



## COPING ISSUES AS A TOPIC IN TEACHER EDUCATION RESEARCH: A SYSTEMATIC LITERATURE REVIEW

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**Abstract:** This study aims to identify dominant theories, research areas, and trends related to coping issues in teacher education (TE) research. The origin of coping theories comes from psychology, but there is a growing shift in coping research related to teaching, problem-solving, and training programs in pedagogy. Although coping issues in TE affect teachers' teaching and learning, there have been very few systematic reviews of coping issues in TE these days. A systematized literature study is conducted for answering the research question: "Which theories, research problems, and approaches have been used for coping issues in TE?". A literature search is undertaken using the Web of Science, Science Direct, and EBSCO (host) databases, and 61 studies published between 2016 and 2021 are reviewed. The findings report that stress, classroom management, professional relationship, and technology are common research problems related to coping issues in TE. Analysis of the studies also reveals dominant coping theories, research approaches, and research tools in TE research. This review can give researchers new insights in developing the literature and research tools about coping issues in TE. It also contributes to a broader focus on coping theories and research about coping issues in different TE systems.

**Key words:** coping, teachers, systematic literature review, teacher education

### 1. Introduction

The concept of coping has been recognized relating to stress within the period between the 1960s and 1970s. Likely, developmental psychologists emphasized principles of coping, especially on adaptation. Sociologists are trying to understand coping with stress. Scientists see coping as a response to stress. Foremost, professionals from the mental health field and people had been interested in stress and researched its consequences (Carpenter, 1992). Folkman and Lazarus (1985) emphasize that coping occurs when one is experiencing stress and a process with complex feedback loops and constant updating. Coping has been focused on psychotherapy and educational programs during these days. In this pandemic period, many authors researched coping with teaching-learning situations (e.g., digital education) during and after the Covid 19 wave.

Teaching and teacher preparation for the profession is a complex and challenging task (Calderhead & Shorrock, 2004). During initial training and their early-career years in the classroom, most teachers experience difficulties in learning to teach and feel stress and anxiety about classroom management, working conditions, subject mastery, building the student-teacher relationship, planning activities in the classroom, and participating in the activities of the school (Calderhead & Shorrock, 2004). In the OECD report of current education systems, there have been growing issues of teacher shortages. International studies highlight high teacher attrition rates, especially, early career teachers leave the profession within their first two years of teaching (Viac & Fraser, 2020).

Teachers describe their stress and anxiety over tasks, pressure, defective materials, and uncomfortable working conditions, affecting their happiness in the profession and successful teaching (McKenzie et al., 2005). Concerns, problems of teachers, and their unsuccessful coping strategies can directly or indirectly affect student achievement, schools, society, and that country's education system (Kyriacou & Stephens, 1999). It is also essential to know teachers' difficulties and their coping techniques during their teaching so that teacher education programs can give an adequate support system to those teachers (Murray-Harvey, 2001). It seems that the importance of coping theories and research in

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teacher education is an undeniable element for teacher education program preparation and professional development.

Reviewing the literature is thus a scientific activity (Mulrow, 1995). A competent research combination can offer the most truthful explanation to a specific review research question (Booth et al., 2016). It can help to figure out knowledge gaps that require further investigation. Previous systematic reviews have been published about coping research with stress-related issues (von Haaren-Mack et al., 2020; Storrie et al., 2010; Embse et al., 2019) and coping with problematic computer use in adolescence (Trnka et al., 2016). Other authors have published literature reviews about coping with cyberbullying (Raskauskas & Huynh, 2015) and research on school teachers (e.g. burnout problems in Yusoff & Khan, 2013; García-Carmona et al., 2019); emotional problems in (Mérida-López & Extremera, 2017); racism and coping issue in (Brondolo et al., 2009); and teaching complex socioscientific contexts in the research of (Chen & Xiao, 2021).

Most of the reviews analyze research on coping strategies and specific topics, focusing on specific problem areas. In addition, the researchers did not find any recent systematic review of a holistic overview of coping issues in teacher education research. It can be presumed that research on coping issues in teacher education could provide valuable insights into student teachers' everyday problems in schools and the development of teacher education policy for the professional improvement of teachers. Thus, the present review intends to describe the definitions and theories of coping, research problem, trends, and research method related to coping issues in teacher education research in different countries. In this study, the term teacher education refers to both pre-service and in-service teacher education. This literature review seems essential as it can give researchers new insights in developing the literature and research tools about coping issues in teacher education.

## 2. Theoretical overview

Folkman & Lazarus (1980) defined coping as an individual's intellectual, emotional, social, and ethical effort to control or minimize outer and inner requests and disagreement related to cognitive judgment and the stress-related interpersonal and intrapersonal affair. Although this definition comes from another scientific field of psychology, it is a commonly used definition for many authors.

New enlargement in understanding and conceptualization of theories and research about coping has developed at the end of the 1970s (Lazarus & Folkman, 1984), and coping has been regarded as a process. Lazarus (1993) distinguished two approaches of coping: coping is seen as a style approach and process approach. Coping as a style approach implies that coping is related to personality characteristics. The idea of coping is seen as an individual's style originated from the theoretical assumption of an ego-psychology. The focus is on individuals' mental or emotional forces rather than outer environmental forces. Coping as a process approach considers coping as managing stress that can change throughout the entire period and be configured by the adaptational context.

An individual's coping can be changed continuously depending on the situation (Lazarus and Folkman, 1984). First, people know the relation of coping with an individual's characteristics or style. Later, coping is seen as an activity or a process. The central theme of the process approach comprises what an individual does and what an individual is coping with (the context). Coping is a changing process that a person's coping strategy can shift with the changes of the environment. On the other hand, coping is more than solving problems and outcomes, and there are multiple coping functions related to the context or the situation. There are two theories of coping under the process approach: a problem-focused coping theory based on contextual factors and an emotion-focused coping theory that originated from the emotional response to the problem.

Zeidner and Endler (1996) classified coping models as microanalytic trait-conceptions, macro-analytic conceptions and contains multivariable approaches. Based on the model, many authors developed instruments to measure coping strategies (e.g., Brief cope inventory; Carver, 1997; Coping questionnaire by Lazarus & Folkman, 1988; Indicator for measuring coping strategy; Amirkhan, 1990).

In 1988, Lazarus and his colleagues expanded the macro analytic approach to microanalytic techniques. They distinguished eight coping strategies: confrontation, distancing, self-controlling, seeking social support, taking responsibility, escape avoidance, planned problem-solving, and positive reappraisal. Zeidner and Endler (1996) noted that microanalytic approaches are state-oriented and there is no specific theoretical background for microanalytic coping strategies. The definition of these strategies is random, and some strategies have similar meanings. They also argued that there is a theoretical distance between the concept of coping theory and empirical strategies of the microanalytic approach.

The macro-analytic approach (e.g., repression-sensitization) occurs when people encounter a problematic situation. A person who grasps repression denies or minimizes the situation's existence or avoids the situation (Krohena, 1986, 2002). On the opposite side of sensitization, people will seek more information about the stressor or control the source of stress. Krohne (1986) brought a similar conception of another approach and named it "vigilance/cognitive avoidance." This approach clarifies that "when an individual encounters a stressful situation, a vigilant person gives attention to stressful aspects of an encounter, while an avoider turns away from stress-related information".

According to Krohena's (2002) assumption, microanalytic approaches center on many concrete coping strategies, but macro analytic analysis operates at the abstract level. The author claimed that the macro-analytic approach is theoretically founded in research and incorporated into psychodynamic ideas. Although these two models of coping do not cover possible coping strategies, they attempt to describe and explain individual differences in encountering stressful conditions.

Scientists have mentioned different meanings and approaches about coping in the respective field. They developed theories and employed these theories to develop inventories, scales, and tests. Then, they researched coping, and their results contribute to coping-related activities. This study also intends to collect research about coping issues in teacher education to contribute a broader focus on coping theories and research about coping in teacher education.

## RESEARCH QUESTIONS

This literature review will focus on the following research questions:

- 1) Which definitions and theories have been used to explain the concept of coping in teacher education research?
- 2) Which research problems have been focused on related to coping issues in teacher education?
- 3) What are the research trends (in terms of time and geographical context) in published research about coping issues in teacher education?
- 4) What are the different research methodologies previously used to investigate coping strategies in teacher education?

## 3. Method

### 3. 1. Review approach

Referring to Fink (2005) and Mulrow (1995), a literature review is structured, clearly stated a reliable technique for distinguishing, analyzing, and combining data for published work of researchers and scholars. Bem (1995) notes that scholars made academic decisions based on the systematic reviews of the literature as the researchers of literature reviews are putting together records of references and results that include lots of numbers.

Mulrow (1994) argued that systematic reviewing employs specific methods to identify, distinguish, and evaluate studies applicable to a particular question. In a systematic review, articles are categorized by publication type and extracted data, including study design, sample and intervention characteristics, data collection tools, and analytic strategies. Critical and objective analysis and grouping data in the table are also presented in the systematic review. This literature review is conducted systematically to

review literature using the Search, Appraisal, Synthesis, and Analysis (SALSA) framework (Booth, 2012).

### 3.2 Search process

Three databases: Web of Science, EBSCO, and Science Direct, are used to search the literature for conducting this review as they offer a collective database that supports the main disciplines of the sciences, psychology, social sciences, arts, and humanities (Fink, 2014). Web of science records citation indexes, authors, topic, abstracts, and publication year covering the influential journals across disciplines. EBSCO research database covers academic search and humanities and sociology ultimate. Science Direct provides an extensive database of peer-reviewed and open access articles from Elsevier journals and books ([www.elsevier.com](http://www.elsevier.com)).

Applying two search phrases of "coping issue in teacher education", and "coping strategies in teacher education," a total number of 2978 articles: 14 articles in EBSCO, 2737 articles in Science direct platform, and 227 articles in Web of Science database are found. The time frame is limited from 2016 to 2021 (until 12.05.2021). Then, duplicated articles are removed. The researcher withdrew articles that are not related to the subject area of social science, arts, and humanities, psychology. After screening, the articles that are not accessible are removed. After that, eligible articles are extracted which are not related to the title and abstract. Then, articles that are not written in the English language are excluded. Next, the research removed articles that do not include variables of teacher education and coping. Finally, 61 articles met the criteria for review.

### 3.3 Including and excluding studies

#### Step 1: Inclusion criteria

The articles were chosen for analysis if they have the following criteria: (i) only studies published from 2016 to 2020 in Web of Science, Science Direct, and EBSCO host database, (ii) the subject area related to educational science and social science, arts and humanities, psychology, (iii) empirical research (qualitative, quantitative or mixed-methods), (iv) open-access articles (v) written in the English language (vi) variables including coping, teachers, teaching.

#### Step 2: Exclusion criteria

Articles were excluded if: (i) they are not related to the subject area (n=134), (ii) they did not match with title and abstract (n=239), (iii) they were representing the same studies/duplication (n = 103), (iv) they did not write in English language (n=8), (v) full text was not accessible (n = 2067), and (vi) studies did not include coping issue in the whole article (n= 365).

According to the search phrases, strategies, inclusion, and exclusion criteria, 61 articles remained in the last rounds of screening for reviewing and data analysis. Figure 1 illustrates the literature search and screening process according to Moher and colleagues' (2009) preferred reporting items for systematic reviews and meta-analyses (PRISMA).

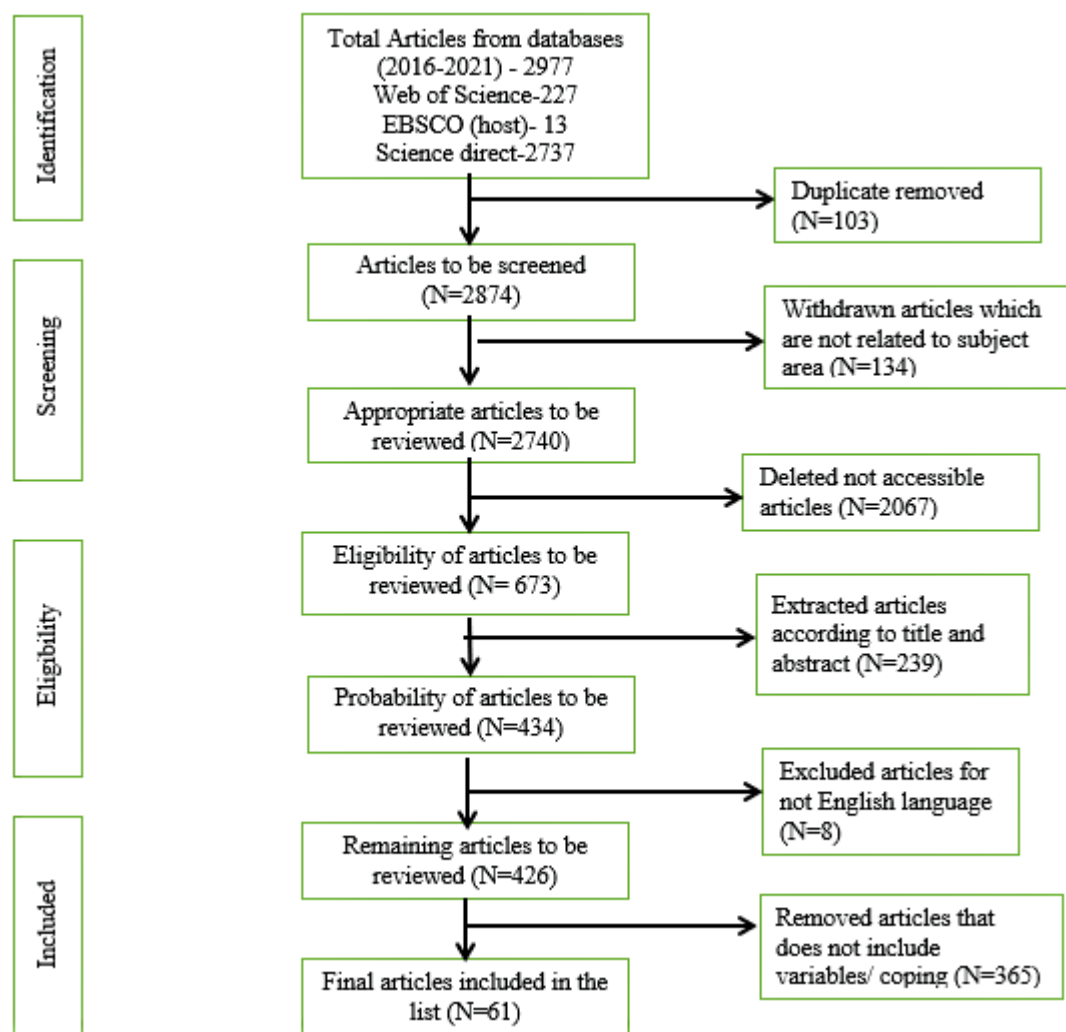


Fig. 1 Literature search and screening process according to PRISMA

### 3.4 Analysis

Based on the research question, the researcher developed the categories that can guide the analysis of 61 studies. These categories include theories and assumptions about the concept of coping, research problems related to coping, research trends (time and geographical area), and research method. The research used a deductive thematic analysis approach to get helpful information from the final 61 studies from the electronic databases.

## 4. Results

### 1) Theories and definitions about the concept of coping

The analysis of theories and assumptions about coping research in teacher education in 61 studies is described in the following table.

Table 1 Theories and assumptions about coping issues in teacher education research in 61 studies

| Theories of coping                                                                        | Studies                                     |
|-------------------------------------------------------------------------------------------|---------------------------------------------|
| Lazarus & Folkman' (1984) Stress, appraisal and coping and Carver's (1989) ways of coping | Mundia et al., (2016), Pogere et al. (2019) |
| related to practicum stress by MacDonald (1993)                                           | Mahmoudi, Farzaneh; ýzkan, Yonca (2016)     |

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| self-efficacy proposed by Bandura (1982)                                                            | Karaseva, Agnese (2016)                                                                                                                                                                                                                                                                                                                                       |
| Evertson and Weinstein's (2006) classroom management:                                               | Akdag, Z; Haser, C (2016)                                                                                                                                                                                                                                                                                                                                     |
| induction and transition theory of coping Schlossberg et al., (1995)                                | Haim, O; Amdur, L (2016)                                                                                                                                                                                                                                                                                                                                      |
| boredom coping strategies of Nett et al. (2010)                                                     | Eren, Altay (2016)                                                                                                                                                                                                                                                                                                                                            |
| stress coping strategies of Skaalvik & Skaalvik (2015) and Carton & Fruchart (2014) ..              | Paquette et al. (2016)                                                                                                                                                                                                                                                                                                                                        |
| Huberman (1989) wellbeing, transactional model of stress and coping (Lazarus & Folkman, 1984)       | Schmidt et al. (2017)                                                                                                                                                                                                                                                                                                                                         |
| Friedman's teacher burnout framework (as cited in Talmor et al., 2005).                             | Kantavong et al. (2017)                                                                                                                                                                                                                                                                                                                                       |
| Seligman's PERMA model (2011).                                                                      | Ballantyne, Julie; Zhukov, Katie (2017)                                                                                                                                                                                                                                                                                                                       |
| related to emotional education of Bisquerra (2005)                                                  | Hernández-Amorós et al. (2017)                                                                                                                                                                                                                                                                                                                                |
| acculturation model of Ho (2010)                                                                    | Kong et al. (2017)                                                                                                                                                                                                                                                                                                                                            |
| related with tension by Beijard and den Brok (2013b)                                                | Yayli, D (2017)                                                                                                                                                                                                                                                                                                                                               |
| humor as an adaptive coping strategy (Kuiper & Harris, 2009)                                        | Ho, SK (2017)                                                                                                                                                                                                                                                                                                                                                 |
| schema concept (Shulman, 1986).                                                                     | Kim, Lisa E.; Klassen, Robert M. (2018)                                                                                                                                                                                                                                                                                                                       |
| model of teacher wellbeing by Spiltet al. (2011), Lazarus and Folkman transactional model of coping | Aldrup et al. (2018)                                                                                                                                                                                                                                                                                                                                          |
| proactive strategy (Pietarinen et al. 2013a).                                                       | Väisänen et al. (2018)                                                                                                                                                                                                                                                                                                                                        |
| Coping strategies for stress, Waltz (2016)                                                          | Marwa Kebbi (2018)                                                                                                                                                                                                                                                                                                                                            |
| Kayıkçı (2009), coping strategies with classroom management problems                                | Habibi et al. (2018)                                                                                                                                                                                                                                                                                                                                          |
| coping theory of Lazarus and Folkman (1984, 1987, 1993)                                             | Edward et al. (2018); Jeon et al. (2016); Cynthia et al. (2016), Kunikowski et al. (2017); Jiang, XR; Du, JJ; Dong, RY (2017); Lindqvist et al., (2017); Lindqvist, Henrik (2019); Wilson, Anat; Huynh, Minh (2019); Admiraal, W (2020); Amponsah et al. (2020); Aulén et al. (2021); Alina Schäfer (2020)                                                    |
| brief COPE by Carver et al. (1989)                                                                  | Pogere et al. (2019); Kim L. E; Asbury K (2020)                                                                                                                                                                                                                                                                                                               |
| related to behavioral theory (Ajzen, 1985)                                                          | Knauder, Hannelore; Koschmieder, Corinna (2019)                                                                                                                                                                                                                                                                                                               |
| social capital of Putnam and Feldstein (2003),                                                      | Karlberg-Granlund, Gunilla (2019)                                                                                                                                                                                                                                                                                                                             |
| approach and avoidance coping by (Moos, 1974/1987, 1975, 1993).                                     | Karłyk-Ćwik, Anna (2019); Gustems-Carnicer et al. (2019)                                                                                                                                                                                                                                                                                                      |
| Lazarus & Folkman (1984) and Lewis et al. (2011)                                                    | Rahma et al. (2019)                                                                                                                                                                                                                                                                                                                                           |
| assumption of (Sammephet & Wanphet, 2013), and (Lampadan, 2014)                                     | Han, T; Tulgar, AT (2019)                                                                                                                                                                                                                                                                                                                                     |
| Dijk (2017) motivational and material access theory                                                 | Tusiime, WE; Johannesen, M; Gudmundsdottir, GB (2020)                                                                                                                                                                                                                                                                                                         |
| no description about coping                                                                         | Arar, Khalid; Ibrahim, Fadia (2016)<br>Yumuş, Melike; Bayhan, Pınar (2017)<br>Steffen, Benjamin; Hößle, Corinna (2017)<br>O'Grady et al. (2018), Patkin, Dorit; Shriki, Atara; Barkai, Ruthi (2019), Gustems-Carnicer et al. (2020), Lindqvist et al. (2020), Mohamad et al. (2020), Karlsson et al. (2020), Braun, Annika; Weiss, Sabine; Kiel, Ewald (2020) |
| teacher coping strategies for dilemmas (Maslovaty, 2000)                                            | Erdoğan, Onur; Sezgin, Ferudun (2020)                                                                                                                                                                                                                                                                                                                         |
| emotional self-regulation (O'Toole et al. 2014)                                                     | Woloshyn, V; Savage, M (2020)                                                                                                                                                                                                                                                                                                                                 |

|                                                     |                                                       |
|-----------------------------------------------------|-------------------------------------------------------|
| teacher occupational wellbeing (Chang, 2013)        | de Ruiter et al. (2020)                               |
| the behavioral theory of (Ajzen, 1991)              | Strelow et al. (2020)                                 |
| Coping efficacy of (Lent et al. 2000)               | Cruickshank et al. (2020)                             |
| teacher burnout model of (Maslach&Leiter, 2016)     | Saloviita et al. (2021)                               |
| Maslach and Jackson (1981), burnout model           | Sokal, Laura; Trudel, Lesley Eblie; Babb, Jeff (2021) |
| related to tensions Van der Walet al. (2019),       | Schaap et al. (2021)                                  |
| the adaptive capacity of Wilhelmi and Hayden (2010) | Malmquist et al. (2021)                               |

Analysis of 61 studies within the time frame from 2016 to 2021 reveals that some coping theories have been used to explain coping in different ways based on their research area and trends. For example, coping has been conceptualized as transition theory of coping in Haim & Amdur's (2016), 4-factor models of Nett et al. (2010) strategies in the investigation of Eren (2016), related to stress in the studies (Skaalvik & Skaalvik, 2015; Carton & Fruchart, 2014; Paquette & Rieg, 2016) and in the classroom management framework of Evertson and Weinstein's (2006) in the study of Akdağ & Haser (2016).

Several theories are used, but the dominant theory is the problem-focused and emotion-focused coping theories of Lazarus and Folkman (1987). Many researchers (eg. Admiraal, 2020; Buettner et al., 2016; Cancio et al., 2018; Jeon et al., 2016; Jiang et al., 2017; Kim & Asbury, 2020; Kunikowski et al., 2017; Lindqvist et al., 2017, 2019; Pogere et al., 2019; Wilson & Huynh, 2019; Yumuş & Bayhan, 2017;) applied theories of coping of Lazarus & Folkman (1984), some researcher employed theory of Carver et al., (1989), and a few researchers used coping theory of Lazarus (2006).

Several publications did not describe a clear definition or assumptions about the concept of coping. Most of the authors referred to Lazarus and Folkman's definition of coping in their research. Except for that definition of coping by Lazarus and Folkman, no new definitions related to the concept of coping are found in those 61 studies.

## 2) Analysis of research problems and trends related to coping issues in teacher education

After filtering the studies according to the PRISMA-P chart, 61 studies related to teacher education coping strategies have been analyzed for the final report. These 61 studies are analyzed inductively based on the topic and research trends and contributions. Then, common research problems related to coping issues are deducted to expand knowledge and contributing to change. The typical research areas related to coping strategies in teacher education are (i) problems related to teaching context (e.g. coping with classroom management problems, professional commitment, emotion challenging situation, technical problems in the 21st century, challenges, professional identity, inclusive classroom), (ii) problems related to psychological issues (e.g. stressors, job burnout, psychological distress, and teacher wellbeing) and (iii) problems related to environmental factors impacting teaching-learning situation (e.g. Heatwave, COVID-19). Some exciting research problems related to coping issues are gender roles, ethical dilemmas, and administration problems.

## 3) Analysis of the research trends (in terms of time and geographical context) in published research about coping issues in teacher education

Table 2 shows the analysis report of the research trends in terms of time in publications about coping issues in teacher education from 2016 to 2021.

**Table 2.** Report results of research trends in terms of time

| Research trends in terms of time |                          |                            |                        |                     |                    |
|----------------------------------|--------------------------|----------------------------|------------------------|---------------------|--------------------|
| 2016                             | 2017                     | 2018                       | 2019                   | 2020                | 2021               |
| Stress                           | professional identities, | dysfunctional professional | Strategies Coping with | Digital challenges, | Covid, heat waves, |

|                                 |                                                |                                                 |                                                |                               |                        |
|---------------------------------|------------------------------------------------|-------------------------------------------------|------------------------------------------------|-------------------------------|------------------------|
| digital issue                   | early childhood behavioral problems            | relationship, proactive strategies for burnout, | Tasks, the challenge of working with tensions, | challenges in Covid           | burnout and wellbeing, |
| classroom management concerns,  | stress and burnout,                            | misbehavior and wellbeing,                      | job stressors,                                 | Emotional challenges,         | professional tensions  |
| dilemmas and coping strategies, | distressful situations                         | stress with inclusion,                          | classroom management,                          | stress and coping strategies, |                        |
| boredom coping strategies,      | psychological readiness for inclusive teaching | classroom management                            | Anxiety                                        | ethical dilemma,              |                        |
| teachers' emotion regulation    |                                                |                                                 | emotionally challenging situations,            | administrative existence,     |                        |
|                                 |                                                |                                                 | professional placement,                        | gender role                   |                        |

As described in the table 2, coping strategies related to stress issues are common trends almost every year. Besides, coping research about teachers' classroom management has common trends from 2016 to 2019. Research about coping with digital challenges and Covid 19 period become popular in 2020 and 2021. Research related to coping with professional tensions, identities, and relationships is found in 2017, 2018, and 2021.

**Table 3.** Research trends in terms of geographical context

| Studies about coping issues in teacher education                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Geographical context                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Paquette et al. (2016); Jeon et al. (2016); Cynthia et al. (2016); Cancio et al. (2018); Woloshyn, V; Savage, M (2020); Sokal et al., (2021)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | the United States and North America                                                                   |
| Kong et al., (2017); Jiang et al., (2017); Ho, SK (2017); Habibi et al., (2018); Mohamad Nasri et al., (2020)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Asia countries (China, Hong Kong, Thailand, Indonesia, Malaysia)                                      |
| Haim, O; Amdur, L (2016); Arar, Khalid; Ibrahim, Fadia (2016); Patkin et al., (2019); Rahma Al-Mahrooqi and Christopher J. Denman* (2019); Marwa Kebbi (2018);                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Middle East (Oman, Israel, Lebanon)                                                                   |
| Tusiime et al., (2020); Amponsah et al., (2020)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Africa (Uganda, Ghana)                                                                                |
| Lindqvist et al., (2017); Lindqvist, Henrik (2019); Lindqvist et al., (2019); Lindqvist et al., (2020); Karlsson, Mikael R.; Erlandson, Peter (2020); Malmquist et al., (2021); Gustems-Carnicer et al., (2020); Admiraal, W (2020); Väisänen et al (2018); Saloviita et al., (2019); Aulén et al., (2021); Stanisław et al., (2017); O'Grady et al., (2018); Mahmoudi, Farzaneh; ýzkan, Yonca (2016); Akdag, Z; Haser, C (2016); Eren, Altay (2016); Han, T; Tulgar, AT (2019); Yayli, D (2017); Yumuş et al., (2017); Erdoğan et al., (2020); Schmidt et al., (2017); Steffen et al., (2017); Aldrup et al., (2018); Strelow et al., (2020); Braun et al., (2020); Alina Schäfer (2020) | European countries (Spain, Germany, Sweden, Finland, Portugal, Turkey, Netherlands, Germany, Ukraine) |
| Ballantyne et al., (2017); Wilson, et al., (2019); Cruickshank, V; Pedersen, S; Cooley, D; Hill, A (2020);                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Australia                                                                                             |

The above table 3 highlights studies about coping issues in teacher education research in terms of geographical context. Research about coping in teacher education is mostly found in European

countries such as Spain, Germany, Sweden, and Portugal. There is some research about coping in teacher education in the United States and Asia countries (e.g. China, Thailand, Malaysia). Three publications from the Middle East region, two from Africa, and three from Australia.

#### 4) Analysis report of research methods, analysis strategies, participants, and research tools

Of the 61 studies, 23 studies adopted qualitative research methods, 27 conducted quantitative methods, and 11 studies included mixed-method research. These twenty-three studies {Akdağ, Z, Haser, C (2016); Haim, O, Amdur, L. (2016); Arar et al., (2016); Lindqvist et al. (2017); Steffen, et al., (2017); Habibi A & et al., (2018); Yayli, D (2017); Lindqvist, Henrik (2019); Lindqvist & el al., (2019); Woloshyn, V; Savage, M. (2020); Lindqvist & et al. (2020); Mohamad Nasri & et al., (2020); Han, T; Tulgar, AT (2019); Tusiime & et al. (2020); Admiraal, W (2019); Kim L. E & Asbury K (2020); Karlsson & et al., (2020); Erdoğan & et al., (2020); O'Grady & et al., (2018)} employed qualitative approach in their research.

Eleven studies used mixed method research approach {e.g., Karaseva & Agnese (2016); Ballantyne et al. (2017); Sokal et al. (2021); Aulén et al. (2021); Kim et al. (2018); Pogere et al. (2019); Malmquist et al. (2021); Patkin & et al., (2019); Wilson & et al., (2019); Cruickshank, V & et al., (2020); Paquette et al., (2016)} as their research method.

Twenty-seven studies used quantitative research as their research methodology {e.g., Kantavong et al., (2017); Aldrup et al. (2018); Knauder et al. (2019); de Ruiter (2020); Schmidt et al. (2017); Strelow et al. (2020); Saloviita et al. (2021); Eren, Altay (2016); Stanisław et al. (2017); Jeon et al., (2016); Cynthia, K et al., (2016); Kong et al., (2017); Jiang et al., (2017); Yumuş et al., (2017); Ho, SK (2017); Väisänen & et al., (2018); Edward J & et al., (2018); Kebbi (2018); Gustems-Carnicer & et al. (2019); Pogere & et al., (2019); Rahma A & et al., (2019); Amponsah & et al. (2020); Braun & et al., (2020); Alina Schäfer (2020); Karlyk-Ćwik & Anna (2019); Gustems-Carnicer et al. (2019); Mundia et al. (2016)}.

Participants include student-teachers, primary and secondary school teachers from K-12 schools. The number of participants in qualitative studies can be counted from 7 to 32 teachers. Quantitative studies have much more participants to represent the target population and include the range between 76 and 1489 teachers. From 33 to 500 participants took part in mixed-method studies.

The analysis strategy of qualitative studies comprised content analysis, using MAXQDA software, constructivist grounded theory, phenomenological analysis, reflexive thematic analysis, ethnographical method, recursive nature of the analysis, AQUAD 7 computer software, deductive analysis. Data analysis methods of quantitative studies of coping issues include structural equation model, descriptive statistics, confirmatory and exploratory factor analysis, bivariate correlation, Tukey test, regression analysis, cluster analysis, multivariate outlier analysis, path, multilevel model, moderation analyses, and mediation analysis. Analysis strategies of mixed-method research consist of both qualitative and quantitative data analysis methods such as structural equation modeling, Bootstrap, descriptive statistics, content analysis, thematic analysis, factor analysis, inductive and deductive analysis, NiVOv software, correlation, multivariate analysis, interview analysis, positive psychology lens analysis, ANOVA, ANCOVA latent profile analysis.

The research tools of qualitative studies include open-ended questions and reflection, semi-structured interviews, interviews, focus group interviews. As research tools, qualitative studies mostly include interviews and some studies mention reflective journals (document analysis), video recording as data collection methods. The questionnaire, inventory survey, scale, video recording are employed as data collection tools for quantitative studies. Most of the studies adopted inventory, scale, and questionnaire of famous authors in coping research {e.g. Coping Scale for Adults by Erica Frydenberg and Ramon Lewis (2014), Boredom Coping Scale (Nett et al. 2010), Coping with Children's Negative Emotions Scale (Gross & John, 2003), Emotion Regulation Questionnaire (Gross, 1998), the Brief COPE Inventor (Carver, 1997), Coping with Children's Negative Emotions Scale (Fabes et al., 2002), burnout scale (Li & Shi, 2003), coping style questionnaire (Xie, 1998), Chinese Teacher Stress Questionnaire (Kyriacou & Chien, 2004, Inventory of teacher burnout (Pietarinen et al. 2013a, 2013b), the Pullis Inventory of Teacher Stress (PITS), Coping Responses Inventory (Moos 1993), Inventory of Occupational Stressors (IELPS) Otero-Lopez et al. (2006), the Brief Coping Orientation inventory (Folkman & Lazarus, 1980)}.

## 5. Discussion

This literature review intends to identify the dominant theories, research problems, research trends and research methods related to coping issues in teacher education research in different countries from 2016 to 2021 (12.5.2021). Web of Science, EBSCO (host), and Science direct databases search the literature. The search terms "coping strategies in teacher education" and "coping issues in teacher education" are used as basic searches. Analysis results of electronic database reported 2977 studies related to education science, arts and humanities, psychology and social science field—the final list of studies for review comprised 61 journal articles.

This systematic literature review of coping issues in teacher education research highlights the main theories of coping strategies in teacher education. Coping is labeled and assumed in different ways based on the research problem statement in 61 studies. Most of the studies referred to Lazarus and Folkman's (1984) problem-focused and emotion-focused coping theories and transactional stress and coping models. Some studies focused on the burnout model of Maslach and Jackson (1981). Some included Huberman's (1989) beginning teachers' wellbeing, Lazarus and Folkman's (1984) coping mechanisms for stress, Kayıkçı's (2009) coping strategies with classroom management problems, and Emotional education of (Bisquerra, 2005). For the definition of coping, most of the studies did not mention specific definitions of the concept of coping. Some studies tried to define the concept of coping in terms of their research problem (e.g., classroom management, burnout, well-being, and avoidance or proactive coping strategies). A few studies mentioned the definition of coping by Lazarus and Folkman (1984), and no new definitions about the concept of coping were found in other studies.

From the analysis of 61 studies from 2016-2021, common research areas of coping issues in teacher education include coping strategies related to teaching-learning problems, psychological problems, and environmental problems impacting teaching-learning situations. Quantitative research methods are mostly used in the research problem areas relating to burnout, emotional capacity, mental health, tension, stressors, classroom management strategies, and psychological readiness. Meanwhile, researchers who researched coping in professional maintenance, inadequacy, challenging situation, psychological distress, professional maintenance, Covid 19, conflict, emotion relationship, ethical dilemma, and administrative existence topics prefer to employ a qualitative research approach in their studies.

Coping strategies related to stress issues are common trends from 2016 to 2021. Coping research about teachers' classroom management problems had been popular from 2016 to 2019. From 2020 to current, coping with the challenges of digital education and the Covid 19 case become popular. Regarding geographical area, coping research is mostly found in European countries compared to the United States and Asian countries.

Referring to theories of coping noted by Lazarus and Folkman (1984), participants in most of these 61 studies use problem and emotional-focused coping strategies when they face difficulties or problems. It was found that teachers used individual coping strategies from the microanalytic approach of coping models of Zeidner and Endler (1996). Concerning research methods, studies employed the primary research methods of the qualitative, quantitative, mixed-method. The quantitative research method is the most favorable among coping research in teacher education.

For data collecting tools, observation checklist, interview, survey, inventory, tests, reflection papers, and video recording are used to get the required data for the studies. Of the 61 studies, 24 studies used the interview method to collect the required data. The other 37 studies used the questionnaire, survey, tests, and inventory for measuring coping strategies. There are also mixed method study and these studies employed both interviews and questionnaires to get different opinions from their participants.

As research tools, studies mainly included Burnout Inventory-Educators Survey of Maslach et al. (1996), Brief COPE of Carver et al. (1989), Emotion Regulation Questionnaire of (Gross, 1998), Coping Scale for Adults by Frydenberg & Lewis (2014). The primary target group of participants includes teachers, principals, pre-service teachers, and students. Most quantitative researchers

employed structural equation models, confirmatory factor analysis, regression models, and correlation to measure coping strategies as an analytic strategy.

## 6. Conclusion

Research about coping issues in teacher education is increasing from 1975 to today. This paper identifies coping issues in teacher education research based on a systematic review of papers from electronic databases between 2016 and 2021. The literature review about coping includes definitions and theories of coping, research trends, and research methods. The researcher employed a systematic approach to review the literature between 2016 and 2021 from the electronic databases.

The findings of 61 studies can suggest pre-service teacher education policy and problems in problem-solving. Their findings also provide general information for student-teachers in their daily life's problems in school, classroom management challenges, burnout problems, and learning proactive strategies (e.g., Admiraal, 2020; Altay, 2016; Akdag & Haser, 2016; Eren, 2016; Gustems-Carnicer & et al., 2019; Haim & Amdur, 2016; Nasri & et al., 2020; Väisänen et al., 2018; Yayli, 2017), early childhood education (Cynthia & et al., 2016; Jeon & et al., 2016; Yumas, 2017), framework for coping strategies (Cruickshank & et al., 2020), particular education program (Arar & et al., 2016; Edward & et al., 2018; Marwa, 2018).

Most of the research on coping strategies focused on specific problem areas; there had been no other reviews about the broad overview of coping issues in teacher education research. This review summarizes a broader focus on coping theories and research about coping issues in different teacher education systems. It also includes research about coping with the impact of Covid 19 happening in the current time. Because of the pandemic situation, the coping issue will be much more popular in near future in the field of teacher education and general education.

During the Covid period, people suffered a lot of unexpected difficulties, shocks, and problems. They have to find ways to cope with this situation to be physically and mentally strong people. Thus, the researcher anticipates that new concepts to define coping, theories, and research tools about coping will emerge in near future in this field. However, this literature review provides scholars and future researchers for collecting literature, several tools for developing the questionnaire, different types of coping strategies, coping definitions, and theories related to coping research in teacher education.

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