

A Review of Academic Satisfaction Based on Knowledge Mapping Analysis

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Abstract

Academic satisfaction is a self-integrated evaluation of students' academic quality, a breakthrough in the overall improvement of education quality, and has multiple values. However, there is little research that examines the dimensions of academic satisfaction for both researchers and teaching-related staff and lack of reviews of academic satisfaction over the last ten years. This paper aims to provide a comprehensive analysis of the research of Academic satisfaction material to initiate an evidence-based discussion on the development of academic satisfaction in the education field. Using CiteSpace V software based on the data from WOS, findings from the keyword co-occurrence graph of the existing literature show that the characteristics of academic satisfaction research over the last ten years are: 1) the research objects involve students of all levels; 2) the studies generally focus on students' mental health and well-being; 3) the validation of the research model.

Keywords

Academic Satisfaction; Knowledge Map; CiteSpace; Review.

1. Introduction

Academic satisfaction (AS) refers to the subjective evaluation of the whole educational experience, and it is defined as a psychological state that results from the confirmation or not of the students' expectations regarding their academic reality Ramos et al. (2015). Students are the primary stakeholders in schools at all levels and academic satisfaction surveys are not only a measure of student satisfaction but also a self-reflective survey for schools at all levels (Chen & Fan, 2021). Student satisfaction assessment results can accurately reflect where students' expectations have not been met, identify the characteristics of the distribution of student academic satisfaction and problems, and provide information to improve student satisfaction and education quality (Liu, 2014). There is much research that concerning academic satisfaction but lack of reviews of research on it. This paper uses the CiteSpace V developed by Dr. Chen Chaomei to visualise the data and draw up a knowledge map with the keyword "academic satisfaction" as the main content, to analyse the current situation of academic satisfaction research, with a view to understanding the latest trends of academic satisfaction and providing a reference for subsequent research in this field.

2. Overview of Search Result

Web of Science Core Collection was used as the search database, with "academic satisfaction" as the subject term and "article" as the source, 143 articles from the period 2010-2021 were searched. After manually reviewing each article, all 143 articles were related to academic satisfaction and showed the following trends.

1. Research interest has remained stable and has increased from year to year (as shown in Figure 1). Over the past decade, research addressing academic satisfaction has grown year by

year and has become more popular among academics. In 2020, it peaked at 24 articles, accounting for 16.8% of the total articles in the last decade. By September 2021, 20 academic satisfaction articles had been published, and it is likely that academic satisfaction research will reach a new high by the end of this year. Secondly, data over the last decade shows that the article published annually has remained constant, suggesting that academic satisfaction is of great interest and has become a more interesting research topic for academics.

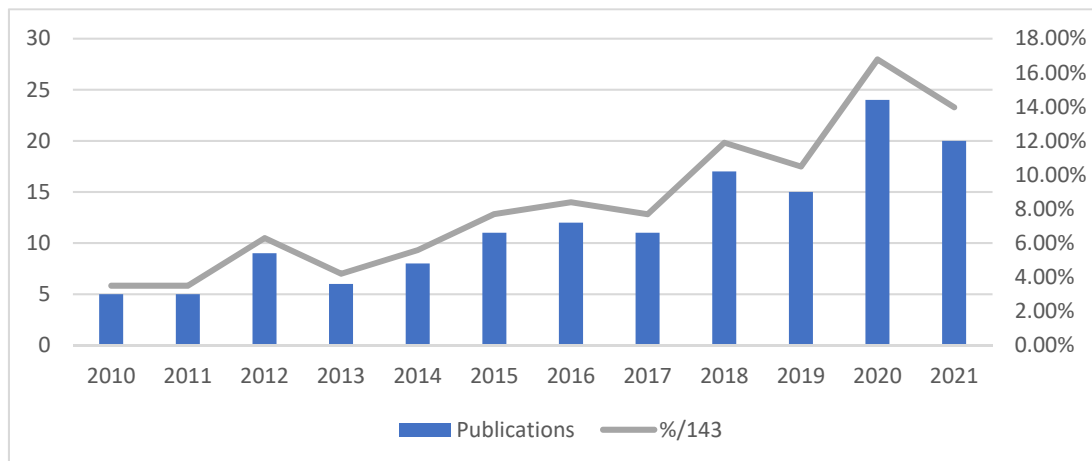


Figure 1. Statistics of AS publications from 2010 to 2021

2. The research is mainly based on empirical research and there is a lack of review articles. According to the type of document, the 143 papers consisted of 122 articles (85.3%), 16 proceedings papers (11.2%), 8 early access papers (5.6%), 3 meeting abstracts (2.1%), 1 correction paper (0.7%) and 1 review paper (0.7%) as shown in Figure 2. There was only one review of academic satisfaction, and that concerned nursing students (Rossini et al., 2021).

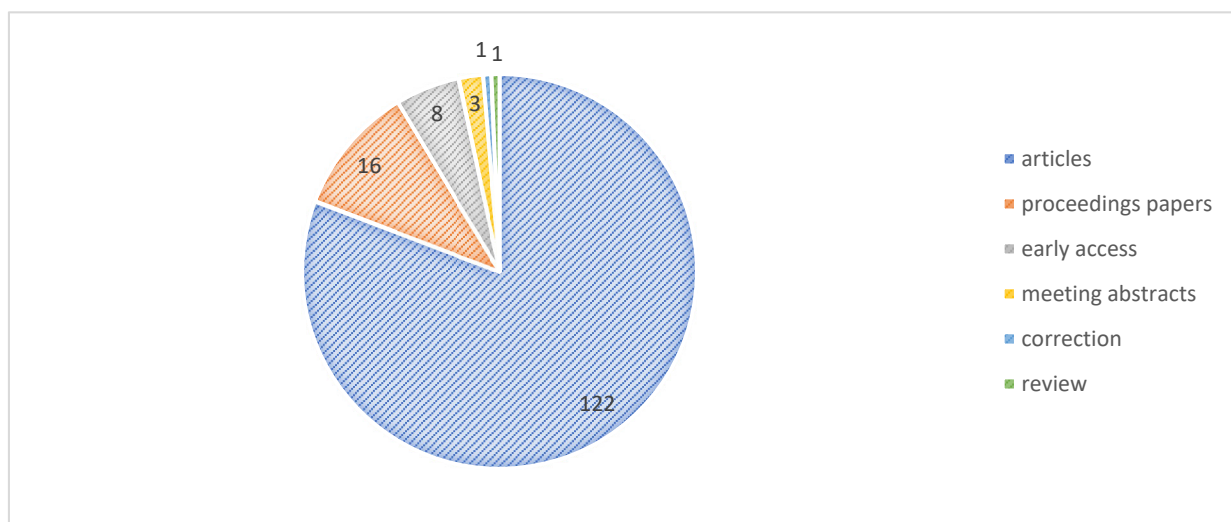


Figure 2. Statistics of AS publications according to document types (2010-2021)

3. Research areas according to WOS categories are mainly related to the two main disciplines of psychology and education. The specific top ten research areas in the last eleven years are shown in Table 1 below. Besides psychology applied (52), education educational research (25), psychology education (23) and psychology multidisciplinary (18) areas have more than double digits articles, the rest areas only have few articles, like nursing (6), social sciences

interdisciplinary (6), education scientific disciplines (5), environmental science (5), psychology clinical (5) and psychology social (5).

Table 1. Statistics of AS publications according to research Field (2010-2021)

Research Field	Record Count	% of 143
Psychology Applied	52	36.36%
Education Educational Research	25	17.48%
Psychology Educational	23	16.08%
Psychology Multidisciplinary	18	12.59%
Nursing	6	4.20%
Social Sciences Interdisciplinary	6	4.20%
Education Scientific Disciplines	5	3.50%
Environmental Sciences	5	3.50%
Psychology Clinical	5	3.50%
Psychology Social	5	3.50%

3. Academic Satisfaction Research Hotspots

Keywords are the core summary of an essay and their analysis provides a glimpse into the topic of the essay. Several keywords given in a paper must be related in some way, and this relationship can be expressed in terms of the frequency of co-occurrence. It is generally accepted that the greater the number of occurrences of a word pair in the same document, the closer the relationship between the two topics. Cooccurrence analysis uses the co-occurrence of lexical pairs of noun phrases in a collection of literature to determine the relationship between topics in the discipline represented by that collection.

This paper used the data searched from WOS core collection and imported it into CiteSpace V, other relevant nodes were set up and the node was run with the same selection of “keyword”, resulting in the keyword co-occurrence graph shown in Figure 3 and the high frequency keywords shown in table 2.

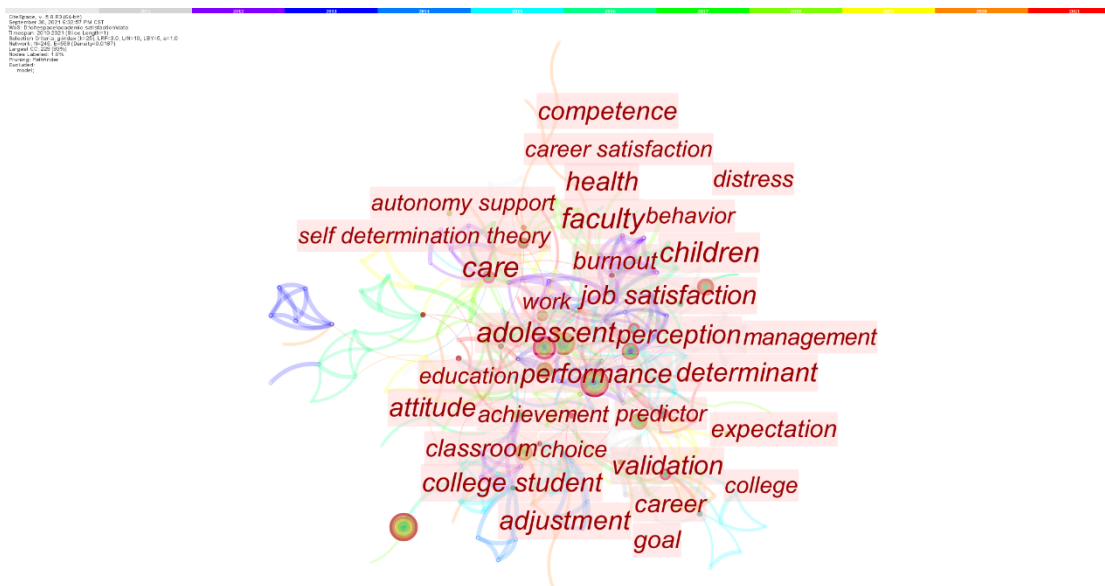


Figure 3. Academic Satisfaction Keywords Co-occurrence Graph

Table 2. Statistics of high-frequency keywords of AS

No.	Keyword	Count	No.	Keyword	Count
1	performance	28	11	work	12
2	adolescent	23	12	gender	12
3	achievement	22	13	burnout	11
4	care	20	14	education	11
5	motivation	20	15	job satisfaction	11
6	perception	19	16	college student	11
7	predictor	15	17	life satisfaction	11
8	student	15	18	social cognitive predictor	10
9	self-efficacy	15	19	faculty	10
10	validation	13	20	adaptability	9

The research on academic satisfaction summarised in the Figure and Table focuses on the following aspects:

(1) Comprehensive Study Subjects

Figure 3 and Table 2 above show that the main sources of academic satisfaction cover all levels of education, as shown by “education”, “college student”, “adolescent” and “children”.

A longitudinal comparison shows that academic satisfaction among children (7 articles) and secondary school students (3 articles) is less studied and is related to external factors or environmental factors, such as family, friends, living environment, and school (Cheon et al., 2020). Wong and Siu (2017) found in a study of 221 secondary school students in Hong Kong that school climate significantly predicted academic satisfaction. Qiao et al. (2019) conducted empirical research on 347 rural left-behind children in China and found that social tourism improves their academic satisfaction as well as their life satisfaction.

College students (84 articles) are the main subject of academic satisfaction research. From keywords such as “perception”, “motivation” and “expectation”, it can be seen that academic satisfaction research is mainly concerned with the individual factors of university students; investigating the factors that influence university students’ academic satisfaction; exploring how to improve the quality of higher education by increasing students’ academic satisfaction. Sanchez-Cardona et al. (2021) investigated 768 college students and concluded that learning-oriented students sustain the effort in academic achievement situations, contributing to academic satisfaction and performance. Hassani et al. (2017) showed in a survey on social support, self-efficacy, and academic satisfaction that there was a significant positive relationship between social competency, self-efficacy, and academic satisfaction with social support. Oliveira et al. (2020) surveyed 251 graduates of a public university in Brazil on self-efficacy in higher education and students’ academic satisfaction. The researchers found that the stronger the students’ self-efficacy, the more satisfied they were with their school. The study also highlights the importance of research focusing on the relationship between academic self-efficacy and academic satisfaction to improve the quality of higher education.

(2) Mental Health and Well-being

The high-frequency words “health”, “motivation”, “burnout”, “care”, “adjustment”, “goal”, “performance”, “achievement” reflect that research on academic satisfaction focuses on students’ mental health and well-being. Furthermore, ‘self-determination theory’(SDT) is combined with a scientific analysis of the well-being and mental health of specific majors. Vergara-Morales et al. (2019) analyzed the differences between motivational profiles concerning academic satisfaction based on SDT theory in 9 Chilean universities with 882

students aged from 17 to 50. They found that motivational factors are very important to facilitate the development of college students' well-being. In Zhang and Renshaw (2020)'s research, they examined the relationships between the Big Five personality traits and subjective well-being (SWB) of college students and found that the general factor of college well-being was best predicted by agreeableness and extraversion, while conscientiousness best predicted academic satisfaction and efficacy. They also showed that domain-specific measures of SWB are a good way to shed light on the relationships between personality and various aspects of college students' mental health.

(3) Validation of Model

The frequent occurrence of keywords such as "validation", "job satisfaction", "life satisfaction", and "work" in the above figure and table indicates that scholars are entering a new realm of academic satisfaction, namely validation models.

The Social Cognitive Model (SCM) was first introduced by Professor Lent is widely used in studies that examine issues related to academic satisfaction in work and life contexts. Professor Lent with other researchers has validated the model for different countries (Lent et al., 2018; Lent et al., 2017; Lent et al., 2012) and different professions (Lent et al., 2015). Researchers Arribas-Marin et al. (2021) applied the social cognitive model in the nursing clinical practicum to explain academic satisfaction in the clinical practicum and overall life satisfaction among Spanish nursing students.

As the only review paper in the WOS Core collection, Rossini et al. (2021) used Whittemore and Knafl's methodologies to define students' academic satisfaction, the existing theoretical models, and the variables involved in the satisfaction process of the research focusing on nursing students. But this paper used knowledge mapping analysis to visualize and interpret the characteristics of the academic satisfaction research focus on all levels of education.

4. Conclusion

Academic satisfaction is a research topic in the field of education. Therefore, it is not only in the interest of students but also in the interest of social development to improve the academic satisfaction of students theoretically and practically. From the above analysis, it can be seen that research on academic satisfaction is receiving increasing attention in different countries and from different stakeholders. A review of research on academic satisfaction over the past decade shows that research is becoming more specific and research methods are becoming more sophisticated. Since academic satisfaction, which is considered as a subjective feeling of all levels of students who have different characteristics at different times, future research will focus on a higher level of students' academic satisfaction, such as master and Ph.D. students. In the meantime, future research also can be done from the perspective of academic staff and teachers.

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