

## Social Support in Massive Open Online Courses: A Literature Review

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**Abstract:** Massive Open Online Courses (MOOCs) provide quality higher education resources for people around the world. It allows massive number of learners to gain access to free, virtual based open educational subjects offered by accredited and world recognized top ranking institutional. However, numerous studies show that MOOCs success was marred by low completion and high dropout rates. This study intends to identify and analyse the literature on the social support related factors influencing the utilization of MOOCs. Results from the review show that the relevant and related researches are extremely limited which call for further studies to be done on influence of social support on MOOCs usage. The review reveals that emotional support is the most identified social support factor included in MOOC studies from various perspectives followed by informational support. Tangible support and belonging support are the least to be included in the selected studies. This review reveals that more researches are required to identify the impact of social support factors in influencing the utilization of MOOCs among learners.

**Keywords:** social support, massive open online courses, literature review

### 1. Introduction

Over the past decade, many higher learning institutions have embarked in the new paradigm shift of offering online courses via various formats. The online learning has never been more relevant especially during the recent outbreak of Covid-19 that struck the world. MOOCs have been the key player in cushioning the impact of the pandemic that affected industries and businesses, including educations. Top MOOC providers have offered free courses as part of their Corporate Social Responsibility program to anyone whose education has been greatly impacted by the pandemic.

Although MOOCs are currently seen as the perfect alternative to quality education, past studies showed that MOOCs are flawed with low completion and high dropout rates (Yang et al., 2013; Khalil and Ebner, 2014; Hussain et al., 2016; Liyanagunawardena et al., 2014; Veletsianos and Shepherdson, 2016). Student dropout in MOOCs is a key interest to be concerned about in the higher learning institutions and among policy makers which was mainly triggered by issues beyond the control of the institutions (Aldowah et al., 2019). Out of the 90% dropout rates, among the reasons given were due to having no one to turn to and feeling of isolation (Hew and Cheung, 2014; Khalil and Ebner, 2014).

Past studies showed the significance of social support in learning. A study on Social Support for Online Learning: Perspectives of Nursing Students (Munich, 2014) concluded that social support constructs which are informational, instrumental (tangible), emotional, and affirmational (belonging) were crucial for nursing students to achieve completion in their online courses. Preliminary findings from a research work on the role of social support for online distance learning among rural high school students in the United States indicated that the group of students who received social support has a substantially lesser dropout rate (Keane et al., 2008).

Social support is described as the social means that one sees as accessible or given to them by someone non-professional on the perspective of formal or informal support groups and aids (Gottlieb and Bergen, 2010). It consists of several factors which include emotional, instrumental (tangible), appraisal (belonging), and informational constructs (House et al., 1988; Barrera, 1986). Owing to the growing acceptance and recognition of electronic commerce and social network sites, online social support was proposed with emphasis given mainly to the connection among the receivers and providers which includes virtual contacts and outsiders (Chang, 2009; Hussain, 2016b; Coulson, 2005).

So far, there has been limited studies on the systematic literature review of social support related factors that influence the use of MOOCs. This review aims to present a systematic review of the published research works associated to the subject in the current studies and identify research directions that can be addressed in the future.

The review is organised along these lines: Section 2 comprises the review methodology of the systematic literature review procedure followed by Section 3 which shows the analysis of evidence to answer the research question. Section 4 depicts the discussion and lastly conclusion is shown in Section 5.

## 2. Review and Methodology

This study adopted the review strategy according to the guidelines on Systematic Literature Review (SLR) by Kitchenham and Charters (2007) and Okoli and Schabram (2010). The review process consists of three stages: planning, executing, and reporting stage.

### 2.1 Planning Stage

The planning stage activities consist of identifying research context, defining review protocol, and constructing research questions. The research question (RQ) for this review is ‘What are the social support related factors proposed in the existing studies on MOOCs?’

### 2.2 Executing Stage

Search strategy was done in the executing stage. The following key terms and mixed terms were used to search for relevant papers: “social support AND MOOCs”, and “social support theory AND MOOCs”. Papers were identified through searching two scholarly electronic databases including Scopus and Elsevier’s Science Direct and Google Scholar as a supporting database. The data were extracted based on the title and abstract information. The review process considered papers published between January 2008 and May 2020. Year 2008 was selected because it was the year when the term MOOC or Massive Open Online Course was first coined. All publications are to be published in English. Papers which did not conform with the criteria to be included in the review will be omitted.

To be included in the review, every paper must concentrate on MOOCs and not any other type of online learning or distance learning. This is because MOOCs have distinct characteristics compared to conventional online or distance learning such as the massiveness and the openness.

In the study selection process, the databases were searched using the identified key terms which returned a total of 60 related papers to be reviewed. The papers were then evaluated based on the abstract and their brief contents where duplicated and irrelevant papers were rejected. The selection process left only 29 relevant papers where filtering process was continued by employing quality assessment criteria as shown in Table 1. The purpose of the quality assessment was to make sure selected papers were complete and useful when extracting the data. The four questions (Q1-Q4) are in Table 1 with every question given three response choices: Yes = 1; Partially = 0.5; and No = 0.

**Table 1.** Quality Assessment Criteria

No.	Item	Answer
Q1	Is there an obvious explanation of the aims and objectives of the study?	Yes/No/Partially
Q2	Is the paper described the method of analysis appropriately and sufficiently?	Yes/No/Partially
Q3	Is the paper supported with primary data?	Yes/No/Partially
Q4	Is the proposed study evidently described?	Yes/No/Partially

Once the quality assessment was performed based on the given criteria, the final papers were selected as shown in Table 2. 7 papers were selected with 3 papers with Very Good and 4 papers with Good ratings. Only papers with Very Good and Good ratings were chosen to be added in the review.

**Table 2: Quality Assessment Results**

Quality Scale	Very Poor (<1)	Poor (1 - <2)	Good (2 - <3)	Very Good (3-4)	Total
# of papers	10	12	4	3	29
Percentage	35	41	14	10	100

### 2.3 Reporting Stage

The chosen papers were evaluated even more based on the RQ in the planning stage. Data associated to the RQ are reported in the Findings section.

### 3. Findings

The findings from the evaluation indicated that 7 papers were related to the subject. Although MOOCs were established since 2008, extremely limited studies were conducted on studying the influence of social support in participation of MOOCs. This can be seen from the papers selected where they were published ten years later with four out of the seven papers were published in 2019.

It is noted that some papers aimed to propose a model based on finding variables that are used to study the influencing factors on the use of MOOCs and others were employing empirical methods to explore the factors without modelling the identified variables. The papers could be divided into two clusters:

- i. Modelling the social support related variables that influence the utilization of MOOCs
- ii. Not modelling the social support related variables that influence the utilization of MOOCs

The categorization of the papers is illustrated in Table 3.

**Table 3.** Categorization of the Identified Papers

Category	Author(s) (Year)
i. Modelling the social support related variables	Aldowah et al., 2019; Nordina et al., 2019; Lambert, 2019; Wang et al., 2020; Hsuet al., 2018
ii. Not modelling the social support related variables	Kellogget al., 2014; Navío-Marco and Solórzano-García, 2019

From the review exercise, nine variables were identified which were related to social support constructs. Based on social support theory, four social support constructs are tangible support, emotional support, belonging support, and informational support. Table 4 shows the social support related variables identified from the studies while table 5 shows the classification of the variables based on social support constructs.

**Table 4.** Identified Variables and the Definitions from the Selected Studies

Identified Variables	Social Support Constructs	Definitions	Author(s) (Year)
i. Perceived Convenience	Tangible Support	Flexible and more adaptable learning is accessible via digital learning platform which can lead to reduction in cost and time saving.	Hsuet al., 2018
ii. Computer Self Efficacy	Emotional Support	Users who are facing mental health and emotional challenge can gain self confidence and problem-solving capability via digital learning platform.	
iii. Sense of Community	Belonging Support	A sense of belonging, a sense where participants are relevant to each other and to the group, and a mutual belief that participants' requirements and wants can be fulfilled via the obligations to be together (McMillan and Chavis, 1986)	
iv. Perceived Gains	Informational Support	The degree of conformity of standards owed to improvement and standards observed by existing users, which is, the degree of new information technology that is able to satisfy present needs, different prior encounters, standards, and life style of users (Chen and Chen, 2015)	
v. Learner Support	Emotional Support, Tangible Support, Informational Support	Supports in terms of academic, technical, and motivational from teachers, counsellors, colleagues, and social circles which learners are already familiar with.	Lambert, 2019

vi. Person-People Misfit	Emotional Support, Belonging Support, Informational Support	Person-people misfit which is a major concern due to the absence of support from peers in the utilization of ICT when performing tasks at work.	Wang et al., 2020
vii. Correspondence with Peers	Informational Support, Emotional Support	The connections between learners and the existence of acquaintances to take part in mutual group events	Navío-Marco and Solórzano-García, 2019
viii. Social Support	Emotional Support	Demonstration of understanding, affection, faith, and compassion from members of the family and friends.	Nordina et al., 2019
ix. Social Support	Emotional Support	Demonstration of reassurance and encouragement from their teachers, colleagues, loved ones, and organization irrespective of their intellectual abilities and backgrounds.	Aldowah et al., 2019
x. Peer Support	Informational Support	Giving guidance or information to support decision-making.	Kellogg et al., 2014
xi. Peer Support	Tangible Support	Giving useful support and resources.	

**Table 5.** Classification of Proposed Variables based on Social Support Constructs

Social Support Constructs	Proposed Variables
Tangible Support	Perceived Convenience Learner Support
Belonging Support	Sense of Community Person-People Misfit
Informational Support	Perceived Gains Learner Support Person-People Misfit Correspondence with Peers Peer Support
Emotional Support	Computer Self Efficacy Learner Support Person-People Misfit Correspondence with Peers Social Support Peer Support

#### 4. Discussions

One of the very distinct findings from the review is the limited studies on the influence of social support factors on the use of MOOCs although MOOCs have been around since 2008. The findings of this study found various variables proposed to study the effect of social support related factors in motivating the use of MOOCs. Nine variables were identified from the review which were then classified under one of the four social support constructs which are emotional support, informational support, tangible support, and belonging support. Three of the variables could be categorized under more than one constructs. For example, learner support variable from Lambert (2019) was defined as the multidimensional support in terms of academic, technical, and motivational from teachers, mentors, peers, and social networks which could fall under emotional support, informational support, and tangible support. In the study on technostress among students in the use of technology enhanced learning by Wang et al. (2020), person-people misfit could be classified under emotional support, informational support, and belonging support. Correspondence with peers derived from Navío-Marco and Solórzano-García (2019) classified under emotional support and informational support. It is also concluded that the completion and success of a MOOC course is straightforwardly and optimistically associated to the collaborations between learners and the existence of acquaintances to participate in mutual group events (Navío-Marco and Solórzano-García, 2019).

Based on table 5, most of the identified variables were classified under emotional support. Emotional support is giving empathy, concern, affection, love, trust, intimacy, encouragement, or caring (Langford et al., 1997). This followed by informational support which is described as the provision of advice, guidance, suggestions, or

useful information to someone (Wills, 1991). An empirical study by Lin et al., (2012) showed that informational and emotional support were the most demanded supports in online social networks.

Tangible support and belonging support were the least to be considered as social support constructs that influence the use of MOOCs from the review. Past study showed that tangible support has the minimal need in the online social networks (Liu and Hung, 2016) while belonging support is not a substantial influence and difficult to assess in the real world (Hsu et al., 2018) although it is easier to be accessed and observed in online environment (Nykviand Mukherjee, 2016). In a review of published research works on motivational factors that influence the utilization of MOOCs for continuing professional development, it concluded that employees are motivated to use MOOCs because of social motivation (Buyut et al, 2019) which includes social connections (Loizzo et al., 2017) and perceived sense of belongings (Koukis and Jimoyiannis, 2018).

## 5. Conclusion

Social support influence in MOOCs continues to be a new topic of study, evidently proven by the limited literature found in this review. Our contribution to this area of study is mainly motivated by the curiosity to study the influence of social support factors in the utilization of MOOCs among learners. The limitations of this study are the scarce number of researches on social support in MOOCs specifically. Given the importance of social support factors in online learning, this work explained that social support does contribute to better learning outcome in MOOCs. Therefore, more social support factors could be considered in designing MOOCs in the future. Social support thus could be taken as an important theory to further understand MOOC learning.

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