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Review

Academic advising in undergraduate education: A systematic review

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ABSTRACT

Objectives: The aim of this review is to describe academic advising schemes at the undergraduate level, examine the perspectives of advisors and advisees towards the schemes, and explore the implications of academic advising in undergraduate and nursing education.

Design: A systematic review was conducted of the protocol of PRISMA-P.

Data sources: Six electronic databases were searched for journal articles, namely, Academic Search Premier, CINAHL, ERIC, Medline, Teacher Reference Center, and Scopus.

Review methods: A total of 6189 articles were examined, and 37 empirical studies were included in the final review. The Mixed Methods Appraisal Tool (MMAT) was used to assess the eligibility of studies for inclusion in the review.

Results: The review involved summarizing and categorizing the components of existing academic advising schemes, analysing the perspectives of advisors and advisees, and identifying four aspects of the perspectives of advisees: their experiences, preferences, benefits gained from the scheme, and barriers to seeking help from advisors. Six issues relating to academic advising schemes were discussed: insufficient information about the schemes, the means of communication used in the process of advising, the issue of time management for both advisors and advisees, a lack of training for advisors, the evaluation of the outcomes of advising, and the implications for nursing education.

Conclusions: Advisors and advisees held positive views of the scheme. Academic advising benefited students and advisors, even as some barriers were identified. It is suggested that sufficient training, better time management, and the utilization of different tools for communication are needed to increase the effectiveness of academic advising. Further studies should be conducted to investigate the effects of different elements of the scheme on the outcome of advising.

1. Introduction

Academic advising (AA) is a programme or scheme that is widely used in educational systems to provide guidance and advice to students (Iatrellis et al., 2017). It has a significant influence on education systems, as it is defined as part of the processes of teaching and learning (Campbell and Nutt, 2008). AA is highly valued, and hence is commonly utilized in higher education institutions around the globe as a form of student support (Academic Advising Office, 2016; Advising Programs Office, 2018; Yale University, 2017). Because of the existence of diverse educational systems among institutions of higher education, students have the right to take any courses or select any majors that they want (Chang et al., 2016). This freedom of choice may give rise to difficulties in making decisions and distract students from realizing their academic goals. Therefore, the provision of academic advising can empower students to make decisions in line with their educational pathways and direct them in developing plans for a future career. In addition, the intensive and abstruse academic curricula in higher education institutions can induce a high level of stress in students (Barker et al., 2018) and affect their academic performance. Students can turn to academic advisors for assistance in resolving academic and personal issues (Cheung et al., 2017). Thus, AA is a useful form of support for students attending higher education institutions.

Academic advising is crucial for those enrolled in subjects associated with a relatively high level of stress, such as nursing education (Harrison, 2009). Nurses must have received a nursing education before registration, with graduation from an undergraduate nursing programme being a significant recognition of the successful attainment of this milestone (The Nursing Council of Hong Kong, 2018). The undergraduate curriculum is relatively demanding, which may cause nursing students to experience pressures related to their academic studies, clinical practicum, personal values, and professional development (Peate, 2012). The attrition rate in undergraduate nursing programmes is high (Merkley, 2015). Therefore, it is essential to help students

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reduce the stress that they feel and to improve the retention rate (Swearingen and Hayes, 2009) by implementing an AA scheme in undergraduate nursing education.

2. Literature review

Academic advising refers to the intentional interactions between representatives from institutions of higher education (advisors) and students (advisees), and the ways by which advisors provide guidance and support for students on issues relating to the students' personal growth, academic studies, career, and future aspirations (He and Hutson, 2016). The scheme is mainly implemented in undergraduate programmes, since most undergraduate students still require guidance in making decisions, given the diverse educational systems found among institutions of higher education. Undergraduate education requires students to acquire general and fundamental knowledge about their major field and to fulfil general studies requirements for completing a bachelor's degree, while in postgraduate education the focus is more on a particular field of the major (Arnold et al., 2015). A student's development can also be affected by the change in environment that they experience when entering an institution of higher education (Pargett, 2011). For instance, high school students are used to having a well-arranged timetable at school, and can feel overwhelmed by the need to arrange their own course schedules at university. Furthermore, nursing students would wish to receive advice on career choices in nursing and to know about the duties in different nursing specialties (Utley, 2010). Therefore, it is important to offer an AA scheme in undergraduate programmes, especially in nursing education.

Advisors and advisees are the two main parties involved in the process of advising; thus, it is necessary to understand their perspectives to obtain representative comments about the strengths and weaknesses of AA, which can then be used to devise a more comprehensive AA scheme in the future.

This paper presents the findings from a systematic review of the perspectives of advisors and advisees who have participated in undergraduate academic advising programmes in all academic disciplines. The scope of this study was not limited to nursing education because the number of primary research studies in this field is limited, as Mooring (2016) noted. It is important to understand the views of both key stakeholders from a broader perspective for the future development of AA in general, and to be able to profitably revisit current academic advising practices in nursing education in particular. No previous systematic review focusing on the precise topic of academic advising in undergraduate education was found in any of the available databases, revealing a knowledge gap that needs to be filled.

3. Aim and research questions

The aim of this systematic review was to describe academic advising schemes at the undergraduate level, examine the perspectives of advisors and advisees, and explore the implications of AA in undergraduate nursing education.

Research Question 1: How are existing schemes implemented?
Research Question 2: What are the perspectives of advisees on academic advising?
Research Question 3: What are the perspectives of advisors on academic advising?

4. Method

4.1. Research design

This systematic review was designed to assemble and draw comprehensive conclusions from the existing data, in order to provide advice on how to improve AA at the undergraduate level. The two considerations in planning this systematic review were that (a) no such review has been conducted according to the aims and research questions of this paper; and that (b) a systematic review is the optimal type of review for analysing, summarizing, and presenting the data that have been collected. PRISMA-P is a protocol containing items that are recommended for consideration in a systematic review; the checklist of PRISMA-P 2015 (Moher et al., 2015) was hence used to guide this review.

4.2. Information sources

Six electronic databases were selected for searching journal articles, namely, Academic Search Premier, CINAHL, ERIC, Medline, Teacher Reference Center, and Scopus.

4.3. Search strategy

A single keyword, ‘academic advising’, was used in the search process. This was because a preliminary search using synonyms for the schemes yielded results that were not directly related to the concept of AA schemes. Those synonyms, such as ‘mentor’, ‘counsel’, ‘student support’, and ‘preceptorship’ (Al-Ansari et al., 2015; Rossi et al., 2017; Smerz et al., 2016), refer to the similar concept of a much more experienced person giving advice to a less experienced person (Chan, 2016); however, in academic advising, the emphasis is on advice given by representatives from higher education institutions, which is not the case with the abovementioned synonyms. By contrast, articles that were specifically about AA used the term ‘academic advising’ explicitly in either the title, abstract, or keyword section. This single keyword approach has also been adopted in other systematic reviews (Machotka et al., 2015; Veisani et al., 2013).

4.4. Eligibility criteria

Qualitative, quantitative, and mixed-method primary studies were analysed in this systematic review. To generate significant insights, the data analysis only included studies in which the participants had actual experience with an AA scheme. To analyse up-to-date results on the subject, only studies published between 2008 and 2018 were included. Furthermore, the advisees in the studies were restricted to undergraduate students, while students from other types of higher education programmes, such as those offered in community colleges, were excluded. In addition, only research journal articles published in English were included.

4.5. Data management and selection process

The initial search of the literature identified 6189 articles (Fig. 1). Researchers reviewed the articles based on the criteria for inclusion and exclusion (Table 1). A calibration exercise was carried out before the formal screening process was conducted, in order to pilot and refine the screening questions and ensure consistency among the reviewers (Shamseer et al., 2015). After screening titles, abstracts, and contents, 34 articles remained to undergo a quality appraisal.

MMAT was used as a critical appraisal tool for assessing all types of research studies, including the quantitative, qualitative, and mixed-method studies examined in this review (Pluye et al., 2009). Details of the appraisal are given in Table 2. The process of selecting papers was undertaken by matching their contents with the MMAT checklist. Each article from the initial search was screened and its eligibility was assessed by at least two reviewers.

To ensure a more comprehensive and accurate search and to expand the coverage of the search, the researchers included three more articles that were found through a manual search of the reference lists of articles that were already deemed to be eligible and by consulting the experts at the National Academic Advising Association (NACADA), as

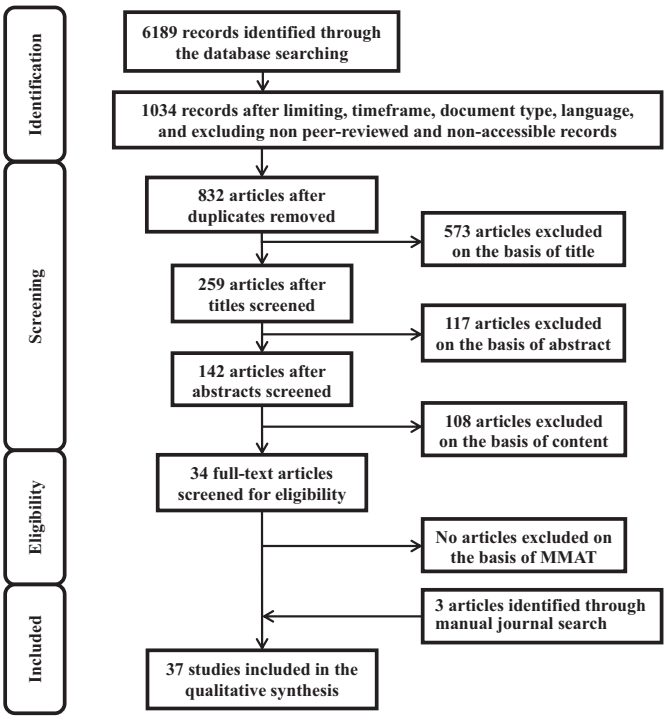

Fig. 1. Flow chart of the process of selecting the studies.

this association is highly recognized in the field of academic advising.

5. Results

As both qualitative and quantitative evidence was included, all of the information was turned into narrative data and presented qualitatively (Onwuegbuzie and Combs, 2011). The quantitative evidence was converted to narrative data based on the options given in the original rating scales. A total of 37 studies were included in the qualitative synthesis. The basic information in the articles has been summarized in Table 3. Most of the included studies were quantitative studies (n = 24), including descriptive (n = 22) and non-randomised studies (n = 2), followed by qualitative studies (n = 8) and mixed-method studies (n = 5). Most of the studies were conducted in Western countries, namely the USA (n = 27) and New Zealand (n = 2). Others were conducted in Asia (n = 7) and Africa (n = 1).

5.1. Sample

The great majority of the studies targeted advisees only (n = 30). Only a few studies focused solely on advisors (n = 3) and on both advisees and advisors (n = 4). The articles also included a broad range of sample sizes, ranging from 15 to 2745 for quantitative surveys, and 1 to 79 for qualitative focus groups or interviews. Six studies included undergraduate students majoring in health-related programmes, namely nursing (n = 3), dental surgery (n = 2), and occupational and physical therapy (n = 1). Others were in diverse disciplines (n = 12).

5.2. Design of academic advising schemes

Components of the design of an academic advising scheme, including the purpose and scope of the scheme, the theoretical framework, and the elements of the scheme, are shown in Table 4.

Most studies mentioned that their advising programmes were mainly academic in purpose and scope. For example, Buissink-Smith et al. (2010) stated that their programme focused on giving academic advice based on the needs, talents, and experiences of students. Apart from academic issues, personal and career issues were also found to have been included in academic advising. Studies have claimed that providing guidance in developing career goals and social skills is part of education (Van et al., 2016).

With regard to the theoretical framework, different advising models were utilized in the studies. Developmental advising was addressed in two studies (Coll, 2008; Hale et al., 2009), appreciative advising in one study (Truschel, 2008), and both developmental and appreciative advising in another study (Cunningham and Smothers, 2014). Six studies (Amador and Amador, 2014; Barnes and Parish, 2017; Buissink-Smith et al., 2010; Leach and Wang, 2015; Paul and Fitzpatrick, 2015; Soria et al., 2017) addressed other concepts such as out-of-class communication (OCC) (Leach and Wang, 2015), which is about encouraging informal advisor-advisee interactions outside of class hours.

On the elements of academic advising schemes, two studies (Chan, 2016; Gard et al., 2012) mentioned advising through phone calls, and six studies (Amador and Amador, 2014; Boylston and Jackson, 2008; Chan, 2016; Feghali et al., 2011; Gaines, 2014; Gard et al., 2012) mentioned the use of online advising, such as through websites, social media, or email. Other studies mainly mentioned face-to-face discussions as the method of communication. The AA programmes ranged in duration from two weeks (Harrison, 2009) to throughout all of the years of a student's study (Chan, 2016; Van et al., 2016). The frequency of the meetings ranged from weekly (Al-Atabi et al., 2011) to at least once per semester (Barnes and Parish, 2017).

5.3. Advisors' perspectives

A summary of the perspectives of advisors and advisees is given in Table 5. Seven studies included the perspectives of advisors. Most studies were focused on the self-reflections of advisors or on the barriers that the advisors faced. In five studies, advisors commented on their own performances, and all of the advisors rated at least part of their job as useful or beneficial for students (Allen and Smith, 2008b; Karr-Lilienthal et al., 2013; Nel, 2014; Soria et al., 2017; Thawabieh and Al-roud, 2011). With regard to barriers, advisors in four studies mentioned that they lacked the time to meet with students because they had too much paperwork (Nel, 2014), other job duties (Karr-Lilienthal et al., 2013), or had allocated an insufficient amount of time for advisors to meet students (Al-Atabi et al., 2011), and one gave no specific reason (Thawabieh and Al-roud, 2011). Other barriers included the lack of advising-related training (Karr-Lilienthal et al., 2013) and inadequate skills for communicating with students (Nel, 2014) and their parents (Thawabieh and Al-roud, 2011). Moreover, advisors in two studies stated that they valued the connection with advisees as important (Allen and Smith, 2008b; Chan, 2016). Advisors mentioned that they gained a sense of personal satisfaction in the process (Karr-Lilienthal

Table 1
Inclusion and exclusion criteria.

	Inclusion criteria	Exclusion criteria
Year of publication	2008 to 2018	Before 2008
Language	English	Other than English
Publication type	Primary research journal articles	Other than primary research journal articles
Sample	Undergraduate	Other than undergraduate (e.g. community college)
	Participants experienced academic advising before	Participants never experienced academic advising before

Table 2
Quality appraisal of reviewed studies.

Questions	QL							
	Amador and Amador (2014)	Chan (2016)	Ellis (2014)	Leach and Wang (2015)	Nel (2014)	Van et al. (2015)	Van et al. (2016)	Vianden (2016)
0.1.	Y	Y	Y	Y	Y	Y	Y	Y
0.2.	Y	Y	Y	Y	Y	Y	Y	Y
1.1.	Y	Y	Y	Y	Y	Y	Y	Y
1.2.	Y	Y	Y	Y	Y	Y	Y	Y
1.3.	Y	Y	Y	Y	Y	UC	N	Y
1.4.	Y	Y	Y	Y	Y	UC	Y	Y
Score	****	****	****	****	****	**	***	****

Questions	DS																			
	Al-Amri et al. (2012)	Al-Ansari et al. (2015)	Al-Atabi et al. (2011)	Allen and Smith (2008a)	Allen and Smith (2008b)	Barnes and Parish (2017)	Bosshart et al. (2009)	Buissink-Smith et al. (2010)	Coll (2008)	Feghali et al. (2011)	Gaines (2014)	Giancola et al. (2008)	Hale et al. (2009)	Harrison (2009)	Henning et al. (2012)	Hester (2008)	Karr-Lilienthal et al. (2013)	Paul and Fitzpatrick (2015)	Teasley and Buchanan (2016)	Thawabieh and Al-roud (2011)	Truschel (2008)
0.1.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
0.2.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4.1.	Y	Y	Y	UC	UC	Y	Y	Y	Y	Y	Y	UC	Y	Y	Y	Y	Y	Y	Y	Y	UC
4.2.	Y	Y	Y	Y	Y	Y	Y	Y	Y	UC	Y	UC	Y	Y	UC	Y	Y	Y	Y	Y	Y
4.3.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	UC	UC	Y	Y	Y	UC	Y	Y
4.4.	N	Y	Y	Y	Y	UC	N	Y	Y	Y	N	Y	Y	UC	Y	UC	N	Y	Y	UC	UC
Score	***	****	****	***	***	***	***	****	****	***	***	**	****	**	**	***	**	****	***	***	**

Questions	NRCS	
	Cunningham and Smothers (2014)	Kot (2014)
0.1.	Y	Y
0.2.	Y	Y
3.1.	Y	Y
3.2.	Y	Y
3.3.	Y	Y
3.4.	Y	UC
Score	****	***

Questions	MM				
	Boylston and Jackson (2008)	Gard et al. (2012)	Khalil and Williamson (2014)	Soria et al. (2017)	Sutton and Sankar (2011)
0.1.	Y	Y	Y	Y	Y
0.2.	Y	Y	Y	Y	Y
1.1.	Y	Y	Y	Y	Y
1.2.	Y	Y	Y	Y	Y
1.3.	Y	Y	Y	Y	Y
1.4.	Y	Y	Y	Y	Y
3.1.				Y	
3.2.				Y	
3.3.				Y	
3.4.				N	
4.1.	Y	Y	Y		Y

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Table 2 (*continued*)

Questions	MM				
	Boylston and Jackson (2008)	Gard et al. (2012)	Khalil and Williamson (2014)	Soria et al. (2017)	Sutton and Sankar (2011)
4.2.	Y	Y	Y		UC
4.3.	Y	UC	N		Y
4.4.	Y	Y	N		UC
5.1.	Y	Y	Y	Y	Y
5.2.	Y	Y	Y	Y	Y
5.3.	Y	Y	Y	UC	Y
Score	****	***	**	***	**

Note: key: Y = yes; N = no; UC = unclear; QL = qualitative study; RCS = quantitative randomised controlled study; NRCS: quantitative non-randomised study; DS: quantitative descriptive study; MM: mixed method study. For score, the higher number of * indicates the better of the research quality.

Questions: 0.1. Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objectives)? 0.2. Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components). 1.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)? 1.2. Is the process for analysing qualitative data relevant to address the research question (objective)? 1.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected? 1.4. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants? 2.1. Is there a clear description of the randomisation (or an appropriate sequence generation)? 2.2. Is there a clear description of the allocation concealment (or blinding when applicable)? 2.3. Are there complete outcome data (80% or above)? 2.4. Is there low withdrawal/drop-out (below 20%)? 3.1. Are participants (organisations) recruited in a way that minimises selection bias? 3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes? 3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups? 3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up)? 4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)? 4.2. Is the sample representative of the population understudy? 4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)? 4.4. Is there an acceptable response rate (60% or above)? 5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)? 5.2. Is the integration of qualitative and quantitative data (or results¶) relevant to address the research question (objective)? 5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative data (or results) in a triangulation design?

These two items are not considered as double-barrelled items since in mixed methods research, (1) there may be research questions (quantitative research) or research objectives (qualitative research), and (2) data may be integrated, and/or qualitative findings and quantitative results can be integrated.

Quality assessment of the studies included according to the Mixed Methods Appraisal Tool (MMAT) (Pluye et al., 2009).

Table 3
Summary of reviewed studies.

Author, year, country	Aims	Study design	Participants	Key findings
Al-Amri et al. (2012) Saudi Arabia	To explore how academic advising, the role of faculty, the curriculum, the services supporting student performance, and the availability of learning resources affected the ability of dental surgery students to finish their bachelor's degrees	Quantitative (survey)	169 undergraduates (Dental surgery)	- Faculty and learning resources and support services had a significant impact on student achievement - Academic advising and the dental curriculum had a non-significant effect on student achievement due to the poor performances of the students
Al-Ansari et al. (2015) Saudi Arabia	- To assess the use of and satisfaction with the academic-advising and student-support systems available to undergraduate students - To recognize the factors that illustrated the help-seeking behaviour that students utilize to deal with their academic difficulties and to identify whether academic advisors are the primary source for providing advice on academic concerns	Quantitative (self-administered survey)	221 undergraduates (Dental surgery)	- Most students reported that their advisors were readily available, listened intently to their needs and questions, and helped them to solve their problems, but only a few students relied primarily on advisors for help with academic issues - Males were less likely to seek help - An increase in the availability of advisors and reminding students about important dates in the academic calendar can increase their tendency to meet with advisors
Al-Atabi et al. (2011) Malaysia	To report on the use of the Educational Advisory System and student portfolios in an integrated manner to help students track and achieve course learning outcomes	Quantitative (survey)	186 undergraduates & 17 advisors (Engineering/Chemical/Electrical & Electronic)	Both students and lecturers gave positive feedback, as they agreed that the system provides a useful and comprehensive tool to track the achievement of students in terms of course learning outcomes
Allen and Smith (2008a) USA	To examine the importance of the functions of academic advising, and the responsibility for and satisfaction with providing these functions from the perspectives of both faculty and students	Quantitative (survey)	733 undergraduates & 171 advisors	- Students and faculty agreed on the importance of many aspects of advising - Faculty did not necessarily assume responsibility for all kinds of advising - The dual model was supported for delivering academic advising services
Allen and Smith (2008b) USA	To examine the importance of the functions of academic advising, and the responsibility for and satisfaction with providing these AA functions from the perspective of faculty	Quantitative (survey)	171 advisors	Faculty (advisors) were generally satisfied with the advising that they provided, but did not necessarily feel responsible for all of the kinds of academic advising that they believe are important for students to receive
Amador and Amador (2014) USA	To clarify how students use Facebook to seek help from academic advisors and understand the relationship between help seeking, academic advising, and electronic social networks	Qualitative (semi-structured in-depth interviews)	6 undergraduates	- Students used a social network site to seek help from prescriptive academic advising - Students agreed that the use of the electronic social network was beneficial for seeking help and for interacting electronically with higher education personnel
Barnes and Parish (2017) USA	To evaluate and enhance the academic advising process of the entry-level occupational and physical therapy programmes of an allied health professional school in the United States by initiating an improvement in quality	Quantitative (survey)	88 undergraduates (Occupational therapy/Physical therapy)	- The advisory programme improved student and faculty awareness and participation - Programme policies and student perceptions affected the initiation of advising and led to more interactions with the advisors, leading to a positive relationship and higher student satisfaction
Bosshart et al. (2009) USA	To describe an alumni survey administered at the university, which was designed to improve the educational experience of undergraduates and graduates	Quantitative (survey)	766 undergraduates & 167 postgraduates	- They were satisfied with their choice of major and considered their education to be worth the time and effort invested - The lowest ratings were in the areas of academic advising and course availability
Boylston and Jackson (2008) USA	- To identify the needs of this population to bring about improvements, and to determine their satisfaction with the academic experience - To recognize higher education services that accelerated RN-to-BSN students deem to be important, and their satisfaction with these services	Mixed method (survey & volunteered interviews)	53 adult undergraduates (Nursing)	- Instructional effectiveness and academic advising effectiveness were considered the most important, with high satisfaction ratings - Convenience of the bookstore, counselling services, vending machines, and computer laboratories were given low importance ratings
Buissink-Smith et al. (2010) New Zealand	To explore students' perceptions and experiences of advising and guidance, consider the implications of their responses, and investigate the influence of the students' demographic characteristics on their perceptions of advising	Quantitative (verbal survey)	362 undergraduates (Humanities/ Science/Health science/Commerce)	- Although the students were happy with the overall advice that they received, many had little or no expectations of the type of advice - Academic advisors were underused, even during the later years of the study - It is important to provide holistic developmental academic advice, including on future career options

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Table 3 (*continued*)

Author, year, country	Aims	Study design	Participants	Key findings
Chan (2016) HK	To investigate the perspectives and personal experiences of academic advisors and freshmen with regard to the academic advisor scheme of a nursing school	Qualitative (focus group & individual in-depth interviews)	74 undergraduates & 5 advisors (Nursing)	- Most freshmen were satisfied and indicated that they had benefitted from the scheme, however, advisor-advisee relationships should be strengthened - Academic advisors were the primary sources of support and advice
Coll (2008) USA	To examine the relationship among the level of satisfaction with advising, the worldviews of students and advisors, and students' perception of advising	Quantitative (survey)	191 undergraduates	- There was a positive correlation between advising taking a holistic approach and satisfaction - Advising style has a greater impact than student characteristics on the students' satisfaction with the advising
Cunningham and Smothers (2014) USA	To analyse the impact of a self-assessment instrument on the self-efficacy of those deciding on majors in a university setting	Quantitative (quasi-experimental survey)	250 undergraduates	A statistically significant increase in career self-efficacy was observed for students who participated in both Career Cruising and academic advising
Ellis (2014) USA	To extend knowledge about the experiences of undecided students by specifically examining their perceptions of the advising practices that they received, and information on those that they found the most helpful	Qualitative (face-to-face individual interviews & phone conversation interviews)	30 undergraduates	- Most students based their initial advising expectations on prior guidance received during high school and expected to receive help with selecting future courses - Most students felt positive, but some admitted being nervous or anxious at the first session
Feghali et al. (2011) USA	To introduce and appraise the utility and usability of the web-based decision support tool used throughout the advising process in the Olayan School of Business	Quantitative (survey)	20 undergraduates & 5 advisors (Business)	- 79% of users were satisfied with the Online Advisor - > 75% of users rated the Online Advisor as effective, useful, efficient, and helpful
Gaines (2014) USA	To explore students' preferences and their level of usage with respect to technology as a part of the academic advising experience	Quantitative (survey)	162 undergraduates (Education)	- Students preferred receiving important information via e-mail, but still prefer face-to-face communication above all - They were not interested in receiving advising on Facebook or Twitter, but accepted Skype
Gard et al. (2012) USA	To explore the perceptions of a cohort of community college students regarding their experiences in transferring to an upper division, baccalaureate degree programme of a major research university co-located on a community college campus	Mixed methods (semi-structured interviews & survey)	14 undergraduates for the interviews & 12 undergraduates for the survey	- The three key factors that impeded the students' successful transition to the university from the community college were academic advisement, financial aid, and social-cultural issues - Inaccurate advising was the major cause of student dissatisfaction with the transfer process
Giancola et al. (2008) USA	To examine differences between first- and continuing-generation adult undergraduates in the importance of and satisfaction with different institutional variables	Quantitative (survey)	206 first- & 111 continuing-generation adult students	Gender (more female than male students) accounted for the variance between first-generation and continuing-generation students in the importance of institutional variables, but there were no differences in satisfaction
Hale et al. (2009) USA	To examine the relationship between students' satisfaction with academic advising and (a) their perceptions of and (b) the congruence between their current and preferred advising styles	Quantitative (survey)	429 undergraduates (Agricultural/ Food and life science)	- The majority of students preferred developmental advising - Students who were advised with their preferred advising styles were more satisfied than students who did not receive their preferred advising styles
Harrison (2009) USA	To examine nursing students' perceptions of the characteristics and functions of effective academic advisors	Quantitative (survey)	63 undergraduates (Nursing)	- Caring and trustworthiness were the unique characteristics that were identified - Attempts to rank the importance of advisor functions were not successful
Henning et al. (2012) New Zealand	To investigate any differences in intention to use and actual use of academic advising between Asian and Pacific Islands students and whether the use of academic advising resulted in any discernible improvements in the students' academic achievement	Quantitative (survey & student records)	152 undergraduates (Education/ Social sciences)	- Asian students obtained higher average scores than Pacific Islands students - Pacific Islands students were more likely to seek academic assistance than Asian students - Results suggested that students with lower grades had a higher intention to seek academic assistance
Hester (2008) USA	To review the goals of academic advising and student evaluations of advising (SEA), and discuss the results of an alternate analysis of the author's SEA to offer suggestions for improving the SEA process	Quantitative (survey)	50 undergraduates	Both a positive relationship between the frequency of advising sessions and high ratings for professional manner, and a negative relationship between class level and the rating of the advisor's knowledge are traditionally thought to reflect good advising
Karr-Lilienthal et al. (2013) USA	To gauge faculty members' perceptions about undergraduate advising, how the work of advising impacts their jobs, and how they see student engagement in the advising process	Quantitative (non-experimental survey)	47 advisors (agricultural sciences and natural resources)	- Most advisors found the advising process to be effective, pleasant, and rewarding, and students to be neutral about advising

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Table 3 (*continued*)

Author, year, country	Aims	Study design	Participants	Key findings
				- Faculty agreed on the importance and difficulty of establishing relationships with students and felt that advisors need more training
Khalil and Williamson (2014) USA	To analyse students' understanding of the difference between academic and faculty advisors, and to reveal the importance of academic advisors for the retention, progression, and graduation success of engineering students	Mixed method (survey & interviews)	Approximately 360 undergraduates & 1 advisor (Engineering)	- Students expect academic advisors to help with course-related issues, such as course study plans or determining which courses they should take next - Students expect faculty advisors to help with career choices, conflicts with professors, overrides or special permissions
Kot (2014) USA	To estimate the impact of using centralized academic advising at a university on the first year GPA and second year enrolment behaviour of undergraduates	Quantitative (quasi-experimental survey)	2745 undergraduates	- An increase in GPA was observed among students who used centralized academic advising - A decrease in first-year attrition was seen among students who used centralized advising during the 2nd term
Leach and Wang (2015) USA	To examine advisee motives for engaging in out-of-class communication with academic advisors	Qualitative (interview)	21 undergraduates	- Six motives for engaging in out-of-class communication with advisors were identified, namely, relational, participatory, encouragement, syncopating, functional, and excuse-making
Nel (2014) South Africa	To analyse the role of a staff-student personal exchange-based academic advising programme aimed at enhancing the success of staff in assisting students to accept and tackle academic challenges and issues	Qualitative (semi-structured interview)	4 undergraduates & 6 advisors	- The success of the programme was strongly linked to the ability of academic staff to identify students' personal struggles - This intervention created a sense of accomplishment among the students and enhanced their enthusiasm and confidence
Paul and Fitzpatrick (2015) USA	To investigate student satisfaction with servant leadership-based advising and to examine whether it can predict student satisfaction	Quantitative (survey)	428 undergraduates	- There was a positive correlation between servant leadership and satisfaction with advising - The advisors' altruistic behaviours had the greatest impact on student satisfaction
Soria et al. (2017) USA	To investigate the effectiveness of strengths-based academic advising approaches, the effects of these advising conversations on the advisors, and the effects of this approach on first-year students' engagement, academic self-efficacy, retention, and 4-year graduation rate	Mixed methods (survey & focus groups)	1228 undergraduates & 21 advisors	- First year students who experienced strengths-based advising had significantly higher rates of retention and graduation, level of engagement, and academic self-efficacy - Strengths-based advising facilitated advising relationships, enhanced students' self-awareness and confidence, and advisors' personal and professional development
Teasley and Buchanan (2016) USA	To investigate the impact of perceived advisor support on the potential burnout of undergraduate music students	Quantitative (survey)	309 undergraduates (Music)	- Student dissatisfaction with advising was positively correlated with burnout - The psychological needs of the students were a significant consideration for advisors
Thawabieh and Al-roud (2011) Jordan	To investigate the extent of and factors affecting the commitment of faculty towards academic counselling and to assist faculty members in knowing their functional role in counselling students	Quantitative (survey)	34 advisors (Engineering/Science/Education/Financial and Administration/Art)	- The active participation of staff in counselling students may be due to their strong commitment and to the work community in the university - Most staff members do not have much communication with the students' parents since those students are adult students
Truschel (2008) USA	To examine what the at-risk population felt after they received advising to determine whether Appreciative Advising could be used as a student retention model	Quantitative (survey)	112 undergraduates	- Students responded positively to the discovery phase of the appreciative advising process - The overall rating and anecdotal comments were overwhelmingly in support of appreciative advising
Van et al. (2015) Malaysia	To investigate what challenges ethnic minority students had to face, how they coped with them, and how their advisors ensured that the students completed their studies on time	Qualitative (in-depth interviews)	15 undergraduates	Ethnic minority students had to face the issue of communication barriers and learned and applied different coping strategies to overcome the problems; however, they still required additional help and support from their academic advisors
Van et al. (2016) Malaysia	To investigate the learning and development outcomes of the academic advising programmes participated in by ten undergraduate students from three faculties at UTM, and how those outcomes benefitted their studies	Qualitative (in-depth interviews)	10 international undergraduates (Computing/Electrical engineering/Sciences)	Well-planned academic advising programmes had a significant impact on student learning and development outcomes, such as intellectual growth, enhanced self-esteem, leadership development, the attainment of personal and educational goals, etc.
Vianden and Barlow (2015) USA	To examine the correlation between the respondents' perceptions of the quality of academic advising and their loyalty to the university	Quantitative (survey)	1207 undergraduates	Positive correlations were found between the quality of the advising and student loyalty, indicators of the student-university relationship, and specific student demographic characteristics

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Table 3 (*continued*)

Author, year, country	Aims	Study design	Participants	Key findings
Vianden (2016) USA	To explore from the perspective of students, their most critical or memorable incidents, experiences, or encounters with a phenomenon under study through a critical incident technique and how this technique determined student satisfaction	Qualitative (face-to-face interviews & data from an online critical incident technique survey)	29 undergraduates	- Helpful and supportive advisors can increase the students' sense of belonging and pride in the institution - Creating an ongoing, durable relationship and caring about student success can increase the students' satisfaction. - Unsatisfactory experiences with unresponsive or unknowledgeable advisors prompted students to avoid seeking assistance in the future

et al., 2013) and that it also helped them with their own development (Soria et al., 2017).

5.4. Advisees' perspectives

Thirty-four studies discussed the perspectives of advisees in academic advising. There are four aspects to these perspectives, namely, experiences, preferences, benefits gained from the scheme, and barriers to seeking help from it.

First, in terms of overall experiences and satisfaction, in 15 of the reviewed studies the advisees expressed positive sentiments. Sutton and Sankar (2011) found that the advisees felt satisfied when they had received course-specific information and had solved longer-term issues such as those relating to career opportunities and access to tutorial services. The following also had a positive effect on advisee satisfaction: the willingness of advisees to seek academic advice, their confidence and trust in the advisor (Ellis, 2014), support from the advisor (Buissink-Smith et al., 2010; Teasley and Buchanan, 2016), the performance of the advisor (Allen and Smith, 2008a), the advisee's impression of AA (Giancola et al., 2008), the advisor's level of influence on the advisee's personal growth and cognitive development (Van et al., 2016), an increase in the frequency of interactions with advisors (Hester, 2008), and the use of Facebook as a means of communication (Amador and Amador, 2014).

Four studies (Al-Ansari et al., 2015; Barnes and Parish, 2017; Bosshart et al., 2009; Sutton and Sankar, 2011) mentioned a low satisfaction rate and negative experiences on the part of advisees. This was because the advice from advisors was not directly related to the advisees' courses, and the quality of the mentors failed to meet the advisees' expectations (Sutton and Sankar, 2011). Another possible cause was a poor relationship and communication between advisor and advisee (Al-Ansari et al., 2015).

Second, a total of 24 studies examined the advisees' preferences with regard to AA. Advisees wanted the programme to provide them with appropriate assistance to deal with their problems. Most studies identified the needs of advisees in terms of academic aspects, such as requiring support with the registration process (Harrison, 2009; Khalil and Williamson, 2014), with course information (Khalil and Williamson, 2014; Sutton and Sankar, 2011; Van et al., 2016), and with developing better study skills (Harrison, 2009; Van et al., 2015; Van et al., 2016). In two studies (Amador and Amador, 2014; Van et al., 2016), the advisees wanted their advisors to provide support and assistance on personal issues.

Advisees also mentioned their preferences regarding the characteristics of advisors. It was indicated in ten studies (Al-Ansari et al., 2015; Barnes and Parish, 2017; Ellis, 2014; Harrison, 2009; Hester, 2008; Paul and Fitzpatrick, 2015; Teasley and Buchanan, 2016; Van et al., 2015; Van et al., 2016; Vianden, 2016) that advisors should be accessible, responsive, proactive in seeking the advising resources needed to solve the academic and personal problems of advisees, have a caring and helpful attitude, and good communication skills.

Two studies (Barnes and Parish, 2017; Van et al., 2016) indicated that advisees would like to see an increase in the frequency of meetings with advisors, while another study (Chan, 2016) found that advisees preferred small group meetings. In three studies, developmental advising was found to be the preferred advising model (Coll, 2008; Hale et al., 2009; Teasley and Buchanan, 2016).

Third, seventeen studies discussed the benefits that advisees derived from AA. These included receiving assistance for a smooth transfer to university (Gard et al., 2012), assistance with academic concerns (Al-Atabi et al., 2011; Amador and Amador, 2014; Boylston and Jackson, 2008; Buissink-Smith et al., 2010; Feghali et al., 2011; Sutton and Sankar, 2011; Truschel, 2008; Van et al., 2015), aid with career problems (Cunningham and Smothers, 2014), help with personal issues (Teasley and Buchanan, 2016; Van et al., 2016), and support with other matters (Nel, 2014). AA was also beneficial in raising the advisees'

Table 4
Academic advising scheme design of reviewed studies.

Author, year, country	Purpose	Theoretical framework	Elements
Al-Amri et al. (2012) Saudi Arabia	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn. Advisor selected: unkn.; scope of advising: unkn.
Al-Ansari et al. (2015) Saudi Arabia	Unkn.	Unkn.	Advisor-advisee ratio: 1:5–6; mode: unkn.; organizer: unkn.; programme duration: all years of study; meeting frequency: unkn.; advisor selected: Faculty; scope of advising: academic
Al-Atabi et al. (2011) Malaysia	Create intentional learners; having timely feedback from advisors	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face; organizer: unkn.; programme duration: 14-week; meeting frequency: weekly; advisor selected: faculty; scope of advising: academic
Allen and Smith (2008a) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: faculty; programme duration: unkn.; meeting frequency: unkn.; advisor selected: faculty; scope of advising: unkn.
Allen and Smith (2008b) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: faculty; programme duration: unkn.; meeting frequency: unkn.; advisor selected: faculty; scope of advising: unkn.
Amador and Amador (2014) USA	Unkn.	Help-seeking	Advisor-advisee ratio: unkn.; mode: online; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic
Barnes and Parish (2017) USA	Unkn.	Plan-do-study-act model	Advisor-advisee ratio: 6:29; mode: face-to-face; organizer: unkn.; programme duration: one year; meeting frequency: one initial & follow-up, ≥one each semester; advisor selected: faculty; scope of advising: academic
Bosshart et al. (2009) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Boylston and Jackson (2008) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face, email, online; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Buissink-Smith et al. (2010) New Zealand	To give student academic advice based on their needs, talent and experience	Decentralized faculty-only model	Advisor-advisee ratio: unkn.; mode: face-to-face; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: academic staff; scope of advising: academic, career
Boylston and Jackson (2008) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face, email, online; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Buissink-Smith et al. (2010) New Zealand	To give student academic advice based on their needs, talent and experience	Decentralized faculty-only model	Advisor-advisee ratio: unkn.; mode: face-to-face; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: academic staff; scope of advising: academic, career
Chan (2016) HK	Assist in student development (academic, resources, opportunities & support); promote sense of affiliation	Unkn.	Advisor-advisee ratio: 1:25; mode: email, face-to-face, online; organizer: faculty (School of Nursing); programme duration: all years of study; meeting frequency: unkn.; advisor selected: faculty; scope of advising: academic, career, personal issue
Coll (2008) USA	Unkn.	Developmental advising	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: faculty; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Cunningham and Smothers (2014) USA	Unkn.	Developmental& Appreciative advising	Advisor-advisee ratio: unkn.; mode: face-to-face; organizer: Office of Academic Advising; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic, career, personal issue
Ellis (2014) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: Campus Advising Center; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic
Feghali et al. (2011) USA	Using web-based tool to provide time to advisors to focus on student development	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face, online; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: faculties; scope of advising: academic
Gaines (2014) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face, online; organizer: The Teacher Education Student Services; programme duration: unkn.; meeting frequency: unkn.; advisor selected: academic staff; scope of advising: unkn.
Gard et al. (2012) USA	To offer assistance in navigating the complexities of initial enrolment	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face, phone, email; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Giancola et al. (2008) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Hale et al. (2009) USA	Unkn.	Developmental advising	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: faculty; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Harrison (2009) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: faculty; programme duration: two-week; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic

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Table 4 (*continued*)

Author, year, country	Purpose	Theoretical framework	Elements
Henning et al. (2012) New Zealand	Development of self-regulated study strategies; improve reading & writing	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic
Hester (2008) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic, personal issue
Karr-Lilienthal et al. (2013) USA	To provide undergraduate advising	Unkn.	Advisor-advisee ratio: 1:22; mode: unkn.; organizer: faculty; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic, career, personal issue
Khalil and Williamson (2014) USA	Unkn.	Unkn.	Advisor-advisee ratio: > 1:1200; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: ≥one per semester; advisor selected: faculty; scope of advising: academic, career
Kot (2014) USA	Unkn.	Input-Environment-Output Model	Advisor-advisee ratio: 1:700; mode: face-to-face; organizer: Centralized Advising Centre; Programme duration: unkn.; meeting frequency: unkn.; advisor selected: centre staff; scope of advising: academic, career, personal issue
Leach and Wang (2015) USA	Unkn.	Instructional & Out-of-class communication	Advisor-advisee ratio: unkn.; mode: face-to-face; organizer: faculty; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic, personal issue
Nel (2014) South Africa	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face; organizer: Academic Development Centre; programme duration: unkn.; meeting frequency: unkn.; advisor selected: academic staff; scope of advising: academic, career, personal issue
Paul and Fitzpatrick (2015) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: faculty; scope of advising: personal issue
Soria et al. (2017) USA	Unkn.	Strengths-based approach	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: personal issue
Sutton and Sankar (2011) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: until advisees complete the pre-courses; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: academic, career
Teasley and Buchanan (2016) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Thawabieh and Al-roud (2011) Jordan	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: faculty; scope of advising: academic, personal issue, family issue
Truschel (2008) USA	To assist the academic performance of at risk students	Appreciative Advising	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: first five weeks of the semester; meeting frequency: three; advisor selected: unkn.; scope of advising: academic
Van et al. (2015) Malaysia	To help ethnic minority students to handle challenges	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: academic staff; scope of advising: academic, career, personal issue
Van et al. (2016) Malaysia	To assist in student development (academic, intellectual, personal, social, study plan, career goal, decision-making skills)	Unkn.	Advisor-advisee ratio: unkn.; mode: face-to-face; organizer: unkn.; programme duration: throughout all years of study; meeting frequency: unkn.; advisor selected: one local academic staff per student; scope of advising: academic, career, personal issue
Vianden and Barlow (2015) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.
Vianden (2016) USA	Unkn.	Unkn.	Advisor-advisee ratio: unkn.; mode: unkn.; organizer: unkn.; programme duration: unkn.; meeting frequency: unkn.; advisor selected: unkn.; scope of advising: unkn.

Note. unkn. = unknown, unclear, or not mentioned.

sense of self-efficacy (Cunningham and Smothers, 2014; Soria et al., 2017), increasing their retention in and loyalty to the institutions in question (Boylston and Jackson, 2008; Soria et al., 2017; Vianden and Barlow, 2015), enhancing their academic experience (Barnes and Parish, 2017), and causing advisees to achieve a better academic performance (Kot, 2014).

Finally, thirteen of the reviewed studies discussed the barriers to accessing AA. According to six articles (Al-Amri et al., 2012; Buissink-Smith et al., 2010; Chan, 2016; Feghali et al., 2011; Van et al., 2015; Vianden, 2016), the quality of the advisors, in terms of their personal characteristics, knowledge, and ability to answer the advisees' questions, might influence the students' decision to seek advice. Eight studies (Chan, 2016; Feghali et al., 2011; Hester, 2008; Khalil and Williamson, 2014; Nel, 2014; Sutton and Sankar, 2011; Van et al., 2015; Van et al., 2016) indicated that the frequency and length of each meeting can affect the effectiveness of the advising. According to the studies, advisees stated that a lack of time to interact with advisors hindered them from seeking help from academic advising. Other

Table 5
Summary of advisors' & advisees' perspectives.

Author, year, country	Advisees' perspectives	
Al-Amri et al. (2012)	Experiences	- No significant effect on the students' performance as perceived by the students
Saudi Arabia	Barriers	- Advisors' poor performances may have no significant effect on the academic achievement of students
		- Advisors who cannot provide students with the right information that they need, and who have a low level of readiness to help and are often not available during office hours to provide academic counselling
Al-Ansari et al. (2015)	Experiences	- Nearly half of the students were dissatisfied with their academic advisors
Saudi Arabia		- The most favourably perceived attributes of advisors were: available when needed, listening intently, and helping with academic problems
		- The least positively perceived attributes of advisors were: making students aware of important dates, helping understand rules and regulations, and providing important information about courses
	Preferences	- Male students were less likely than female students to discuss academic issues with supervisors
Allen and Smith (2008a)	Experiences	- Students were satisfied with their advisors' performance but rated it lower than the advisors' self-rating
USA	Preferences	- In terms of importance, advisees rated “know as individual” and “how things work” higher than advisors; while advisors rated “referral functions” higher than students
Amador and Amador (2014)	Experiences	- Students considered their advisors to be Facebook friends and tended to accept their involvement
USA	Preferences	- Expected advisors to be continually available on Facebook to respond immediately
		- Preferred to seek in-person assistance for more detailed and more personalized issues
	Benefits	- Usually got quick answers from advisors to questions relating to types of prescriptive advising
		- Reading advisors' posts on Facebook can keep students up-to-date on academic events and help them to monitor their academic progress
Barnes and Parish (2017)	Experiences	- 25% did not meet their advisors during the first month of school
USA	Preferences	- Increase the number of meetings with the advisor and get to know the advisor early
		- Advisors that have a natural ability to communicate, and have a caring and helpful attitude
	Benefits	- Great overall first semester experience and professional development
Bosshart et al. (2009)	Experiences	- Students gave academic advising the lowest rating among the eight different aspects of their education
USA		
Boylston and Jackson (2008)	Experiences	- High importance placed on academic advising, high level of satisfaction with academic advising
USA	Preferences	- Face to face communication incorporated with e-mails, voice mails, online discussion boards, and class visits
	Benefits	- Helped students to complete their programme
Buissink-Smith et al. (2010)	Preferences	- A rather small percentage (26%) of students were asked about their career aspirations
New Zealand		- First-year full-time students were more interested in the programme
	Benefits	- Advisors who were approachable, knowledgeable about university regulations
		- Advice on what to study was useful to students
		- Low awareness of available support services, and the advice given did not meet with expectations
	Barriers	- Doubted the impartiality of the advice
Coll (2008)	Preferences	- Preferred developmental advising
USA		
Cunningham and Smothers (2014)	Benefits	- Integrating career self-assessments with academic advising can provide a framework for the career decision-making process and increase career self-efficacy
USA		- Significantly increased perceived self-efficacy in choosing a major and deciding on a career
Ellis (2014)	Experiences	- Students had a positive view and were satisfied with the advising session
USA		- Students' willingness to see their advisor and their confidence and trust in their advisor increased session by session
	Preferences	- Expected advisors to ease their stress and wanted to feel that their advisors cared about them
	Barriers	- Felt nervous during the first advising meeting
Feghali et al. (2011)	Preferences	- Online Advisor
USA	Benefits	- The advisor was helpful, and so was the advisor's information about requirements and prerequisites
	Barriers	- Insufficiency of the advisor's knowledge about requirements outside of the students' major area of study
		- Low availability of the advisor and low level of familiarity with the students' academic background
Gaines (2014)	Preferences	- Improvements are needed to make the process of using email on handheld devices more user-friendly
USA		- Not interested in receiving services from advisors on Facebook or Twitter, as these sites are for personal use
		- The most preferred way of interacting with academic advisors is face-to-face communication
Gard et al. (2012)	Experiences	- 83% of students agreed that the university did a good job in advising
USA	Preferences	- Wanted someone to be permanently assigned to the teaching location to advise students
	Benefits	- Facilitated a smooth transfer when having to communicate with advisors in different ways
Giancola et al. (2008)	Experiences	- High AA importance, high AA satisfaction
USA		
Hale et al. (2009)	Preferences	- There should be a congruence between current and preferred advising styles
USA		- Preferred developmental advising

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Table 5 (*continued*)

Author, year, country	Advisees' perspectives	
Harrison (2009) USA	Preferences	- Advisors should be knowledgeable, approachable, available, and possess various skills - The most important functions are help with developing a meaningful programme of study and acknowledging administrative procedures, while the least important is help with building good study skills
Henning et al. (2012) New Zealand	Experiences	- Pacific Islands students had a higher intention to access the service compared to Asians, but there was no significant difference in their rates of actual use
Hester (2008) USA	Experiences	- Students who interacted frequently with advisors showed increased satisfaction with advising - There was no relationship between an increase in advising sessions and a higher GPA
	Preferences	- Advisors who assist with class selection, allow students to make decisions, and listen actively
	Barriers	- Advisors had to take on many advising appointments per year
Khalil and Williamson (2014) USA	Preferences	- Expected academic advisors to help with their course study plan as well as with registration - Expected faculty advisors to assist with career advising, and students tended to approach them if they had a conflict with their course instructor or professor
	Barriers	- 20% of students never sought help from advisors due to the limited availability of the advisors
Kot (2014) USA	Benefits	- Centralized advising increased the students' GPA and reduced the first-year attrition rate
Leach and Wang (2015) USA	Preferences	- Out-of-class communication is preferred
Teasley and Buchanan (2016) USA	Experiences	- Perceived advisor support as being satisfactory
	Preferences	- Preferred developmental advising and supportive advisors who encouraged involvement and empowered them to make decisions
	Benefits	- Lower level of stress and burnout
Paul and Fitzpatrick (2015) USA	Preferences	- Altruistic calling, emotional healing, wisdom, persuasive mapping, and organizational stewardship correlated positively with student satisfaction with advising - The advisors' altruistic behaviours had the greatest impact on student satisfaction
Sutton and Sankar (2011) USA	Experiences	- Students were most satisfied with core issues such as course-specific information, followed by longer-term issues such as career issues and the provision of tutorial services - Students were less satisfied with information not directly related to their courses
	Preferences	- Preferred to receive more comments and suggestions about the course for scheduling
	Benefits	- Advisors were helpful and knowledgeable in providing course information
	Barriers	- Waiting times were long for students to meet with advisors, but meeting times were short
Truschel (2008) USA	Preferences	- Appreciative advising is important in helping students to do well academically
	Benefits	- Being motivated and encouraged to ask for assistance with their academic performance
Van et al. (2015) Malaysia	Experiences	- Felt obligated to give an honest account of their abilities and interests to the academic advisors
	Preferences	- Expected advisors to assist in improving their academic performance, finding the best ways to help them according to their background, and helping them with their personal development
	Benefits	- Received academic encouragement, support, advice, and guidance on the use of school resources from advisors - Advisors did not give them the support that they needed and were too busy to meet them
	Barriers	- Students perceived the role of academic advisors is not clear
Van et al. (2016) Malaysia	Preferences	- Hoped that advisors would be accessible, responsive, and proactive in seeking the advising resources that they needed, and had more time to meet with them and discuss academic matters - Expected advisors to provide support for personal, academic, and career development
	Benefits	- Saw improvements in intellectual growth, effective communication, enhanced self-esteem, leadership skills, meaningful interpersonal relationships, increased social responsibility, satisfying and productive lifestyles, and the attainment of personal and educational goals
	Barriers	- Lack of time to meet advisors
Vianden and Barlow (2015) USA	Benefit	- Academic advising can motivate college students to develop loyalty to their institutions
Vianden (2016) USA	Experiences	- Some participants showed satisfaction with their academic advising experiences
	Preferences	- Helpful advisors instilled a sense of belonging in advisees
	Barriers	- Advisors who provided uninformed or incorrect advice, and who were unresponsive

Author, year, country	Advisors' perspectives	
Allen and Smith (2008b) USA	Self-perceptions	- Satisfied with their own performance in providing accurate information and helping students to connect with their goals and choose courses; and perceived these functions and their referrals of students to campus resources when needed as being their most important functions - Helping students to connect with their goals and choosing courses were the top responsibilities

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Table 5 (*continued*)

Author, year, country	Advisors' perspectives	
Karr-Lilienthal et al. (2013) USA	Experiences	- Advisors had a sense of personal and professional satisfaction when they saw their students' success - Comfortable referring advisees to campus support services in matters beyond their expertise - Needed more intrinsic benefits to do a good job
	Preferences	- It should be mandatory for students to see their advisors prior to enrolling and to be asked to evaluate their advisors in a similar manner as with course evaluations - Advisors were not always available for students due to other job duties
	Barriers	- No training in advising is given, and the challenge of advising many students is not recognized by the department, college, or the system - Concerned about the inefficiency and unreliability of computerized student information systems
	Self-perceptions	- Most perceived themselves as being able to give accurate advice on academic and career issues, but less than half saw themselves as being able to assist with the personal problems of advisees
Thawabieh and Al-roud (2011) Jordan	Self-perceptions	- Contributed a great deal to providing academic counselling to students and performed well as motivators - Relatively speaking, not doing well in communicating with parents, filing the students' academic records, and scheduling enough time to meet with students - Type of college and gender did not have a significant effect on the degree of practice in counselling

Author, year, country	Advisees' perspectives		Advisors' perspectives	
Al-Atabi et al. (2011) Malaysia	Experiences	- Satisfied with advisors' support	Preferences	- Portfolio under advisement should be useful and applicable to other subjects
	Benefits	- Received sufficient support		
	Barriers	- Portfolio making was time consuming	Barriers	- No enough time to meet students
Chan (2016) HK	Experiences	- Most were satisfied with and benefited from the academic advisor scheme	Preferences	- Valued relationship building as important, but approaches differed among the advisors
	Preferences	- To promote relationship building - Small group meetings		- Freshmen adaptation is a priority
	Barriers	- Insufficient interaction and the advisor's characteristics affected relationships		- Introduced basic concepts by sharing stories, to give students ideas about their future
Nel (2014) South Africa	Benefits	- Gave at-risk students financial, academic, and emotional support in their first year of study - Advisors assisted students with their academic needs or educational problems	Self-perceptions	- Advisors viewed themselves as motivators for first-year students - Advisors gave students financial, academic, and emotional support
	Barriers	- Advisors did not have sufficient time to engage in discussions with students	Barriers	- Advisors may not commit to AA - Difficult to gain the students' trust - Too much paperwork for advisors
Soria et al. (2017) USA	Benefits	- Greater academic self-efficacy, and higher retention and graduation rates - Strengths-based approaches had a positive effect on students in their selection of a major and helped them to think about potential career paths	Experiences	- Strengths-based approaches helped with immediately establishing advising relationships with students - Empowered students to take responsibility for their future
			Benefits	- Helped with the advisors' personal and professional development

barriers that caused the service to be underutilized included students being nervous during their first meeting with their advisor (Ellis, 2014), advisees being unclear about the role of an advisor (Van et al., 2015), and an advising process that was time-consuming (Al-Atabi et al., 2011).

6. Discussion

As previously discussed, diverse components related to AA and the perspectives of both advisors and advisees were identified in the current review.

6.1. Insufficient information on the schemes

A preliminary understanding of AA can be achieved by reviewing various studies; however, in-depth information regarding the AA schemes was missing, such as the advisor to advisee ratio and the frequency of their meetings (Table 4). Those elements can provide basic guidelines for the implementation of AA and may be crucial to the effectiveness of the scheme. The lack of such crucial information limits the reference value of the findings and may make it difficult to demonstrate how the scheme affected the results. Thus, there is insufficient information for researchers to conduct further studies on the development and improvement of AA based on these studies.

6.2. Means of communication

Continuously changing technologies means that face-to-face communication is not the only way for advisors and advisees to keep in contact. Heiberger and Harper (2008, p. 21) suggested that online communication could be a new mode of advising, with 'meeting students where they are' being the rationale behind effective communication. The use of online communication tools such as websites, social media, or social networking sites in academic advising was examined in five studies. In four of the studies (Amador and Amador, 2014; Boylston and Jackson, 2008; Feghali et al., 2011; Gard et al., 2012), the students agreed that online communication is beneficial for seeking help and interacting with their advisors, whereas in the fifth study (Gaines, 2014), the students preferred face-to-face over online interactions. Studies indicated that it is still important for students to meet with their advisors in person because such meetings offer a more private and personal way for students to seek advice on various aspects of their life. In addition, out-of-class communication is favourable for building relationships because advisees tend to be more willing to share personal issues at such times (Leach and Wang, 2015). The significance of out-of-class communication appears to have been underestimated, as it is mentioned in only one study. It is recommended that further studies be conducted on how out-of-class communication supports AA.

6.3. Time management

The problem of time management is a common barrier to achieving the goals of AA for both advisors and advisees. The findings indicated that both advisors and advisees failed to go through the advising process due to the huge workloads of advisors. Most advisors in the reviewed studies also served as faculty members, lecturers, or professors. This problem of time management can be even greater for nursing students, who have heavy workloads and are also required to undergo practical training. As increasing the frequency of meetings would strengthen the relationship between advisors and advisees (Barnes and Parish, 2017; Ellis, 2014), it is suggested that universities offer more support to advisors, such as providing training in time management and rearranging job duties. Technology-based advising tools, such as an automated advising system (Laghari, 2014; Siegfried et al., 2003) can also be a possible solution. Feghali et al. (2011) developed a web-based decision support tool that acts as an online advisor to effectively and efficiently solve the course-related issues of students.

6.4. Training of advisors

The importance of providing training in advising is apparent from comments made by the advisors (Karr-Lilienthal et al., 2013). They stated that they lacked administrative knowledge due to insufficient training. For example, some advisors could not guide students on course selection tools, because they did not know how to use them. This may hinder them from providing accurate and useful information to advisees, which is an important function of an advisor (Feghali et al., 2011; Harrison, 2009). Trainers could consider formulating the contents of a training programme so that the preferences of advisees are met; for example, advisors could be made aware of which AA models the students might prefer. The reviewed studies indicate that developmental advising is high on the list of advisee preferences. Developmental advising focuses on the shared responsibility between advisors and students in the making of decisions, which facilitates the maximum development of the students. Also, advisors can be made aware of the characteristics that advisees would like to see in their advisors (e.g., being responsive and caring). Lai-Yeung (2014) also provided a list of elements that can be included in a training programme, such as instruction in communication skills, posing questions, time management, and knowledge about practical issues (e.g., school policies).

6.5. Evaluation of outcomes

The expectation was that AA would be found to have a positive influence on the academic performance of students. Several reviewed studies examined the relationship between GPA and advising programmes. Surprisingly, a positive correlation was seen in only one of those studies (Kot, 2014), while a non-significant effect was seen in three studies. Henning et al. (2012) pointed out that two possible reasons behind the finding of a non-significant relationship were the immature design of the programme and the fact that the target group was not comprised of at-risk students. Similarly, Hester (2008) stated that the reason for the finding of an insignificant relationship between the frequency of advising sessions and GPA was because students in the target group originally had high GPAs, regardless of how many times they met with their advisors. Al-Amri et al. (2012) attributed the non-significant finding to the possibly unsatisfactory performance of the advisors. These findings may provide insights for further research on the need to identify at-risk students prior to carrying out the programme. The correlation between GPA and different scheme elements should also be further explored.

6.6. Implications for nursing education

No notable differences were found in the perspectives of both advisors and advisees on AA between those involved in nursing education and those in other fields. As no differences were seen across disciplines, general ideas can be applied, while some specific ideas can be highlighted as possibly helpful in devising a better AA programme in nursing education. First, it is suggested that utilizing out-of-class methods of communication such as phone calls, text messages, and even online communication may be beneficial, because advisors and advisees can communicate any time and anywhere, even when the students are outside of campus in their clinical placement.

Second, in nursing education support from advisors should include clinical guidance. As students, especially freshmen, may not be familiar with the realities of practising nursing, advice on how to deal with the various issues that they might encounter would be of benefit in motivating students to become more devoted to nursing (Chan, 2016). Advisors who advise nursing students should be knowledgeable about clinical experiences and career opportunities; therefore, when selecting advisors, the clinical experiences of the candidates may need to be

considered.

Finally, the result is in line with the statement that there are still only a limited number of studies on AA in nursing education (Harrison, 2009). We suggest that more attention be paid to this field, especially to the issue of what nursing advisors and advisees can do to reduce their stress by using different elements of an advising scheme.

7. Limitations

There are three limitations to this systematic review. First, only studies in English were utilized. Some significant findings on AA in studies published in other languages might have been overlooked. Second, the objectivity of the analysed results could be challenged. Because the discussion was on descriptive and narrative data, subjective interpretations might have been made. Finally, large amounts of unclear results were found in the reviewed studies, indicating that much remains to be explored on the subject of academic advising in undergraduate education.

8. Conclusion

Thirty-seven studies were analysed in this review, which presented a preliminary overview of academic advising schemes around the world. In general, both advisors and advisees found the scheme to be beneficial and useful. The majority of the reviewed studies focused on the perspective of the advisees, an initial understanding of which could be achieved by reviewing the advisees' views of their advising experience, their preferences, and their perception of the benefits of academic advising and the barriers to accessing it. For both advisors and advisees, the lack of time was a common issue, and finding solutions to this barrier requires further study. Some measures were identified and may improve the implementation of AA, namely: integrating out-of-class communication in the scheme, making use of technological advancements, and providing appropriate training to advisors. Conducting an in-depth analysis of AA was not feasible because not enough detailed information on the schemes was available. Given the potential benefits that effective academic advising can bring to students, further research on the subject is desirable and timely.

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