laws in first world countries have been consequentially enacted to prevent and eliminate employment discrimination among disabled people (Australia in 1992, France in 1987, the United Kingdom [UK] in 1995, and the
United States [USA] in 1990) (Parlalis, 2013). Access to employment is a standout among the most troublesome issues confronted by disabled people in Cyprus, as more than 10,000 disabled people who have appropriate qualifications remain unemployed (Parlalis, 2013) introducing a series of adverse effects such as financial volatility and mental distress.

Although significant research has been conducted worldwide in relation to disabilities and employment (Bakula et al., 2011; Caceres and Caceres, 2015; Coffey et al., 2014; Fabian, Beveridge, and Ethridge, 2009; Folguera, 2014; Graf, Marini, and Blankeship, 2009; Hashim and Wok, 2014; Hernandez and McDonald, 2010; Roessler et al., 2011; Snyder et al., 2010; Vickers, 2009; Vornholt, Uitdewilligen, and Nijhuis, 2013), similar research is nonexistent in Cyprus, mainly due to the Cyprus government’s reluctance to invest in the problem. Research related to disabled persons would reveal the actual current problems disabled people face, and on the other hand, such knowledge would force the actual enforcement of the law (Disability Act N.127(I)/2000) ensuring that disabled people get equal chances in employment, either by penalizing employers for discriminatory hiring practices or by providing incentives for hiring disabled people. In countries culturally and legally similar to Cyprus, such as the UK and Greece, people with disabilities are underemployed and placed in substantially inferior positions based on their skills, education, and experiences. The employment rate of disabled people is 31.4% in the UK compared to 68.1% for nondisabled and, in Greece, 46.3% of disabled people are employed compared to 76.4% of nondisabled (ANED, 2013). Cyprus was a former British protectorate between 1878 and 1914 and then a former British colony until its independence in 1960 (Hardy, 2014); thus, the British influence on the current infrastructure (buildings and governmental processes) and especially on the common law implemented and followed in Cyprus (Yesilada, 2016) is evident up until today. Regarding similarities to Greece, it is widely known that the two countries are almost culturally identical, as they share a common language, religion, and Greek heritage (customs and traditions) (Papadopoulos et al., 2016).

As unofficial estimates on employment in Cyprus gathered from associated organizations, such as the Department of Social Inclusion of Persons with Disabilities, indicate registration of approximately 12,000 disabled people as unemployed (nearly 16% of the all 75,000 unemployed people out of the 428,000 working-age people) (Ministry of Labor and Social Insurance, 2013), it was logical to assume that an equivalent situation existed in Cyprus; hence, this study investigated the association between the type of disability and the employment status of disabled individuals in Cyprus. The study will help to shed light on the disabled peoples’ challenges and thus may improve their employment opportunities, their employment, and working conditions, and improve employment equality with those workers without disabilities. Therefore, the research questions with the relative hypotheses were developed as follows:

**RQ.** What is the association between the type of disability and employment status of disabled people in Cyprus?

**H₀**—Type of disability does not significantly associate with the employment status of disabled people in Cyprus.

**H₁**—Type of disability significantly associates with the employment status of disabled people in Cyprus.

Employment is one central indicator of adult achievement in our society. Not only does it provide financial security, but a stable job allows individuals to be independent and adds to the general feeling of worth and individual fulfillment (Nord et al., 2013; Omar, 2013). Still, the literature proposes that the advantages and gains from securing satisfying employment have gone unaccomplished by individuals with a disability (Agovino and Rapposelli, 2014; Sciulli, de Menezes, and Vieira, 2012; Suarez-Balcazar et al., 2013). General employment rates for disabled people are much lower than those without a disability adding to the determinately high poverty rates for this population group (Kulkarni and Kote, 2014). For example, in the European Union (EU-28), the employment rate for disabled people in 2011 was 25% compared to the 47.3% of those without a disability; the highest gaps were observed in the Netherlands (43% of disabled people were employed in contrast to the 80% of nondisabled who were employed), whereas the smallest variation was in Luxemburg with a gap of only 2% (Eurostat, 2015). Disability, which is defined as a term covering any form of impairments or injuries, or any restriction or boundaries relative to activities and participation (Ward, Moon, and Baker, 2012; WHO, 2015), is portrayed as common, recurrent, and distinctive. The above
definition is based on the fact that nearly 1 billion individuals worldwide are considered to have a disability and that the surrounding environments intercede the way disabilities influence a person (World Report on Disability, 2011). It is also accepted that only 25% of the disabled people take part in the labor market when contrasted with 75% of the overall population (Snyder et al., 2010), indicating that most disabled people are either unemployed or underemployed (Burke et al., 2013; Jans, Kaye, and Jones, 2012; Sing, 2012; Ward et al., 2012).

Findings from the literature suggest that 60% of disabled people who are of working age worldwide are unemployed compared to the 20% unemployment rate of nondisabled people (Parlalis, 2013). Even though overall employment rates for disabled individuals have increased the last years (Newman et al., 2009; Novak, 2015), occupational outcomes are still lower for disabled people compared to those without a disability (Newman et al., 2009). For instance, the study by Newman et al. (2009) shows that 66% of young adults without disabilities find a job within four years of high school graduation compared to the 57% of young adults with a disability. This weak and restricted employment prospects and the limited financial stability, because of the limited prospects, are still realities for disabled people and especially younger ones (Holwerda et al., 2015; Novak, 2015; Vornholt et al., 2013). This fact is also portrayed by Schooole, Feldman, and Alnosayan (2012) who view disability as a social issue, asserting that disability is not a mental or physical limitation of an individual, instead it is a limitation of opportunities to be an equal member of society and workplaces due to physical and societal obstacles. In addition, many young adults with disabilities graduate from high school and enter adulthood with an inability to be financially autonomous or independent from public assistance (Newman et al., 2009). On the other hand, Jang, Wang, and Lin (2014) and Wehman et al. (2014) found that the more educated the people with disabilities, the more likely to be employed.

Similar studies reveal that one of the most common barriers to equal employment both in the public and private sectors for disabled individuals are employers’ lack of knowledge about handling disabled individuals, as well as the perceptions of both employers and coworkers about disabled individuals’ negative attitudes (Agovino, Parodi, and Barajas, 2014). Therefore, based on the above information, it can be presumed that one major problem that arises regarding disabled individuals’ employment opportunities is discrimination that might be caused by lack of knowledge (Agovino et al., 2014). Hence, states’ and society’s aim might be to decrease or eliminate discrimination in the workplace by educating members of society and craft those policies that support (both financially and regarding infrastructure) the employment and acceptance of disabled individuals as equals.

Another significant finding is that not only do disable people encounter employment barriers but also those who get employed are more likely to lose their job (Honey et al., 2014). A study investigating the transitions between full time, part time, and unemployment of people with and without disability revealed that disabled employees are more likely to transit from employment to unemployment than nondisabled (39%–22%, respectively) (Honey et al., 2014). The transition naturally brings up the issues of employment maintenance for people with disabilities. The lack of knowledge and related experience toward disabled people causes employers to discriminate against people with disabilities, both regarding hiring decisions and advancement purposes (Hashim and Wok, 2014). The lack of knowledge relates especially to financial or cost accommodation issues perceived by potential employers, though this does reflect reality, as 1 out of 322 workplace accommodations did not have any direct cost at all (Mcdowell and Fossey, 2015).

In some instances, people with disabilities might prefer causal or part-time jobs (Honey et al., 2014). Probably, the reason for this is the fact that the barriers to having a regular full-time job are so many, that disabled people give up in their efforts to get a proper job, as in the case of the UK in 2014, 53% of the disabled people experienced barriers to work compared to the 30% of those without disabilities (Papwortrust, 2014). However, a part-time job produces lower wage, provides very few other benefits or nothing at all, is less stable, and provides fewer opportunities for career development and advancement (Honey et al., 2014).

A report by the University of Edinburg in the UK (Riddell et al., 2010) showed that disabled people do not fulfill the career development aspect as defined by the latest definition above. The report showed that in 2008, only 41.1% of disabled people in Great Britain are employed, 6.7% are self-employed, and 55.7% are unemployed. For the 41.1%, approximately 47% are in high-level employment (i.e., manager and senior officials) compared to the 55% of the nondisabled.
2. METHOD(S)

This quantitative correlational and regression study is intended to conduct significant research to investigate the factors influencing unemployment and underemployment of people with disabilities and based on the findings to develop possible implications regarding any discriminatory practices from coworkers and employers.

The data needed for this study were represented numerically, as the variables in the study could be measured using numbers. Regarding primary data, these involved online questionnaires addressed to individuals with physical disabilities, whom they were contacted and recruited through organizations serving people with disabilities. Approximately, 6,000 disabled people are registered as members of such organizations, and the objective of the study concerning questionnaire dissemination was to recruit a 5% sample of the population resulting in 300 study participants, though eventually only 117 responses were gathered using Qualtrics.

For this quantitative method study, cross-sectional survey was used, utilizing judgment (purposive) sampling; because the population is divided into subcategories as different types of physical disabilities exist, data were collected on the type of disability each respondent has and then groups were statistically compared from the data set. Regarding the analysis of data, SPSS v.23 analytics software was used, to perform regression analyses. More specifically, a chi-squared analysis was used for answering the research question as to check whether the type of disability was associated with the employment status of disabled people.

2.1. Population and Sample

Among the approximately 6,000 registered members in organizations related to disabilities in Cyprus, around 1,300 were members of the Cyprus Organization for the Blind, 3,000 of the Cyprus Antirheumatic Association, 70 of the Cyprus Association of Multiple Sclerosis, 250 of the Cyprus Paraplegic Organization, 600 of the Muscular Dystrophy Association, and 1,000 of the Cyprus Federation of the Deaf. The 1,000 members of the Cyprus Federation of the Deaf had to be excluded, as the organization had withdrawn from the study. After verbally contacting the organizations to determine their interest to participate in the study, site permission letters and invitation letters were received and obtained, after being translated and back-translated in both Greek and English by certified translators.

The study employed a nonprobability sampling of 5% sample of roughly 6,000 disabled people who were registered members of organizations serving people with disabilities, as to produce approximately 300 study participants. More specifically, the initial intention was to gather an estimated sample of 65 participants who were members from the Cyprus Organization for the Blind, 150 participants from the Cyprus Antirheumatic Association, and 4 from the Cyprus Association of Multiple Sclerosis, as well as 13 from the Cyprus Paraplegic Organization, 50 from the Cyprus Federation of the Deaf (which they had to be excluded eventually), and 30 participants from the Muscular Dystrophy Association. For the purposes of data analysis, the collected data were categorized into the following disability types: (a) paraplegia, (b) quadriplegia, (c) multiple sclerosis, (d) dystrophy, (e) visual impairments, (f) hearing impairments, and (g) neurological disabilities. However, after running a G*Power analysis, 154 responses were set as the new target.

2.2. Ethical Assurances

As the research was conducted using human participants, it adhered to the Belmont ethical principles of justice—equitable distribution of benefits, respect for persons—people should make autonomous decisions, and beneficence—to maximize benefits and minimize harm to human subjects (Brakewood and Poldrack, 2013; Hodges and Sulmasy, 2013; Kelleher, 2014). An informed consent form attached to the questionnaire was given to participants explaining the research purpose and objectives, including the researcher’s personal contact details. The purpose of the informed consent form was to ensure the anonymity and privacy of the participants’ details assuring that no one can link data to specific participants, ensuring that his or her participation is voluntary, identifying the level of participant involvement, and assurance of confidentiality. Before the consent form, an approval was gained through a letter from the persons in authority of the organizations related to disabled people in Cyprus. Even when participants agree to participate in the study, it was made clear to them that they could drop out at any time they wished, or change their answers, up until the data analysis begins.
3. RESULTS

3.1. Validity and Reliability of the Data
The opinions of five experts encompassing directors and leaders of organizations related to disabilities were considered by employing field testing, thus to endure the validity of the questionnaire. The directors of the organizations related to disabled people in Cyprus assisted with the development of the questionnaire, to ensure that the questionnaire measures what is supposed to measure, to ensure that the privacy of the respondents is protected, and to ensure that the questions addressed the objectives of this study and its results have a positive impact for these organizations’ members. A field test was used for collecting data from approximately 20 members of the sample organizations, to ensure the reliability of the questionnaire. To estimate the reliability of the items in the questionnaire, Cronbach's ($\alpha$) alpha was run on the data of the field-test of 20 respondents. Initially, Cronbach's ($\alpha$) alpha was run on variables that were considered to be naturally linked (correlated) to investigate the reliability and construct validity of the questionnaire, all having higher than 0.8 coefficient, indicating very high reliability.

3.2. Results
The study aimed at exploring the unemployment and underemployment status of individuals with physical disabilities in Cyprus, through the collection of primary data. The demographic characteristics of the sample, which included 117 responses that were collected using Qualtrics, comprised 50 males (42.7%) and 67 females (57.3%), out of which 35.9% had a visual disability, 6% had a neurological disability, 6.8% paraplegia, 8.5% quadriplegia, 2.6% dystrophy, 23.9% had absent limb or reduced limb function, and 13.7% other types of physical disability. Table 1 portrays the demographic characteristics of the sample responses.

| Table 1. Demographic Characteristics of the Sample. |
|-----------------------------------------------|
| Gender                                      |
| Male                                         |
| Frequency | Percent | Valid percent |
| 50 | 42.7 | 42.7 |
| Female | 67 | 57.3 | 57.3 |
| Total | 117 | 100 | 100 |
| Marital status                              |
| Single                                      |
| Frequency | Percent | Valid percent |
| 52 | 44.4 | 45.6 |
| Engaged/Married                             |
| Frequency | Percent | Valid percent |
| 54 | 46.2 | 47.4 |
| Divorced/Widowed                            |
| Frequency | Percent | Valid percent |
| 8 | 6.8 | 7 |
| Total | 114 | 97.4 | 100 |
| Missing                                     |
| System                                      |
| Frequency | Percent | Valid percent |
| 3 | 2.6 | |
| total | 117 | 100 | |
| Employment status                           |
| Unemployed                                  |
| Frequency | Percent | Valid percent |
| 49 | 41.9 | 42.6 |
| Full-time employed                          |
| Frequency | Percent | Valid percent |
| 51 | 43.6 | 44.3 |
| Part-time employed                          |
| Frequency | Percent | Valid percent |
| 11 | 9.4 | 9.6 |
| Full-time self-employed                     |
| Frequency | Percent | Valid percent |
| 2 | 1.7 | 1.7 |
| Part-time self-employed                     |
| Frequency | Percent | Valid percent |
| 2 | 1.7 | 1.7 |
| Total | 115 | 98.3 | 100 |
| Missing                                     |
| System                                      |
| Frequency | Percent | Valid percent |
| 2 | 1.7 | |
| total | 117 | 100 | |
| Type of company       | Public sector | 25 | 21.4 | 23.4 |
|----------------------|--------------|----|------|------|
|                      | Manufacturing/construction | 2 | 1.7 | 1.9 |
|                      | Education    | 3 | 2.6 | 2.8 |
|                      | Retailing    | 6 | 5.1 | 5.6 |
|                      | Nonprofit    | 15 | 12.8 | 14 |
|                      | Services     | 9 | 7.7 | 8.4 |
|                      | Agriculture  | 1 | 0.9 | 0.9 |
|                      | Banking/finance | 3 | 2.6 | 2.8 |
|                      | Healthcare   | 1 | 0.9 | 0.9 |
|                      | Other        | 42 | 35.9 | 39.3 |
| Total                | 107          | 91.5 | 100  |
| Missing System       | 10           | 8.5 |      |     |
| Total                | 117          | 100 |      |     |

| Occupational status  | Director/Chief executive | 2 | 1.7 | 1.7 |
|                      | Upper manager           | 1 | 0.9 | 0.9 |
|                      | Middle manager          | 2 | 1.7 | 1.7 |
|                      | Junior manager          | 4 | 3.4 | 3.5 |
|                      | Supervisor              | 14 | 12 | 12.2 |
|                      | Technical/Associate professional | 12 | 10.3 | 10.4 |
|                      | Clerical support worker | 16 | 13.7 | 13.9 |
|                      | Skilled worker          | 10 | 8.5 | 8.7 |
|                      | Unskilled worker        | 5 | 4.3 | 4.3 |
|                      | Unemployed              | 49 | 41.9 | 42.6 |
| Total                | 115          | 98.3 | 100  |
| Missing System       | 2            | 1.7 |      |     |
| Total                | 117          | 100 |      |     |

| Type of disability   | Visual disability     | 42 | 35.9 | 36.8 |
|                      | Neurological disability | 7 | 6 | 6.1 |
|                      | Paraplegia            | 8 | 6.8 | 7 |
|                      | Quadriplegia          | 10 | 8.5 | 8.8 |
|                      | Dystrophy             | 3 | 2.6 | 2.6 |
|                      | Absent limb/Reduced limb function | 28 | 23.9 | 24.6 |
|                      | Other                 | 16 | 13.7 | 14 |
| Total                | 114          | 97.4 | 100  |
| Missing System       | 3            | 2.6 |      |     |
| Total                | 117          | 100 |      |     |
Research question: What is the association between the type of disability and employment status of disabled people in Cyprus?

H1<sub>0</sub>—Type of disability does not significantly associate with the employment status of disabled people in Cyprus.
H1<sub>a</sub>—Type of disability significantly associates with the employment status of disabled people in Cyprus.

As the p-value .002 of the chi-squared shown in Table 2 is less than 0.05, a high association is identified between the two variables (type of disability and employment status) of disabled people in Cyprus, rejecting the null hypothesis and accepting the alternate hypothesis that the type of disability significantly associates with the employment status of disabled people in Cyprus.

Furthermore, when performing a cross-tabulation between the variables “type of disability” and “employment status,” the results revealed that people with visual disability and absent limb/reduced limb

| Statistic                                    | Std. Error |
|----------------------------------------------|------------|
| Mean                                         | 39.6       |
| Lower bound                                  | 37.93      |
| Upper bound                                  | 41.28      |
| 95% Confidence interval for mean             |            |
| 5% Trimmed mean                              | 39.53      |
| Median                                       | 38.5       |
| Variance                                     | 83.215     |
| Std. deviation                               | 9.122      |
| Minimum                                      | 20         |
| Maximum                                      | 59         |
| Range                                        | 39         |
| Interquartile range                          | 16         |
| Skewness                                     | 0.147      |
| Kurtosis                                     | −0.875     |

Table 2. Chi-Square Test.

|                                         | Value    | Df | Asymptotic significance (two-sided) |
|-----------------------------------------|----------|----|-------------------------------------|
| Pearson chi-square                      | 48.408<sup>a</sup> | 24 | 0.002                               |
| Likelihood ratio                        | 45.755   | 24 | 0.005                               |
| Linear-by-linear association            | 0.768    | 1  | 0.381                               |
| No. of valid cases                      | 114      |    |                                     |

<sup>a</sup> A total of 29 cells (82.9%) have expected count less than 5. The minimum expected count is 0.05.
Table 3. Employment Status and Type of Disability Cross-tabulation.

| Employment status | Type of disability |  |  |  |  |  |  |  |
|-------------------|--------------------|---|---|---|---|---|---|
|                   | Visual disability  | Neurological disability | Paraplegia | Quatraplegia | Dystrophy | Absent limb/reduced limb function | Other |
| Unemployed        | Count              | 12 | 4 | 5 | 8 | 3 | 13 | 3 | 48 |
|                   | Expected Count     | 17.7 | 2.9 | 3.4 | 4.2 | 1.3 | 11.8 | 6.7 | 48.0 |
|                   | Adjusted Residual  | -2.2 | .8 | 1.2 | 2.5 | 2.1 | .5 | -2.0 |
| Full-time employed| Count              | 27 | 0 | 3 | 2 | 0 | 11 | 8 | 51 |
|                   | Expected Count     | 18.8 | 3.1 | 3.6 | 4.5 | 1.3 | 12.5 | 7.2 | 51.0 |
|                   | Adjusted Residual  | 3.2 | -2.5 | -.4 | -1.6 | -1.6 | -.7 | .5 |
| Part-time employed| Count              | 3 | 2 | 0 | 0 | 0 | 4 | 2 | 11 |
|                   | Expected Count     | 4.1 | .7 | .8 | 1.0 | .3 | 2.7 | 1.5 | 11.0 |
|                   | Adjusted Residual  | -.7 | 1.8 | -1.0 | -1.1 | -.6 | 1.0 | .4 |
| Self employed full time | Count | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
|                   | Expected Count     | .7 | .1 | .1 | .2 | .1 | .5 | .3 | 2.0 |
|                   | Adjusted Residual  | -1.1 | 2.6 | -.4 | -.4 | -.2 | -.8 | 1.5 |
| Self employed part time | Count | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
|                   | Expected Count     | .7 | .1 | .1 | .2 | .1 | .5 | .3 | 2.0 |
|                   | Adjusted Residual  | -1.1 | -.4 | -.4 | -.4 | -.2 | -.8 | 3.5 |
| Total             | Count              | 42 | 7 | 8 | 10 | 3 | 28 | 16 | 114 |
|                   | Expected Count     | 42.0 | 7.0 | 8.0 | 10.0 | 3.0 | 28.0 | 16.0 | 114.0 |
function rank high in both unemployed and employed, either full-time or part-time employment. This information is portrayed in Table 3.

For the statistical test used, both assumptions are met, as both variables measured are at an ordinal or nominal level. In addition, the assumption that two variables should comprise two or more categorical independent groups is also met. No violations occurred.

4. DISCUSSION

This study used a chi-squared statistical test to address the research question with the corresponding hypotheses. The results indicate a significant association between the type of disability and the employment status of disabled individuals in Cyprus, rejecting the null hypothesis and accepting the alternate hypothesis, as the chi-square value is 48.408 and the p-value is .002, which is less than 0.05. In general, this study found that approximately 42% of the disabled people were unemployed, which is nearly the average of the two countries with a similar cultural and legal environment as Cyprus (Greece and the UK). Research has shown that the unemployment rate for disabled people is approximately 60% worldwide (Coffey et al., 2014; Parlalis, 2013; Snyder et al., 2010), while it is approximately 46.3% in Greece and 31.4% in the UK (ANED, 2013)—countries that have a similar cultural and legal environment as Cyprus.

Furthermore, the counts of the adjusted residuals indicate that a higher unemployment rate was expected (17.7) for people with visual disability than the actual (12), as well as a lower employment rate as full timers for the same group than actual: 18.8 was an expected count for full-time visually disabled and the actual was 27. As the Euroblind organization states, the average unemployment rate of blind and partially sighted persons of working age in the EU is over 75% (Euroblind, 2018); whereas, based on the study findings, approximately 28% of the people with a visual disability are unemployed. Although the unemployment rate in Cyprus is very high, still it is way below the EU rate. Similarly, another significant finding was that people with quadriplegia had an expected count of 4.2 for unemployment, and the actual was almost double, at 8. Lastly, 3.1 people with a neurological disability were expected to be full-time employed, and the actual count was 0. However, lack of data regarding these types of disability and employment make it burdensome in drawing further conclusions and discussion.

Initially, this study examined the association of the types of disability with the employment status because an association of these variables was identified in the literature as a worldwide phenomenon, especially in countries with similar cultural and legal environments, such as Greece and the UK. The data analysis revealed that the research question and hypotheses were logically formulated and confirmed that a similar situation exists in Cyprus, revealing that the types of disabilities are associated with the employment status.

Later, the results and implications of the study are discussed in detail, concluding with recommendations for practice and recommendations for future research.

RQ. What is the association between the type of disability and employment status of disabled people in Cyprus?

The analyzed results support the alternate hypothesis that the type of disability significantly associates with the employment status of disabled people in Cyprus. This association indicates that people with certain disability types have higher probabilities of being employed than others with different types of disability. For instance, people with paraplegia, quadriplegia, dystrophy, and neurological disabilities hold lower employment rates than other types of disability. Surprisingly, people with visual disability and people with absent limb/reduced limb function rank high in both unemployment and employment rates at an equal rate. A possible explanation for this is the fact that for both disability types, various tiers exist. For instance, the level of visual disability is determined by the visual acuity of the person. Therefore, it is assumed that people with low visual acuity might find it more difficult to be employed, whereas people with higher visual acuity, though considered visually disabled, might find it easier to be employed. However, this study does not consider the different levels or tiers of physical disability; therefore, more information and conclusions cannot be drawn based on the study results and findings; this can be further researched at a later stage.
The key finding contributing to the literature is the fact that the type of disability significantly associates with the employment status of disabled people in Cyprus, indicating that people with certain disability types (such as visual disabilities) have higher probabilities of being employed, compared to other people with different types of disability, such as paraplegia or dystrophy. There were no findings in the literature regarding disability types and employment. Therefore, this is considered a major finding of this study, and it should be further examined in future research.

4.1. Recommendations for Practice
The findings of the study raise awareness and understanding and provide evidence on the employment, unemployment, and underemployment status of people with physical disabilities in Cyprus. It is a fact that people with disabilities are underrepresented in the labor market because of their disability. As the results indicate high unemployment rates (42.6%), organizations supporting disabled people, as well as governmental agencies can work toward improving the current dismal situation. Therefore, practitioners including government offices should work toward this direction.

More specifically, the government could set a job quota in promoting the employment of disabled people in all organizations across all industries and not only in the public sector. Results show that most disabled people who are employed work in the public sector and other nonprofit organizations (34.2%); hence, other industries need to be motivated (i.e., tax incentives) to revise their workforce diversity policies and include disabled people in their workforce. Still, all these will have an effect provided disabled people want to find employment; the views of disabled people can be examined in future research.

4.2. Recommendations for Future Research
Numerous studies can be conducted as the continuity of this study. Initially, immediate future research steps should include conducting a similar study on a larger scale, by including not only people with more physical disability types, such as hearing disabilities, but also more types of disabilities in general, including mental disabilities, such as bipolar disorder. Additionally, research can be conducted for each disability type independently, examining whether the level, tier, or criticalness of a disability (i.e., the level of visual acuity) predicts variables such as employment, wage levels, or education.

Another exploration area is the legal environment regarding disabilities and employment discrimination in Cyprus. Future studies can examine whether the legislative provisions are implemented and exercised by private and public organizations. The personal view of disabled people should be considered as well when examining the practice of legislative provisions. Relative to this, a comparative analysis might be conducted on the legislative provisions of the European Union member states, or in other countries as well, such as the UK and the USA.

Finally, additional further qualitative studies can examine the views of disabled people with respect to the problems and obstacles they face in their effort to find employment and toward career progression, as well as their personal view on how society, in general, behaves toward people with disability.

5. CONCLUSIONS
The purpose of this correlational and regression study was to explore the unemployment and underemployment status of individuals with physical disabilities in Cyprus and examine the status’s association with demographic variables and type of disability. This study used correlation and regression analysis, as these are common techniques to measure the associations between quantitative variables, and examined whether two variables covary, as the developed hypotheses in the study have to do with cause and effect relationships and determined if one variable corresponds to a value of another variable. More specifically, chi-squared and ordinal regression analyses were used for answering the research question. The data collection included 117 disabled people in Cyprus and indicated that there is a significant association between the type of disability and the employment status of disabled people in Cyprus. That is, people with certain disability types have more chances to be employed than others. People with quadriplegia, paraplegia, and other related neurological disabilities have significantly lower opportunities to be employed compared to other disabled people, perhaps due to the severity of their disability.
These results are hugely significant for both academics and practitioners. For academics, results indicate a research gap and show that additional research needs to be conducted in relation to disabilities and employment, as it was suggested earlier in the recommendations for future research. For practitioners, results indicate that they will need to invest in enhancing the opportunities for employment and career advancement. The current research outcomes might serve as guidance to organizations employing people with disabilities thus to improve their overall performance and effectiveness, by re-engineering their policies and structure and for better exploitation of their disabled employees. The above statement will be accomplished by raising awareness and understanding of physical disability issues among management and staff members—colleagues of disabled people in various levels.

References

Academic Network of European Disability Experts. 2013. Report on the employment of disabled people in European Countries United Kingdom. Available at: http://www.disability-europe.net/content/aned/media/UK%20-%20ANED%202009%20Employment%20Report%20Final.pdf
Agovino M, Parodi G, Barajas GS. 2014. An analysis of disabled people and the labor market in Mexico. Latin American Research Review 49(2): 221-242. Available at: http://www.jstor.org/stable/43670180
Agovino M, Rapposelli A. 2014. Employment of disabled people in the private sector. An analysis at the level of Italian provinces according to article 13 of law 68/1999. Quality and Quantity 48(3): 1537-1552. http://dx.doi.org/10.1007/s11135-013-9851-3
Bakula AM, Kovacevic D, Sarilar M, Palijan ZT, Kovac M. 2011. Quality of life in people with physical disabilities. Colle-gium Anthropologicum Journal 2: 247-253. Available at: http://www.ncbi.nlm.nih.gov/pubmed/22220446
Brakewood B, Poldrack RA. 2013. The ethics of secondary data analysis: considering the application of Belmont principles to the sharing of neuroimaging data. NeuroImage 82: 671-676. http://dx.doi.org.proxy1.ncu.edu/10.1016/j.neuroimage.2013.02.040
Burke J, Bezyak J, Fraser RT, Pete J, Ditchman N, Chan F. 2013. Employers’ attitudes towards hiring and retaining people with disabilities: a review of the literature. The Australian Journal of Rehabilitation Counselling 19(1): 21-38. http://dx.doi.org/10.1017/jrc.2013.2
Caceres LR, Caceres SA. 2015. Underemployment in Latin America. The Journal of Developing Areas 49(3): 293-322. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1711498841?accountid=28180
Coffey M, Coufopoulos A, Kinghorn K. 2014. Barriers to employment for visually impaired women. International Journal of Workplace Health Management 7(3): 171-185. http://dx.doi.org/10.1108/JIWHM-06-2013-0022
Disability Overview. 2016, September 21. Available at: http://www.worldbank.org/en/topic/disability/overview#1
Euroblind. 2018. Facts and figures. Available at: http://www.euroblind.org/about-blindness-and-partial-sight-facts-and-figures
Eurostat. 2015. Disability Statistics. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Disability_statistics_-_labour_market_access
Fabian E, Beveridge S, Ethridge G. 2009. Differences in perceptions of career barriers and supports for people with disabilities by demographic, background and case status factors. Journal of Rehabilitation 75(1): 41-49. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/236401958?accountid=28180
Folguera C. 2014. Women with disabilities. Equality, Diversity and Inclusion: An International Journal 33(8): 776-788. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1629988410?accountid=28180
Graf MN, Marini I, Blankeship CJ. 2009. One hundred words about disability. Journal of Rehabilitation 72(2): 25-34. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/236273667?accountid=28180
Hardy SA. 2014. Using open-source data to identify participation in the illicit antiquities trade: a case study on the Cypriot civil war. European Journal on Criminal Policy and Research 20(4): 459-474. http://dx.doi.org.proxy1.ncu.edu/10.1007/s10610-014-9250-x
Hashim J, Wok S. 2014. Predictors to employees with disabilities’ organizational behavior and involvement in employment. Equality, Diversity and Inclusion: An International Journal 33(2): 193-209. http://dx.doi.org/10.1108/EDI-03-2012-0018
Hernandez B, McDonald K. 2010. Exploring the costs and benefits of workers with disabilities. Journal of Rehabilitation 73(3): 15-23. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/613994968?accountid=28180
Hodges KE, Sulmasy DP. 2013. Moral status, justice, and the common morality: challenges for the principlist account of moral change. Kennedy Institute of Ethics Journal 23(3): 275-296. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1444273967?accountid=28180
Holwerda A, Brouwer S, de Boer MR, Groothoff JW, van der Klink J JL. 2015. Expectations from different perspectives on future work outcome of young adults with intellectual and developmental disabilities. Journal of Occupational Rehabilitation 25(1): 96-104. http://dx.doi.org/10.1007/s10926-014-9528-3
Honey A, Kariuki M, Emerson E, Llewellyn G. 2014. Employment status transitions among young adults, with and without disability. Australian Journal of Social Issues 49(2), 150-171. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1549564308?accountid=28180
Jang Y, Wang Y, Lin M. 2014. Factors affecting employment outcomes for people with disabilities who received disability employment services in Taiwan. Journal of Occupational Rehabilitation 24(1): 11-21. http://dx.doi.org/10.1007/s10926-013-9433-1
Jans LH, Kaye HS, Jones EC. 2012. Getting hired: successfully employed people with disabilities offer advice on disclosure, interviewing, and job search. Journal of Occupational Rehabilitation 22(2): 155-165. http://dx.doi.org/10.1007/s10926-011-9336-y
Kelleher JP. 2014. Beneficence, justice, and health care. Kennedy Institute of Ethics Journal 24(1): 27-49. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1523893837?accountid=28180
Kulkarni M, Kote J. 2014. Increasing employment of people with disabilities: the role and views of disability training and placement agencies. Employee Responsibilities and Rights Journal 26(3): 177-193. http://dx.doi.org/10.1007/s10672-013-9216-z
McDowell C, Fossey E. 2015. Workplace accommodations for people with mental illness: a scoping review. Journal of Occupational Rehabilitation 25(1): 197-206. http://dx.doi.org/10.1007/s10926-014-9512-y
McDowell C, Fossey E. 2015. Workplace accommodations for people with mental illness: a scoping review. Journal of Occupational Rehabilitation 25(1): 197-206. http://dx.doi.org/10.1007/s10926-014-9512-y
Ministry of Labor and Social Insurance. 2013. Final report of Cyprus on the United Nations convention on the rights of persons with disabilities. Available at: https://www.google.com.cy/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=5&ved=0CB0QFjAAhUKEwifaIjwAhWLBQKHYMMCoU&url=http%3A%2F%2Fwww.mlsi.gov.cy%2Fmml%2Fdis%2Fddis%2Fdsdis.nsf%2F28A85F2084E262C2257A7C002CEBC5%2F%24file%2FFINAL%2520First%2520ON%2520Report%2520on%2520the%2520UNCPRD.doc&usg=AFQjCNHucByXvd1UfQJ3TPTTYr9IGre5A&bvm=bv.104819420,d.bGQ[10th October 2015].
Novak J. 2015. Raising expectations for U.S. youth with disabilities: federal disability policy advances integrated employment. CEPS Journal: Center for Educational Policy Studies Journal 5(1): 91-110. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1674473452?accountid=28180
Omar YS. 2013. Work stimulates you to think about your future: the importance of employment during social integration from the perspectives of young Somali men living in Australia and USA. New Zealand Journal of Employment Relations (Online) 38(1): 42-54. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1512531528?accountid=28180
Papadopoulos I, Kouta C, Malliarou M, Shea S, Apostolara P, Vasiliou M. 2016. Exploring the cultural aspects of compassion in nursing care: a comparative study of Greece and Cyprus. International Journal of Caring Sciences 9(2): 471-480. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1817087767?accountid=28180
Papworthtrust. 2014. Disability in the UK, 2014. Available at: http://www.papworthtrust.org.uk/sites/default/files/UK%20Disability%20facts%20and%20figures%20report%202014.pdf
Parlassi SK. 2013. Legal framework against disability discrimination at work in Cyprus. Equality, Diversity and Inclusion: An International Journal 32(4): 426-437. http://dx.doi.org/10.1108/EDI-07-2012-0055
Riddell S, Edward S, Weedon E, Ahlgren L. 2010. Disability, skills and employment: a review of recent statistics and literature on policy and initiatives. Available at: http://www.equalityhumanrights.com/sites/default/files/documents/research/disability_skills_and_employment.pdf [19th November 2015].
Roessler R, Rumrill P, Hennessey M, Nissen S, Neath J. 2011. The employment discrimination experiences of adults with multiple sclerosis. Journal of Rehabilitation 77(1): 20-30. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/848185443?accountid=28180
Schooley BL, Feldman SS, Alnosayan NS. 2012. Development of a disability employment information system: an information systems design theory approach. E - Service Journal 8(2): 57-83, 106. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1356913267?accountid=28180
Sciulli D, de Menezes AG, Vieira JC. 2012. Unemployment duration and disability: evidence from Portugal. Journal of Labor Research 33(1): 21-48. http://dx.doi.org/10.1007/s12122-011-9120-y
Sing DD. 2012. Promoting the employability and employment of people with disabilities in the South African public service. Public Personnel Management 41(1): 161-171. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1664901523?accountid=28180
Snyder LA, Carmichael JS, Blackwell LV, Cleveland JN, Thornton III GC. 2010. Perceptions of discrimination and justice among employees with disabilities. Employment Responsibility Rights Journal 22: 5-19. http://dx.doi.org/10.1007/s10672-009-9107-5
Suarez-Balcazar Y, Lukyanova VV, Balcazar F, Ali A, Morton D, Alvarado F. 2013. Employment outcomes of community rehabilitation providers. Journal of Rehabilitation 79(1): 11-18. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1283771010?accountid=28180

Sun W, Wilson MG, Schreiber D, Wang RH. 2017. Ethical challenges related to assistive product access for older adults and adults living with a disability: a scoping review protocol. Systematic Reviews. http://dx.doi.org.proxy1.ncu.edu/10.1186/s13643-017-0419-5

Vickers MH. 2009. Bullying, disability and work: a case study of workplace bullying. Qualitative Research in Organizations and Management: An International Journal 4(3): 255-272. http://dx.doi.org/10.1108/17465640911002536.

Vornholt K, Uitdewilligen S, Nijhuis FJN. 2013. Factors affecting the acceptance of people with disabilities at work: a literature review. Journal of Occupational Rehabilitation 23(4): 463-475. http://dx.doi.org/10.1007/s10926-013-9426-0

Ward A, Moon N, Baker PMA. 2012. Functioning, capability and freedom: a framework for understanding workplace disabilities. Employee Responsibilities and Rights Journal 24(1): 37-53. http://dx.doi.org/10.1007/s10672-011-9174-2

Wehman P, Chan F, Ditchman N, Kang H. 2014. Effect of supported employment on vocational rehabilitation outcomes of transition-age youth with intellectual and developmental disabilities: a case control study. Intellectual and Developmental Disabilities 52(4): 296-310. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1562170458?accountid=28180

World Health Organization. 2012. Disabilities. Available at: http://www.who.int/topics/disabilities/en/

World Health Organization. 2015. Disability and health. Available at: http://www.who.int/mediacentre/factsheets/fs352/en/

World Report on Disability. 2011. The Lancet 377: 1977-2054. Available at: http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)60844-1/fulltext?rss=yes. http://dx.doi.org/10.1016/S0140-6736(11)60844-1

Yesilada B. 2016. Protectorate Cyprus: British imperial power before WWI. International Journal of Turkish Studies 22(1): 190-192. Available at: http://search.proquest.com.proxy1.ncu.edu/docview/1888979299?accountid=28180

Zheng Q, Tian Q, Hao C, Gu J, Tao J, et al. 2016. Comparison of attitudes toward disability and people with disability among caregivers, the public, and people with disability: findings from a cross-sectional survey. BMC Public Health 16. http://dx.doi.org.proxy1.ncu.edu/10.1186/s12889-016-3670-0