

## Quality of Life in University Students with Disabilities: Systematic Review

*Calidad de vida en estudiantes universitarios con discapacidad:  
revisión sistemática*

*Qualidade de vida em universitários com deficiência: revisão sistemática*

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### Abstract

The purpose of this systematic review was to identify the studies carried out through time referring to the quality of life of university students with disabilities, instruments used to measure it, as well as the setting where those were applied. The search was done through EBSCO, SAGE Journals, SCOPUS, and RedALyC databases, and studies from 1994 to 2016 were found. Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) and quality assessment were used in the 6 selected papers. Studies reveal quality of life and higher education students with disabilities are a scarcely studied coupling which generates invisibility in academic terms.

**Keywords:** disability, quality of life, university.

## Resumen

El propósito de esta revisión sistemática fue identificar los estudios realizados a lo largo del tiempo referido a la calidad de vida de los estudiantes universitarios con discapacidad, los instrumentos utilizados para medirlo y el entorno en el que se aplicaron. La búsqueda se realizó a través de las bases de datos EBSCO, SAGE Journals, SCOPUS y RedALyC, y se encontraron estudios de 1994 a 2016. Se utilizó la metodología PRISMA y se evaluó la calidad en los 6 artículos seleccionados. Los estudios revelan que calidad de vida y universitarios con discapacidad es un binomio poco estudiado que genera invisibilidad en términos académicos.

**Palabras clave:** discapacidad, calidad de vida, universidad.

## Resumo

O objetivo desta revisão sistemática foi identificar os estudos realizados ao longo do tempo sobre a qualidade de vida de universitários com deficiência, os instrumentos utilizados para mensurá-lo e o ambiente em que foram aplicados. A busca foi realizada através das bases de dados EBSCO, SAGE Journals, SCOPUS e RedALyC, e os estudos foram encontrados de 1994 a 2016. A metodologia PRISMA foi utilizada e a qualidade foi avaliada nos 6 artigos selecionados. Os estudos revelam que qualidade de vida e universitários com deficiência é um binômio pouco estudado que gera invisibilidade em termos acadêmicos.

**Palavras-chave:** deficiência, qualidade de vida, universidade.

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## Introduction

Inclusion in mainstream education has risen awareness in improving the quality of opportunities for students with disabilities. According to the Organization for Economic Co-operation and Development (OECD), there has been a noticeable rise in the enrolment of people with disabilities in higher education (OECD, 2003). With the increased participation of students with disabilities in universities, it is important to examine their quality of life, as

they have unique assets and challenges in relation to others. Most of the summarized research on disability focuses on the experiences of students with physical disabilities in the college environment (Cortés, Hollis, Amick, & Katz, 2002; Gelbar, Madaus, Lombardi, Fagella-Luby, & Dukes, 2015; Gilson & Dymond, 2012; Madaus, 2011; Palmer & Roessler, 2000; Papisotiriou & Windle, 2012), which has generated a fragmented vision and approach regarding disability in research, as well as in intervention. However, the current tendency since 2010 is focusing on the whole population with disability, instead of impairments separately (Gelbar *et al.*, 2015).

The International Classification of Functioning, Disability and Health (ICF) defines disability as a term that covers a broad category of impairments, activity limitations and participation restrictions. It mirrors the interaction between individuals with a health condition (e.g. cerebral palsy, Down syndrome, and depression) and personal and environmental factors (e.g. negative attitudes, inaccessible transportation and public buildings, and limited social supports) (World Health Organization, 2017).

Quality of life (QOL) is a concept that reflects the subjective perception of each individual in relation to their degree of satisfaction with their living situations (Martín & Sánchez, 2016). According to Meeberg (1993), many authors referred to QOL without defining the concept, which made it unclear to know what they were referring to. Some examples of terms employed were life satisfaction, subjective well-being, self-report in health, health condition, mental health, happiness, adjustment, and vital values. Various authors have pointed out that it is difficult to consistently use the term “quality of life” and categorize QOL measures (Dijkers, 2007; Gill & Feinstein, 1994; Torrance, 1987).

QOL has been defined through time as an evaluation by the person involved, through multiple domains, global judgement, and function oriented (Post, 2014). The World Health Organization (WHO) defines QOL as an individual’s perception of their own position in life in the context of the culture and value systems in which they live in, and in relation to their goals, expectations, standards and concerns (WHO, 2017).

The current public policies promoted by the WHO for the whole world, defend a person with disability to have the same rights as any other person to have a full life within reach, thus deriving in general terms into an ideal QOL throughout their life course (WHO, 2017).

In academic contexts, the QOL of students with disabilities depends on several factors: accessibility and comprehension of the lectures, which is based on the choice of the subject studied as well as the student's ability to take notes properly and to understand the course, physical accessibility to the locations where the lectures are given, and the availability of financial assistance for students with disabilities (Nandjui *et al.*, 2008).

The presence of students with disabilities at university campuses has motivated researchers to know more about this occurrence and the creation of the services provided to these students. University students with disabilities present more difficulties than the general population, because not only do they have to deal with their own disability, but they must overcome architectural psycho-social barriers (Polo-Sanchez & López-Justicia, 2012).

The purpose of this systematic review is to identify the studies carried out through time referring to the QOL of university students with disabilities, the instruments used to measure quality of life, the setting where these were applied, and findings, as well as the recommendations derived therefrom.

## Method

A protocol is a vital component of the systematic review process for it ensures its prudent planning and documentation before the review starts (Moher, *et al.*, 2017). Preferred Reporting Items for Systematic Review and Meta-analysis Protocols was used to guarantee the quality of the systematic review since it reduces arbitrariness in decision-making when extracting and using data from primary research; in addition, it provides substantial transparency in the selection process of the papers and an opportunity for the review team to anticipate potential problems.

The research statement guiding this study was: “quality of life of university students with disabilities”. The search was held from April 1st through April 30th of 2017 and considered all of the articles found in the databases with the keywords, despite the year of publication. Only articles in Spanish and English were considered. The information sources considered for the search were EBSCO, SAGE Journals, SCOPUS, and RedALyC. Contact with supporting organizations and authors found in hand-searching was considered in order to potentiate the search.

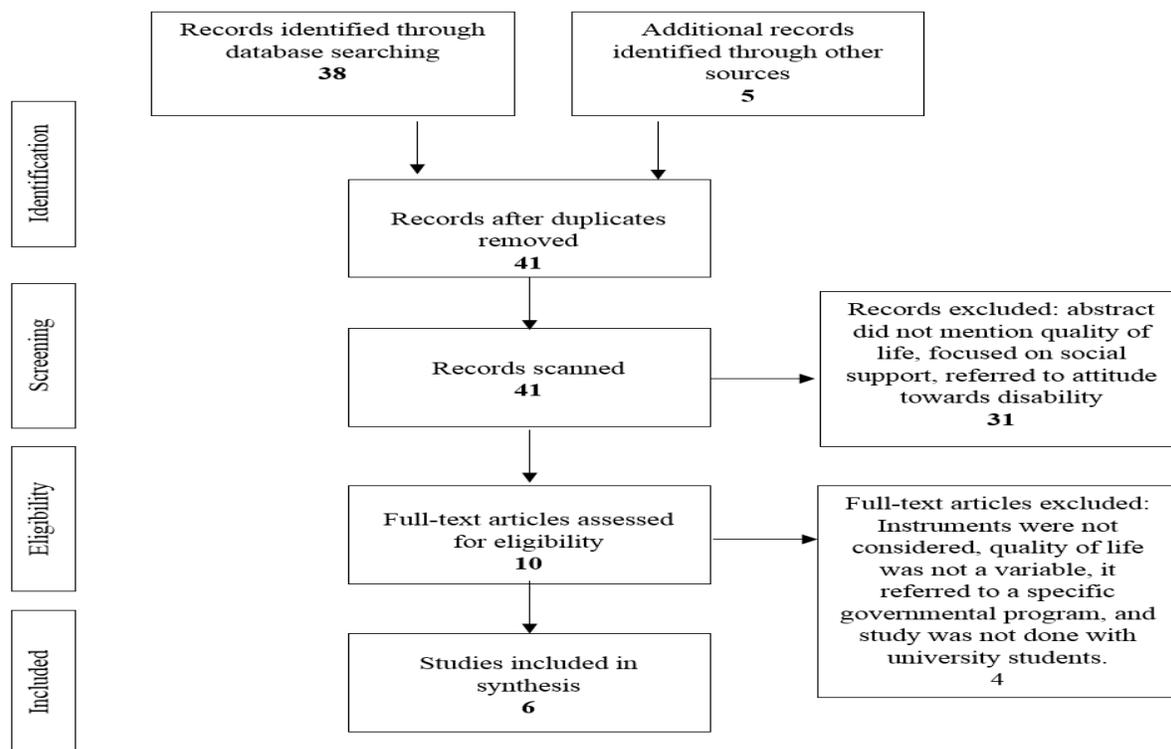
The keywords used in the search strategy were in English and in Spanish. They are described as follows: “quality of life” AND “university students with disability”, “quality of life” AND “disabled university students” OR “handicapped university students”, “quality of life” AND “impaired university students” OR “physically challenged university students”, “quality of life” AND “differently abled university students”, “quality of life” AND “disabled college students” OR “handicapped college students”, “quality of life” AND “impaired college students” OR “physically challenged college students”, “quality of life” AND “differently abled college students”, “calidad de vida” AND “estudiantes de nivel superior con capacidades diferentes” OR “estudiantes de nivel superior con necesidades especiales”, “calidad de vida” AND “estudiantes de nivel superior con necesidades educativas especiales” OR “estudiantes de nivel superior con discapacidad”, “calidad de vida” AND “universitarios con capacidades diferentes” OR “universitarios con necesidades especiales”, and “calidad de vida” AND “universitarios con necesidades educativas especiales” OR “universitarios con discapacidad”.

A summary table was used to register the following data: authors, year, title, setting/context, population characteristics, type of test, scale or instrument used to measure quality of life, theoretical basis, outcomes, and a quality assessment grade according to Hawker, Payne, Kerr, Hardey and Powell (2002).

The review team was conformed of three people. The first was the content expert, which knows about the variables studied in this systematic review. This same person and the second one were the searchers, which methodically searched for the articles, selected and discriminated them, and the last one was the methodologist, which helped with the grounding

in the methods involved in the process of developing, and writing out the systematic review. Inclusion and exclusion criteria was clarified as well as the meeting points for decision taking regarding the permanency of a study in the review.

**Figure 1.** PRISMA flow diagram, phases of the search and selection process of the identified articles on quality of life of university students with disabilities.



*Note:* Adapted from Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097. PRISMA= Preferred Reporting Items for Systematic Reviews and Meta-analysis

After going through the phases of the search and selection process, as illustrated in Figure 1, the six studies considered in this review provided all the data stipulated in the summary table and obtained a favorable result in the quality assessment with 30-36 points. The articles were double-blinded reviewed and 86.6% of concordance was obtained. In the case of studies reporting incomplete or ambiguous methods, a decision to exclude them was justified. Only full text articles of journals and academic journals were considered. Studies where QOL was not mentioned by its title or abstract were excluded, as well as studies that

mainly referred to educational models, professors or non-disabled university students' attitudes. In case the abstract mentioned QOL, but the article did not provide information needed to complete chart, the study was not considered.

## **Results**

A total of six articles were found. As shown in Table 1, the earliest study found in this systematic review was published in 1994, followed by another in 2007, and four more from 2011 to 2016. Studies were developed in Turkey, United States of America, Spain, Ivory Coast, Australia, and a collaboration project from Brazil and Spain. Four were in English and two in Spanish. Five studies were quantitative, and one, qualitative. From 1994 to 2011 the studies used the terms handicapped and physical impairment, and since 2012, the disability term was rather used.

**Table 1.** Summary of findings of articles regarding quality of life of university students with disabilities

Authors, year and country	Objective	Sample characteristics	Type of test, scale or instrument used in study	Findings
<b>Beaty (1994), United States of America</b>	To determine to which extent psychosocial adjustment and academic achievement of visually handicapped and non-handicapped college students were related and to which extent they were significantly different.	n=73 students, 30 visually impaired 43 without disability	The Coopersmith Self Esteem Inventory, The Social Provisions Scale	Correlational analysis and tests of group differences were done. There was no significant difference in psychosocial adjustment among both groups. Visually impaired students scored slightly higher on self-esteem as well as in the mean college GPA. This difference pointed to the possibility that visually impaired university students are motivated to be successful, at least in the academic domain, which contributes to their wellbeing.
<b>Nandjui, Alloh, Manou, Bombo, Twoolys, Pillah (2007), Ivory Coast</b>	To evaluate the quality of life of handicapped students integrated into the ordinary higher education system.	n=203 motor and sensory disabled students	Quality of Life Assessment, Life Satisfaction Questionnaire	The quality of life assessment's results stated that 63% of the students judged the classroom setting as dissatisfactory and 61% the lecture accessibility as satisfactory. More than 50% of the student had repeated at least a year in school. 66% of the students with disability considered their quality of life as being dissatisfactory.
<b>Koca-Atabey, Karanci, Dirik, Aydemir (2011), Turkey</b>	To investigate the psychological wellbeing of disabled Turkish university students by examining influences on stress-related growth and psychological distress.	n=70 students with physical impairment	Ways of Coping Questionnaire, Stress-Related Growth Scale, Multidimensional Scale of Social Support, Life Events Inventory, Brief Symptom Inventory	The correlation analysis showed that only having a disabled family member, helplessness coping and problem-solving coping were more positively related to growth. The regression analysis showed that disability burden, life events and helplessness coping appeared to be positively related to psychological symptoms, whereas problem-solving coping appeared to be positively related to the stress related growth. Successful problem-solving coping may enhance university students with disability's perception of growth.
<b>Polo, López-Justicia (2012), Spain</b>	Evaluate the differences in the self-concept of university students with disability compared to others without as well as analyze results by gender and type of disability.	n=102 students, 51 with visual, auditory and physical disabilities, 51 without disability	Escala de Autoestima AFA 5, Autoconcepto Forma 5	Results confirm that the presence of disability seems to be associated to a lower academic and emotional self-concept. Students with disability perceive themselves less competent in academic areas and negatively in general and specific emotional conditions. Despite the fact that men scored higher in emotional self-concept, no significant differences were found according to gender and presence of disability.
<b>Martín, Sánchez (2016), Spain-Portugal</b>	To analyze the debate among different members of the disability field which allowed the gathering of ideas they had	n=23 mixed sample including students with physical, motor, sensorial, mental and multiple	Structured debate	Global discourse was centered in the importance of a change in attitude in order to progress in participation. A lack of interdisciplinary nature among professionals affects the quality of life of the person with disability. Participants agree that the ideal professional's profile must include

	related to inclusion, quality of life, facilitating factors as well as day to day barriers they encounter.	disability, family and personnel in the administrative and educational services		qualities such as working in teams, being self-taught, having a certain degree of empathy, knowing how to transmit information, and having training in the diversity field.
<b>Dryer, Henning, Tyson, Shaw (2016), Australia</b>	To explore the relevance to, and connections with, academic achievement and non-academic aspects of psychological well-being, motivation to study and quality of life.	n=83 students with disability, 30 self-identified as having mental health disorder (MHD), 53 indicated a non-MHD	Motivated Strategies for Learning Questionnaire, WHOQOL-BREF, Depression Anxiety Stress Scale 21	The QOL sub-domain of social relationships was found to be a significant explanatory variable of students' GPA; engaging in university study has had a negative impact on the social relationships of students with disability. The two groups with disability did not significantly differ on the measures of academic achievement, motivation to learn and subdomains of QOL.

Source: Self-made

From the six articles found only three measured and evaluated specifically QOL, two were quantitative studies (Dryer, Henning, Tyson, & Shaw, 2016; Nandjui, et al., 2008) and the other qualitative (Martín & Sánchez, 2016). The three remaining evaluated social support, self-esteem and coping strategies of students with and without disability.

From the six studies analyzed, two of them were done with mixed samples of students with and without disability including, visual impairment, physical disability, deaf or hard of hearing, mental health conditions, intellectual disability, and sensory disability, the other three studies considered only disabled university students (Beaty, 1994; Dryer *et al.*, 2016; Koka-Atabey, Koranci, Dirik, & Aydemir, 2011; Martín & Sánchez, 2016; Polo Sanchez & López-Justicia, 2012; Nandjui, *et al.*, 2008). The quantitative studies considered samples ranging from 70 to 203 male and female participants, while the qualitative study considered 23 participants, including students with disability, family and personnel in administrative and educational services.

The instruments used in the quantitative studies were: Ways of Coping Questionnaire (Folkmas & Lazarus, 1980), Stress-Related Growth Scale (Park, Cohen, & Murch, 1996), Multidimensional Scale of Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), Life Events Inventory (Cochrane & Roberson, 1973), Brief Symptom Inventory (Derogatis & Melisaratos, 1983), Coopersmith Self Esteem Inventory (Coopersmith, 1967), Social

Provisions Scale (Cutrona & Russell, 1987), Escala de Autoestima AFA5: Autoconcepto Forma 5 (García & Musitu, 2014), Quality of Life Assessment and Life Satisfaction Questionnaire (The WHOQOL Group, 1995), Motivated Strategies for Learning Questionnaire (Pintrich & deGroot, 1990), WHOQOL-BREF (WHOQoL Group, 1998) and Depression Anxiety Stress Scale 21 (Lovibond & Lovibond, 1995). Three studies had the objective of obtaining information on QOL of higher education students with disabilities, and only two considered using an instrument specifically designed for this purpose. Most of the studies combined an instrument referring to QOL, and an instrument regarding social support and provisions.

The qualitative study used an exposition and a structured debate regarding disability topics related to different types of agents, including university students with disability, family, and professionals, as well as the training of professionals, and the weight of the participation of people with disability in society.

Two studies compared students with disabilities and students without disabilities. Four studies considered students with different types of disabilities, while the other two only focused on one type of disability, one on visually impaired, and the other one, on physical impairment. The qualitative study considered three types of groups in its sample, students with different disabilities, family and personnel in administrative and educational services.

The articles that merely studied QOL of university students with disability mentioned that students consider their QOL as being dissatisfactory (Nandjui, *et al.*, 2008) and a lack of interdisciplinary nature among professionals affects their QOL as well (Martín & Sánchez, 2016). Lower satisfaction in the QOL sub-domain social relations, was associated with higher education academic achievement, which signals that engaging in university study has had a negative impact on the social interaction of a student with disability (Dryer *et al.*, 2016).

The rest of the studies pointed out that by reducing daily difficulties for the university students with disabilities, as well as providing a more disability friendly environment, it is more likely to be empowering for them and to contribute to their wellbeing, by decreasing their burdens. Disability cargo, daily hassles and helplessness coping were significant

predictors of psychological symptoms (Koka-Atabey *et al.*, 2011). Moreover, in Spain, disabled students presented a lower level of academic and emotional self-concept (Polo Sanchez & López-Justicia, 2012). On the other hand, it was also demonstrated that university visually impaired students were highly motivated to succeed in the educational field (Beaty, 1994).

University students with disabilities tend to have difficulties with social interaction, such as being able to communicate problems with professors, classmates and administrative personnel (Polo Sanchez & López-Justicia, 2012). It is also observed that there are not only barriers related to physical accessibility at the university premises, but also problems with the course content and its delivery. Faced with these difficulties, students with disabilities consider their overall QOL to be unsatisfactory (Koka-Atabey *et al.*, 2011; Nandjui, *et al.*, 2008).

## Discussion

The purpose of this systematic review was to identify the studies carried out through time referring to the QOL of university students with disabilities, the instruments used to measure it, the setting where these were applied, as well as their findings.

There are two types of studies in this review: three articles that research specifically on the grouping of QOL and university students with disability, and three articles that shed light on university students with disability.

The combinations of instruments used in the analyzed studies demonstrate the significance that social support has had in disabled university students. It is important to mention that the instruments employed to obtain information on QOL were not all specifically designed to evaluate this construct, as only two considered this objective. However, the different uses of the term may allow the justification of applying other different instruments to obtain information on QOL. Moreover, due to the fact that the concept of Quality of Life is associated to other related terms, reported results are not always comprehensive and take into account a full view of the QOL of university students with

disabilities. Findings related to self-concept, for example, leave aside other important dimensions associated to QOL

The size of the samples of the studies done at university campuses were reduced and non-representative for each type of disability, which may affect the distinction of the perception of students of each different group (Dryer *et al.*, 2016; Polo Sanchez & López-Justicia, 2012). Each disability has its own and unique challenges depending on its proper condition and its interaction with the academic environment.

From the six studies selected for this systematic review, only one used qualitative methodology. Martín (2016) suggests the importance of doing qualitative research, characterized by its aims which relate to understanding singular subjects and contexts, in order to take a good glimpse of each phenomenon.

Regarding the barriers students face, studies reported here underline that the services provided by schools to university students with disabilities can allow or impede barriers that affect their quality of life. Barriers such as physical accessibility of the university premises are the first to be noticed. However, course content and delivery (Nandjui, *et al.*, 2008), lack of interdisciplinary nature among professionals (Martín & Sánchez, 2016) and need of counselling programs (Koka-Atabey *et al.*, 2011) are barriers that can be diminished with the participation of the personnel involved in providing school services. Greater education of both students with disability regarding to their rights and staff, their responsibilities and obligations may be needed to permit better conveyance of services (Dryer *et al.*, 2016).

Studies point out the need for universities to create a personalized education scheme that takes into consideration individual characteristics and helps with awareness programs for instructors, administrators and students (Nandjui, *et al.*, 2008; Polo, Fernandez, & Diaz, 2011). Coping training programs emphasizing in problem solving can facilitate the integration of students with disability, and therefore improve their quality of life (Koka-Atabey *et al.*, 2011).

A positive attitude towards the abilities of the student with disability should be fostered at early stages (Martín & Sánchez, 2016). A change in attitude allows progress in

participation and integration (Arias, Arias, Verdugo, & Jenaro, 2016; Martín & Sánchez, 2016; Nandjui, *et al.*, 2008), and diminishes attitudinal, physical, social barriers.

It seems evident that horizontal organizations are needed, focused on the achievement of personal results and searching for the improvement of QOL. These actions should be aligned with research and public policies. The human diversity training of professionals is fundamental, as well as coordination among them that gives a comprehensive approach as a result (Martín & Sánchez, 2016). In order to improve a disabled students' QOL, adequate financial support and an appropriate legislative environment are both required in order to motivate educational institutions to accept these students' needs and particular individualities (Nandjui, *et al.*, 2008).

## Conclusion

After reviewing the six studies found in this systematic review, it is evident that QOL and higher education students with disabilities are a scarcely studied coupling which generates invisibility in academic terms. It is suggested that future studies consider a more holistic perspective of the QOL of the student as well as the factors that contribute to it. Understanding that each student has his or her own specific conditions, in-depth studies are advised to be undertaken.

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### Declaration of Interest

No potential conflict of interest was reported by the authors.

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