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We are pleased to present you the third issue of the year 2021 (vol. 14, no. 3) which includes six articles of authors from the Czech Republic, Indonesia, Slovakia and Turkey. The central topic of this issue is related to students' and teachers' personal development.

In the first article "Reporting verbs and related syntactic choices in students' theses: A study of two disciplines", Martina Jarkovská and Lenka Kučírková investigate the use of reporting verbs in Master's theses written in English by students of Economics and Management and Natural Resources disciplines. The data were drawn from two sub-corpora, each consisting of 82 Literature Reviews. Besides determining the most frequent communicative functions, the authors further analyze reporting verbs in terms of the verb tense, voice, and subject-agent. The results revealed significant differences between the two disciplines. Students from Economics and Management used most reporting verbs in the present active with named-author as the subject, revealing a neutral attitude towards the reported message and neutrally summarising previous research outcomes. On the other hand, students from Natural Resources used most reporting verbs in the past tense, reporting on past research procedures or outcomes.

The second article "How University graduation shapes attitudes toward employment in different generations operating at job market?", Markéta Šnýdrová, Lucie Depoo and Ivana Šnýdrová investigated university graduates' attitudes towards job characteristics based on their generation. For this purpose, responses from 51 graduates from generation Z, 109 graduates from generation Y and 76 graduates from generation X were analyzed. Overall, graduates are oriented mostly towards development possibilities, positive relationships at the workplace, flow (interest in their job tasks and seeing them as fulfilling, having a job as a hobby), and, of course remuneration is still very important. However, significant differences can be observed. For example, graduates from generations Z and Y place higher importance to a friendly environment, remuneration and development possibilities, whereas the generation X graduates value more work-life balance and independence.

In the third article "Antecedents of private university students' satisfaction: The effects of traditional and electronic service quality", Leonnard investigated the effect of traditional and electronic service quality of private universities in Jakarta on students' satisfaction. A total of 151 students' responses from three private universities in Jakarta were collected. A factor analysis with the Principal Component Analysis method with Varimax rotation, Partial Least Square-Structural Equation Modeling (SEM) and Importance Performance Map Analysis (IPMA) were performed. The results showed that the perceived value of traditional service quality and web value significantly affected student satisfaction. More speciafically, in the case of the traditional service quality, perceived quality provided by administrative staff, university infrastructure support services significantly affected students' satisfaction. In the case of the context of electronic service quality, only accessibility and attractiveness had significant effects on students' satisfaction.

The fourth article "Teacher Accountability for Teacher Occupational Professionalism: The Effect of Accountability on Occupational Awareness with the Mediating Roles of Contribution to Organization, Emotional Labor and Personal Development ", Rabia Öztuzcu Küçükbere and Betül Balkar analyzed the relationship between teacher accountability and occupational professionalism by analyzing a proposed conceptual model of accountability and occupational professionalism dimensions. The correlational analysis was performed on a study sample of 576 middle school teachers from Gaziantep province in the southeast of Turkey. The study revealed that contribution to organization and emotional labor play a partially mediating role in the relationship between accountability and occupational awareness. Teachers' being accountable is related to their occupational professionalism. Therefore, it is recommended that obligatory standards can be put into effect regarding the number and characteristics of the professional development activities that teachers should take part in during a school year.

In the fifth article "How Teachers in Elementary Schools Evaluate Their Classroom Environments: An Evaluation of Functions of the Classroom Through an Environmental Approach", Gülnar Özyildirim researched the perception of 12 classroom teachers at four elementary schools about their classroom environment, specifically to reveal the situation about their classroom environment, its effects, and the desired classroom environment in terms of its functions. A semi-structured interview form and an observation form were used as data collection instruments. The results indicate that the majority of teachers were able to evaluate the classroom environment, but they were not able to express how the classroom can be designed better. Besides, the teachers stated that their classroom environments performed social, symbolic identity, and task instrumentality functions in a limited way for various reasons, while largely functioning the shelter and security.

Finally, in the sixth article "Burnout Syndrome and Dark Triad at Schools: Engineers as Teachers of Vocational

EDITORIAL

Technical Subjects", Radka Čopková intended to verify the relationship of three aversive personality traits (Machiavellianism, narcissism and psychopathy), nowadays known by experts as the Dark Triad, and burnout syndrome on the sample of vocational technical subject teachers. For this purpose, the author used the Slovak version of Short Dark Triad - SD3 and the adapted Slovak version of Maslach Burnout Inventory – HSS. The analyzed sample included 241 teachers of vocational technical subjects at Slovak secondary vocational schools. The results revealed that psychopathy is a significant predictor of emotional exhaustion and depersonalization. Moreover, the Dark Triad concept predicted 58% of burnout syndrome occurrence.

We would like to thank all authors who have submitted their articles to ERIES Journal and special thanks to all reviewers for their endless effort in revising the articles. As the ERIES Journal is indexed in the prestigious international databases, it is a commitment for us to publish high quality content of educational research. You can follow the latest updates related to the ERIES Journal on its LinkedIn page, where we post information about the highest cited articles and related upcoming events.

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CONTENT

REPORTING VERBS AND RELATED SYNTACTIC CHOICES IN STUDENTS' THESES: A STUDY OF TWO DISCIPLINES

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ABSTRACT

Adopting Hyland's (2002) framework of reporting words (RVs), the paper investigates the use of RVs in Master's theses written in English by students of two disciplines, Economics and Management and Natural Resources. The data were drawn from two sub-corpora, each consisting of 82 Literature Reviews, where other authors' research is summarised and commented on. Besides determining the most frequent communicative functions, in this paper, the RVs are further analysed in terms of the verb tense, voice, and subject-agent. The findings revealed significant differences between the two disciplines. In the former, most RVs were in the present active with named-author as the subject, conveying a neutral attitude towards the reported message and neutrally summarising previous research outcomes. Most RVs were in the past tense in the latter, reporting on past research procedures or outcomes. The findings reveal infrequent use of evaluative or critical verbs. Each discipline's predominant choice may suggest writers' lower ability to highlight the cited sources' direct relevance to their research. The study hopes to contribute to the efficacy of teaching English for Academic Purposes to non-native speakers. It has pedagogical implications for academic writing in both undergraduate and postgraduate courses at non-philological tertiary education institutions.

HOW TO CITE

Jarkovská M., Kučírková L. (2021) 'Reporting Verbs and Related Syntactic Choices in Students' Theses: A Study of Two Disciplines', *Journal on Efficiency and Responsibility in Education and Science*, vol. 14, no. 3, pp. 130-142. http://dx.doi.org/10.7160/eriesj.2021.140301

Highlights

- *Types and functions of reporting verbs in students' undergraduate theses analysed.*
- *Use of verb tense and voice in the integral citations with reporting verbs identified.*
- *Expressions of the cited author in integral citations with reporting verbs categorised.*

INTRODUCTION

The paper examines the use of reporting verbs (RVs) in the citation. Citing the work of others is a significant part of academic discourse, and RVs unarguably belong among its most essential features. While citing, writers often use RVs to present, criticise or dispute other writers' opinions and claims, and express their own (Hyland, 1999).

There have been many studies conducted on the citation structure (e.g. Hyland, 1999; Swales, 1990) or the function of citation (e.g. Harwood, 2009; Hyland, 1999; Jomaa and Bidin, 2016; Mansourizadeh and Ahmad, 2011; Petrić and Harwood, 2013; Swales, 1990). Swales (1990) was the first to make a distinction between an integral and non-integral citation. The former contains the name of the reported researcher in the grammar of the reporting sentence and emphasises the

messenger, e.g. "*Swales (1990) makes a distinction…*" The latter refers to the researcher only in parenthesis or superscript numbers, emphasising the reported massage (Lee, Hitchcock and Casal, 2018). Swales (1990) further distinguished between reporting citations, including RVs, and non-reporting citations that did not. Although the citation conventions (author/date and numerical) might affect the writer's choice between citation patterns, it is noted that the citation pattern choices, as well as the choices of RVs in reporting structures, can mainly be attributed to disciplinary differences (Hyland, 1999; Hyland and Jiang, 2017). This paper focuses on RVs in reporting structures irrespective of the (non) integrity or the citation conventions used.

The research was conducted on Literature Review sections of Master theses written in English by second language (L2)

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learners, university students of two disciplines, Economics and Management and Natural Resources, at the Czech University of Life Sciences Prague (CULS Prague). According to Soler-Monreal and Gil-Salom (2011), it is this section of a thesis where citations are mostly found, presenting historical background, discussing theories and concepts, showing related research, and clarifying terminology concepts parallel with the context of the research (Ridley, 2008). The objective was to determine how frequently the students used specific RVs and their evaluative functions and how significant the difference was in their usage between the two disciplines. Another objective was to provide us with better insight into students' performance when writing their Master's theses in English. As Bloch (2010) points out, for L2 learners, it is often difficult to choose the RVs that can both meet the syntactic requirements of the reporting sentence and, at the same time, express their attitudes toward the reported claims. Although RVs are one of the essential items in writing statements for academic writing (Hyland, 1998), the findings from the research performed on students' academic writing (Ramoroka, 2014) and Master's theses in particular (Manan and Noor, 2014, 2015; Nguyen and Pramoolsook, 2015, 2016) show that students are not always fully aware of how to use RVs appropriately. Besides the semantic evaluation of the RVs, the paper's focus was also on the syntactic aspects of the structures containing the RVs, i.e. the choice of the verb tense and voice used in the predicate and the choice of the sentence subject-agent.

Reporting verbs

RVs have been investigated in terms of their types and functions (Thompson and Ye, 1991; Thomas and Hawes, 1994; Hyland, 2002), tense choices (Hawes and Thomas, 1997; Swales and Feak, 2004) or semantic evaluation (Hyland, 2002; Petrić and Harwood, 2013; Swales, 2014), providing beneficial academic writing implications and introducing criteria for categorising RVs in the academic setting. One of the most insightful categorisation frameworks was introduced by Hyland (1999, 2002). Drawing from previous classification frameworks (Thompson and Ye, 1991; Thomas and Hawes, 1994), Hyland (1999) categorised RVs into three main functional types as Research Acts indicating experimental activity carried out in the real world (e.g. *observe*, *discover*, *show*), Cognition Acts associated with the researcher's mental processes (e.g. *believe*, *suspect*, *assume*), and Discourse Acts concerned with linguistic activities focusing on the verbal expression of cognitive or research activities (e.g. *discuss*, *report*, *state*). Hyland's (2002) model, adopted for this study, is summarised in Figure 1.
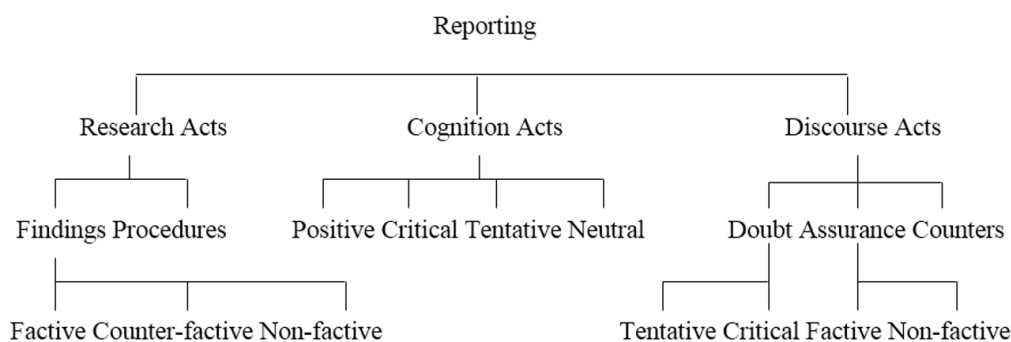
Figure 1: Categories and subcategories of reporting verbs (Hyland, 2002: 119)

Dividing each type of RVs into minor subsets based on their evaluative function in the discourse - unlike his predecessors (Thompson and Ye, 1991; Thomas and Hawes, 1994), Hyland (2002) introduces another perspective, the writer. In citations, writers can thus take either a supportive, tentative, critical, or neutral stance towards the reported claim and vary their commitment by employing RVs, which imply a personal stance (e.g. *show*, *demonstrate*) or attribute a position to the cited author (e.g. *accuse*, *believe*).

Unlike previous studies (Thompson and Ye, 1991; Thomas and Hawes, 1994), Hyland (1999, 2002) draws conclusions from multi-disciplinary research. As Hyland (1999) claims, the categorisation cannot be considered "watertight" as it allows for overlaps among the categories. For example, *agree*, categorised as a cognitive verb, implies a strong verbal expression, a characteristic feature of discourse verbs. Similarly, *analyse,* a procedural Research Act verb may refer to mental processes and classify as a cognition

verb. Nevertheless, such „inconsistencies" may not necessarily cause ambiguities regarding the verb's primary function in context. Thus, the framework categorising RVs into processes whose evaluative functions are further sub-categorised according to the writer's stance towards the reported message seems best suited for analysing the student-writer's understanding of the cited context.

Other ways of examining reporting verbs

Another way of examining RVs is by exploring their syntactic patterns. Besides classifying types and functions of RVs (Thomas and Hawes, 1994), in further research performed on articles from the Journal of Psychosomatic Medicine, Hawes and Thomas (1997) found that the leading choices for the verb in reporting sentences were the past tense in the active voice, followed by present tense and present perfect active and passive. Moreover, the tense choice correlated with RVs' categorisation into discourse and non-discourse verbs (Thomas and Hawes, 1994). Citations with RVs in the past tense and

with the researcher's name as the subject provide particulars for a previous generalisation or a claim, while citations with the verb in the present tense communicate generalised interpretations and suggest the writer's commitment to the reported information. The present perfect tense in citations usually highlights previous studies' relevance to the writer's research write-up (Hawes and Thomas, 1997). Likewise, Swales and Feak (2004) stated that the past tense was used to refer to single studies, the present tense referred to an inquiry area, and the present perfect tense was preferred when referring to current knowledge. It could be noted that the distinction between past and present is rather citation-specific. For instance, the difference in meaning between "*find*" and "*found*", non-factively commenting on research findings, might be insignificant, depending on the time frame between the original and reported message. In contrast, with a cognition RV "*believe*" portraying the cited material in terms of mental processes, the used tense could imply a significant meaning difference. The present perfect is usually used to refer to a body of cited research that is being summarised.

In another classification, Thompson (2005) categorised reporting citations according to their contextual functions. The Verb Controlling category emphasised the RV rather than a cited author in the subject's position in the active clause, e.g. "*Thomson (2005) categorised…*" In the Naming category, the emphasis was instead on the cited author referred to in a noun phrase, e.g. *"…another categorisation is shown in Thomson (2005)"*. The rhetorical functions of citations irrespective of their (non)-integrity were further analysed, e.g. by Harwood (2009) and Petrić and Harwood (2013).

In Swales' (2014) classification of reporting citations, the cited author has either a role of the sentence subject, e.g. "*Swales (2014) indicates…*", adjunct, e.g. "*… was indicated by Swales (2014)* or can be a part of a noun phrase depending on the level of integration into the clause structure. Adopting the Functional Theory approach and enhancing Swales' (2014) classification, Jomaa and Bidin (2016) identified the cited author's role in clauses of integral citations under the interpersonal meanings as the subject, adjunct, and complement. Under experiential meanings associated with the verb types, represented by, e.g. mental, verbal or behavioural processes, Jomaa and Bidin (2016) identified as many as thirteen functional roles of the cited author, among them the most dominant "Sayer", "Actor", or "Senser". The roles of the cited author under the experiential meanings conflate with the roles of the cited author under the interpersonal meanings, i.e. "Sayer", "Actor", and "Senser" as the subject in active clauses. In passive clauses, the cited author functions as an "Agent" and corresponds with the author's functional role as the adjunct (Jomaa and Bidin, 2016).

Genre studies on reporting verbs across disciplines

Besides investigating the types, functions, syntactic aspects and semantic evaluation of RVs, research has focused on using RVs in the citation in various genres or disciplines. Much research has been performed on research articles (RAs), a pre-eminent research genre in many disciplines (Hyland, 1998). According to Hyland (1999), RVs are more frequent in soft disciplines (e.g. humanities), where they allow writers to show their stance and evaluation, rather than in hard disciplines (e.g. biology, chemistry) where non-integral citations prevail. Similarly, Thompson and Tribble (2001), Hyland and Jiang (2017) and Uba (2020) attribute a higher use of RVs in soft disciplines to the nature of disciplinary discourse, where a certain level of subjectivity is prevalent. Jafarigohar and Mohammadkhani (2015) compared RVs in applied linguistics RAs by non-native and native English writers, while Mansourizadeh and Ahmad (2011) examined RVs in chemical engineering RAs by non-native experts and non-native novice writers. Both studies confirm the higher frequency of RVs to synthesise reported material in native and non-native expert writing. Agbaglo (2017) investigated RVs' use in the university Department of English lecturers' RAs, showing a preference for Discourse Acts types compared to less frequently used Research Acts and the Cognitive Acts categories (Hyland, 2002).

Several studies have concentrated on RVs in university undergraduate students' writing. Lee, Hitchcock and Casal (2018) explored research papers written by university 1st-year L2 learners. The findings indicated a restricted use of reporting citations and adopting a non-committal stance rather than a strong positive or negative position towards a cited material. Similarly, Liardét and Black (2019) have found that L2 learners majoring in predominantly soft domain disciplines rely on merely acknowledging structures such as *state* or *according to* in their university assignments, providing thus no subjective stance on the reported source. Analysing a corpus of 80,000 words from essays written by non-native undergraduates of two university departments of media studies and education, Ramoroka (2014) concludes that soft domain students use informative RVs neutral in passing the information from the source to the reader rather than interpreting the information cited. Similar results emphasising students' negligence to employ RVs in their variety were obtained by Manan and Noor (2015), who examined the use of RVs in undergraduate Master's theses by L2 learners majoring in English studies. According to Jomaa and Bidin (2016, 2017, 2019), who explored postgraduate students' theses, students depend on RVs to highlight ideas, attract readers' attention, affirm credibility to the cited information, or refer to the information. As Jomaa and Bidin (2019) argue, little information on the use of RVs in citation and students' native language interference may result in the need for more explicit instruction on the use of RV in the citation. The findings from both the hard and the soft domain thus indicate the necessity of raising students' awareness of using RVs in the citation at a postgraduate level (Jomaa and Bidin, 2019) and an undergraduate level (Manan and Noor, 2015; Nguyen and Pramoolsook, 2014, 2015, 2016; Samraj, 2013).

Aim and research questions

The present paper aims to contribute to and shed more light on RVs' employment in undergraduate students' writing. Previous studies on RVs in undergraduate writing (Liardét and Black, 2019; Manan and Noor, 2014, 2015; Ramoroka, 2014) point to a relatively limited repertoire of RVs used in the citation. Unfortunately, most such research has been limited to one discipline or one disciplinary domain only (e.g. Lee, Hitchcock and Casal, 2018; Liardét and Black, 2019). However, research conducted on another genre - RAs - shows disciplinary differences in the use of RVs in the citation (e.g. Hyland and Jiang, 2017; Uba, 2020). We ask whether such differences in the use of RVs in citation can be traced in undergraduate writing.

Moreover, while studies performed on undergraduate writing mostly look at types and functions of RVs in the citation (e.g. Manan and Noor, 2014, 2015; Ramoroka, 2014), studies looking into the syntactic aspects such as the tense and voice of RVs used in reports are surprisingly missing. However, we believe that incorrect tense or voice choices in reporting structures might be challenging for L2 learners. We also raise the question of the subject-agent choice, which seems to be equally neglected. However, for L2 learners, the subject/verb agreement might easily present another conflicting issue. Together with RVs' vague or inappropriate choices, this may hinder students' academic writing quality.

This study thus set out to analyse the types of RVs and the underlying structures of the structures containing the RVs used in the theses written in English by L2, the students of two Master's programs, Economics and Management and Natural Resources, the former representing a "soft" and the latter "hard" discipline (Hyland, 1999). The investigation into the disciplinary differences in RVs usage may help us understand the choices student-writers make and may navigate us in improving the methodology of class instruction.

The study employed Hyland's (2002) categorisation framework enabling the division of RVs into categories according to the processes they describe. The classification further allows for a minute distinction of evaluative functions the RVs carry in each category, enabling the writer to position the reported claim or cited author. Thus, the study investigated only such reports which contained both the RV and the author expressed in the reporting structure (Swales, 1990).

The study sought to address the following research questions:

1. Which types and functions of RVs are used in Master's theses, and is the usage of RVs in the two disciplines different?
2. What verb tense and verb voice are used in the reports containing RVs?
3. How is the subject-agent expressed in the reports containing RVs?

MATERIALS AND METHODS

Research design

The research was performed on 164 Master's theses written in English by non-native speakers, students of two English programs studied at CULS Prague, Economics and Management and Natural Resources. The language of instruction in both programs is English. To be eligible to study the programs, students need to have an upper-intermediate to the advanced command of English, i.e. minimum at B2 level based on the Common European Framework for Languages. The created corpus contained 164 Literature Review sections from Master's theses that met the following criteria: 1) the theses were available online - to meet this criterion, only the theses no older than January 2016 could be considered, 2) were successfully defended between January 2016 and June 2020 - at the time of performing this research no more recent theses were available, and 3) were written by non-native speakers - English L2 learners, which was verified by checking the students' bio-data available online. The corpus consisted of 164 texts and comprised 854,575 words in total, with each of the two sub-corpora having 82 texts. The Economics and Management (EM) sub-corpus contained 439,395 words in total, the length of individual texts varying from 3,899 to 6,401 words and amounting to 5,358 words per text on average. The Natural Resources (NR) sub-corpus contained 415,219 words in total, with the length of individual texts between 2,998 and 6,550 words and with 5,064 words per text on average. The texts in the sub-corpora were carefully read and searched for the occurrences of citations containing RVs.

The types of citations under analysis are illustrated in examples (1-3). Only such reporting structures were analysed where the name of the agent was specified either in the subject position - see example (1), or as a "by-adjunct" in the sentence structure - see example (2), or as a generalised or meta-linguistic expression used in place of the agent - see example (3). In the examples (1-3), both the RVs and the agent are italicised:

> (1) *"Clifford and Thorpe* (2007) *divide* forms of self-directed learning into three to four main categories." (EMLR6RV5);
> (2) "It *is* also *suggested by Becker and Armstrong* (2002) that an organisation must anticipate and consecutively satisfy the employees' needs." (EMLR2RV2);
> (3) *"The study revealed* that genetic factors influence job satisfaction by 30 per cent." (EMLR3RV5)

Each reporting structure was allocated a code - e.g. EMLR1RV1 - where LR1 stood for the Literature Review randomly coded from 1 to 82 and RV1 for the RV order in the particular section.

Method of analysis

Altogether 1,359 occurrences of RVs were extracted, 837 from the Economics and Management sub-corpus and 522 from the Natural Resources sub-corpus. The frequencies of individual RVs occurrences were counted. Frequencies are used to indicate how often a phenomenon occurs and are based on counting the number of occurrences (Seliger and Shohamy, 1990). Using descriptive statistics, we provided the frequencies of occurrences and the percentages of RVs identified in the corpus. We used a checklist to identify the RVs into categories and functions based on the indicators

given by Hyland (2002). The checklist seemed to be the most suitable instrument as it guided us about the essential aspects or characteristics that should be focused on (Manan and Noor, 2014). To ensure the reliability and validity of the results, we consulted two independent coders during the data analysis.

The present study employed Hyland's (2002) framework of categorising RVs according to their evaluation of the RV's processes they describe or represent in the discourse, involving the writer's attitude to the reported context. After implementing the classification, the RVs' structures were analysed using verb characteristics, i.e., tense and voice.

The tense is related to RVs' use, indicating how much the writer supports the cited author's claim (Swales, 1990).

In example (1), the writer uses the procedural research verb in the present tense (*divide*) to summarise the previous research. In contrast, in example (2), by using the tentative discourse verb in the passive (*is suggested*), the writer assumes the reader already knows what the cited authors found. In example (3), however, the use of the cognition verb in the past tense (*revealed*) implies the writer's opinion that the finding is new. Finally, the type and position of the sentence subject-agent

were discussed. Since the paper aimed at the use of RVs and the related choice of the tense and voice, the cited author was understood as an "agent" or "doer" of the verbal activity expressed by the RV and positioned either as the subject in an active clause, as in example (1), or as the "by-adjunct" in a passive clause (2), with possibilities of other linguistic expressions further explored, e.g. as in example (3). Since in this analysis, the cited author is limited to two roles (Swales, 2014), i.e. the subject (1, 3) and the adjunct (2), the further categorisation of the contextual roles (Jomaa and Bidin, 2016) was marginal.

RESULTS

Types and functions of reporting verbs (1st research question)

The findings show a rather significant difference in the employment of RVs between the two sub-corpora. In economics and Management, 837 occurrences were recorded, averaging out to 10.21 occurrences per text; it was only 522 in Natural Resources, with a mean occurrence of 6.37 verbs per text (Table 1).

RVs	Economics and Management		Natural Resources	
	Occurrences in the corpus	Mean occurrence per text	Occurrences in the corpus	Mean occurrence per text
Discourse	573 (68.46%)	6.99	183 (35.06%)	2.24
Research	174 (20.79%)	2.12	336 (64.37%)	4.10
Cognition	90 (10.75%)	1.10	3 (0.57%)	0.03
Total	837 (100%)	10.21	522 (100%)	6.37

Table 1: Frequencies of reporting verbs in the sub-corpora and their mean frequency per text

A minimal marginal occurrence was 0 (2 texts) in Economics and Management and 1 (3 texts) in Natural Resources, while the maximum marginal occurrence was 26 (1 text) in Economics and Management and 22 (1 text) in Natural Resources. In the sub-corpora, we can observe a contrary trend. In Economics and Management, the most highly represented were Discourse Acts verbs (68.46%), followed by a significantly lower occurrence of Research Acts verbs (20.79%) and even lower occurrence of Cognitive Acts verbs (10.75%). The highest frequency of occurrences in Natural Resources can be attributed to Research Acts verbs (64.37%), followed by Discourse Acts verbs (35.06%). The frequency of Cognition Acts verbs is relatively insignificant, with only three occurrences (0.03%).

As Table 2 illustrates, within Discourse Acts, the most highly represented category of RVs in Economics and Management, the Assurance verbs were by far the most frequent (95.29%). The non-factive verbs (56.55%), neutrally informing the reader of the author's position towards the cited material, were used more frequently than the factive verbs (38.74%) employed by the writers to bolster their views and introduce the cited material in more positive or conclusive terms. In Natural Resources, the difference between non-factive (59.02%) occurrences and factive (8.19%) verbs was even more significant.

Although Counters, the final category of Discourse Acts verbs, referring to the author's reservations or objections to the correctness of the reported message, had no representatives in the Economics and Management sub-corpus (0%), in Natural Resources, the verb *fail* from Counters was recorded in three occurrences (1.64%).

While in the Natural Resources sub-corpus, the difference in occurrences between Assurance (68.85%) and Doubt (31.15%) discourse verbs could be considered relatively moderate, in Economics and Management, the difference between Assurance (95.29%) and Doubt (4.71%) verbs was rather significant. All 27 occurrences in Economics and Management can be attributed to the tentative Doubt verb *suggest* (4.71%). In Natural Resources, the occurrences can be attributed not only to *suggest*, which turned out to be the most frequented discourse verb in Natural Resource but also to tentative *hypothesise* and *indicate*, both recorded in lower frequencies (Table 3). The Doubt category verbs that are directly critical (0%) were not used in either sub-corpus.

Research Acts verbs (Table 2) were by far the most frequent category in Natural Resources (64.37%) as opposed to Economics and Management (20.79%). However, in both disciplines, Procedure verbs considerably prevailed over Findings verbs, displaying higher frequency in Natural Resources (183) than in Economics and Management

(108). Similarly, the Findings verbs were recorded in higher frequency (153) in the Natural Resources sub-corpus than in Economics and Management (66), with factive verbs (111) significantly exceeding non-factive verbs (39). In contrast, in Economics and Management, the factive verbs' frequency (20.69%) was slightly higher than that of the non-factive verbs (17.24%).

Of the least represented Cognitive Acts verbs (10.75% in Economics and Management and 0.57% in Natural Resources), it was the positive Cognitive Acts verbs (70%) that occurred in abundance in the Economics and Management sub-corpus, mainly thanks to the 33 occurrences of *agree* representing the author as having a positive attitude to the reported material (Table 3). They were followed by the neutral verbs (23.33%) representing the author as having a neutral attitude toward proposition and tentative verbs (6.67%) represented by *believe* in 6 occurrences. Unlike in the Natural Resources sub-corpus, where *believe* was the only cognitive verb recorded in three occurrences only. Cognitive verbs presenting the author as taking a critical stance (0%) toward the cited message were not found in either sub-corpus.

Table 3 displays the most commonly used RVs with the frequency of occurrences ≥ 5 in the sub-corpora. It could be noted that Economics and Management students used Discourse Acts verbs in abundance and variety, whereas Natural Resources students' usage was scarcer.

In Economics and Management, the non-factive Discourse Acts verbs *state* and *point out* informing the readers neutrally of the authors' position were found in 75 and 69 occurrences each, amounting to 13.09% 12.04% of all Discourse Acts verbs (Table 3). The verb *claim* (10.99%)

supporting the reported information was the most frequent factive Assurance verb in 63 occurrences. Other most frequently used Discourse Acts verbs were non-factive Assurance verbs *define* in 57 occurrences (9.95%), *describe* in 54 occurrences (9.43%), and *mention* in 48 occurrences (8.38%), followed by *suggest* in 27 occurrences (4.71%). In Natural Resources, the tentative *suggest* in 48 occurrences (26.23%) and the non-factive *report* in 45 occurrences (24.59%) were the two most frequented discourse verbs followed by the non-tentative *state* in 15 occurrences only. Unlike Economics and Management students (20.79%), Natural Resources students tended to use Research Acts verbs to report on the statement of findings or researchers' procedures much more frequently (64.37%), with the most frequent factive Findings verb *show* (51 occurrences) followed by two most frequently used Procedures verbs *conduct* and *carry out* (each in 30 occurrences).

While in Natural Resources texts, the Cognitive Acts verbs recorded only one representative in three occurrences, *believe* (0.57%), illustrating the author as having a tentative view of the reported matter, in Economics and Management, the use of cognitive verbs was slightly higher (10.57). The most frequent was *agree* in 33 occurrences (36.67%), followed by *think* in 15 occurrences (16.67%), both verbs representing authors as having a positive attitude.

We might argue that a "neutral" attitude also reflects a positive attitude toward the cited author as *believe* does. The uses do not seem to imply any difference. Consequently, it could be argued that all the verbs cited describe the tentative position of the author. These verbs allow the writer to take a critical stance, although they are not inherently critical.

Category/ Subcategory	Economics and Management		Natural Resources	
	Frequency	Percentage	Frequency	Percentage
Research Acts	**174**	**20.79**	**336**	**64.37**
Findings	66	37.99	153	45.54
Factive	36	20.69	111	33.04
Non-factive	30	17.24	39	11.61
Counter-factive	0	0.00	3	0.89
Procedures	108	62.07	183	54.46
Cognitive Acts	**90**	**10.75**	**3**	**0.57**
Positive	63	70.00	0	0.00
Critical	0	0.00	0	0.00
Tentative	6	6.67	3	0.57
Neutral	21	23.33	0	0.00
Discourse Acts	**573**	**68.46**	**183**	**35.06**
Doubt	27	4.71	57	31.15
Tentative	27	4.71	57	31.15
Critical	0	0.00	0	0.00
Assurance	546	95.29	126	68.85
Factive	222	38.74	15	8.19
Non-factive	324	56.55	108	59.02
Counters	0	0.00	3	1.64
Total	**837**	**100**	**522**	**100**

Table 2: Frequencies of reporting verbs in different evaluative functions in the discourse

Economics and Management			Natural Resources		
Category / RV	Frequency	Percentage	Category / RV	Frequency	Percentage
Discourse Acts	**573**	**68.46**	**Discourse Acts**	**183**	**35.06**
state	75	13.09	*suggest*	48	26.23
point out	69	12.04	*report*	45	24.59
claim	63	10.99	*state*	15	8.19
define	57	9.95	*propose*	9	4.92
describe	54	9.43	*argue*	8	4.37
mention	48	8.38	*define*	7	3.83
suggest	27	4.71	*highlight*	6	3.28
argue	15	2.62	*indicate*	6	3.28
stress	15	2.62	*mention*	6	3.28
highlight	15	2.62	*say*	6	3.28
say	13	2.27	*RVs ≤ 5*	27	14.75
conclude	12	2.09			
introduce	11	1.92			
predefine	9	1.57			
emphasise	8	1.39			
RVs ≤ 5	82	14.31			
Research Acts	**174**	**20.79**	**Research Acts**	**336**	**64.37**
add	51	29.31	*show*	51	15.19
examine	12	6.89	*conduct*	30	8.93
recommend	10	5.75	*carry out*	30	8.93
observe	10	5.75	*study*	24	7.14
compare	9	5.17	*find*	15	4.46
conduct	9	5.17	*develop*	15	4.46
find	8	4.60	*analyse*	13	3.87
confirm	6	3.45	*confirm*	12	3.57
divide	6	3.45	*use*	12	3.57
explore	6	3.45	*demonstrate*	10	2.98
display	6	3.45	*establish*	9	2.67
RVs ≤ 5	41	23.56	*evaluate*	8	2.37
			achieve	6	1.79
			observe	6	1.79
			present	6	1.79
			indicate	5	1.49
			RVs ≤ 5	84	25.00
Cognition Acts	**90**	**10.75**	**Cognition Acts**	**3**	**0.57**
agree	33	36.67	*believe*	3	0.57
think	15	16.67			
reveal	12	13.33			
perceive	9	10.00			
believe	6	6.66			
RVs ≤ 5	15	16.67			
Total	**837**	**100**	**Total**	**522**	**100**

Table 3: Most common reporting verbs with occurrences ≤ 5

The verb tense and voice in reporting structures containing reporting verbs (2nd research question)

In Economics and Management texts, the student-writers preferred the present active (78.85%), followed by considerably lower use of the past active (13.98%) and even less effective use of present perfect active. In Natural Resources, it was the past active (64.37%) that significantly dominated over the present active (8.62%) and the present perfect active (2.30%). Table 4 illustrates the distribution of the overall use of tense and voice forms found in RVs' structures across the sub-corpora.

As regards the passive forms, they were much more frequently used by the students of Natural Resources. The most frequent was the past passive (20.12%), which was thus the second primary choice after the active forms in the past tense (64.37), followed by the present passive (2.87%) and the present perfect passive (1.72%). In reporting structures from Economics and Management, the passive voice was used only in the present (4.30%) and past tense (1.08%).

Table 5 and Table 6 present the tense and voice forms in correlation with RVs categories used in the sub-corpora.

Tense and Voice	Economics and Management		Natural Resources	
	Frequency	Percentage	Frequency	Percentage
Present active	660	78.85	45	8.62
Present passive	36	4.30	15	2.87
Present perfect active	15	1.79	12	2.30
Present perfect passive	0	0.00	9	1.72
Past active	117	13.98	336	64.37
Past passive	9	1.08	105	20.12
Total	**837**	**100%**	**522**	**100%**

Table 4: Tense and voice in reporting structures with reporting verbs

Economics and Management					
Verb tense and voice	Research Acts		Discourse Acts		Cognitive Acts
Present active	123	70.69%	450	78.54%	87	96.67%
Present passive	0	0.00%	36	6.28%	0	0.00%
Present perfect active	6	3.45%	9	1.57%	0	0.00%
Present perfect passive	0	0.00%	0	0.00%	0	0.00%
Past active	45	25.86%	69	12.04%	3	3.33%
Past passive	0	0.00%	9	1.57%	0	0.00%
Total	**174**	**100%**	**573**	**100%**	**90**	**100%**

Table 5: Tense and voice choices in correlation with reporting verbs' categories in Economics and Management

Natural Resources					
Verb tense and voice	Research Acts		Discourse Acts		Cognitive Acts
Present active	15	4.46%	30	16.39%	0	0%
Present passive	6	1.79%	6	3.28%	3	20%
Present perfect active	12	3.57%	0	0.00%	0	0%
Present perfect passive	3	0.89%	6	3.28%	0	0%
Past active	231	68.75%	105	57.38%	0	0%
Past passive	69	20.54%	36	19.67%	0	0%
Total	**336**	**100%**	**183**	**100%**	**3**	**100%**

Table 6: Tense and voice choices in correlation with reporting verbs' categories in Natural Resources

In Economics and Management (Table 5), where the most frequent RVs category were Discourse Acts, the primary choice was the present active accounting for 78.54% of Discourse Acts verbs. However, the present active was the prevalent choice in Research Acts (70.69%) and cognitive act verbs (96.67%).

The present tense can be used with verbs of communication to make a generalisation as in example (4) and imply that the information communicated as the result of past communication is still operative, as in example (5). Both are illustrated on a tentative discourse verb *suggest*:

> (4) "Yao et al. (2013) *suggest* that BC can play a role in the retention of P applied in fertilisers." (NRLR3RV4)
> (5) "Denton (1998) *suggests* that naturally it depends on the size and resources given, whether the organisation seeks for some kind of assistance." (EMLR20RV2)

With Discourse Acts verbs, which linguistically express reported findings, procedures and mental processes, the writers opted for the present tense forms to emphasise the significance of the reported messages to their studies. Thus, the present active was a predominant choice for Discourse Acts verbs in the Natural Resources sub-corpus (16.39%) instead of only 4.46% of Research Acts verbs in the present tense (Table 6). The primary tense choice for Natural Resources texts, where Research Acts verbs were predominant, was the past active,

the most frequently used tense for Research Acts (57.38%) and Discourse Acts verbs (68.75%). Its use implies a greater distancing of the writer from another author's reported message and less relevance to the writer's research, as is illustrated by a non-factive discourse verb *summarised* in example (6). Alternatively, as in example (7), the procedural Research Acts verb describes a past process with significance to a current study:

> (6) "Dolinar et al. (2007) *summarised* relationship between clay mineralogy and Atterberg's limits." (NRLR50RV3)
> (7) "Bart Victor and John B. Cullen (1988) *discovered* a typology of ethical climate." (EMLR23RV2)

Similarly, the use of past tenses may reflect the dating of the research, not necessarily the relationship of the writer to the cited author, i.e. the reported message might be older but not less relevant. Thus, also the Economics and Management writers (Table 5) used the past tense forms for Research Acts verbs in a higher percentage (25.9%) than for Discourse Acts verbs (12.0%) or Cognitive Acts verbs (3.3%).

A higher percentage of the present perfect active forms in Economics and Management (Table 5) were recorded for the Research Acts verbs (3.45%) than for the Discourse Acts verbs (1.57%). In Natural Resources, the present perfect active was used with Research Acts verbs only (3.57%), setting up

a current situation that was created by previously reported research, as illustrated by a research verb *show* in example (8):

(8) "Research *has shown* that only genes coding GCPII are present in trematodes and nematodes." (NRLR10RV2)

Since "*research*" is a collective noun, it indicates a proper use of the present perfect reflecting a summary of research supporting the relevance of the writer's write-up. Such a tendency to review a group of research summarised using the present perfect was more profound in the texts by Natural Resources writers.

Although most RVs in both sub-corpora were used in active forms, several Discourse Acts verbs in Economics and Management (Table 5) occurred in the present passive (6.28%) and the past passive (1.57%). In Natural Resources (Table 6), the use of passive forms was considerably more significant as the passive forms occurred in structures with RVs from all three categories in both the present and the past tense. Although the past passive predominated in Research Acts (20.54%) and Discourse Acts (19.67%) over the present passive (1.79% Research Acts and 3.28% Discourse Acts), the three occurrences of *believe*, the only Cognitive Acts verb in the sub-corpus, were in the present passive:

(9) "It *is believed* by Oldeman (1991) that the value underestimates the real degree of pollution." (NRLR23RV2)

The subject-agent in citations containing reporting verbs (3rd research question)

In both sub-corpora, in most structures, the subject-agent was expressed as a named-author. While in Economics and Management (Table 7), a single-named author (e.g. "*Denton (1998) suggests…*") exceedingly prevailed over a multiple-named author, in Natural Resources (Table 8), it was a multiple-named author as subject (e.g. "*Dolinar et al. (2007) summarised…*") that was predominant. While in Economics and Management, we can also observe a pronominal subject in place of a single-named author; in Natural Resources, no pronominal replacement was recorded.

Although subject-agent expressed by other means than the name(s) of the author(s) (e.g. "*The study revealed…*", "*Research has shown…*") was much less frequent in both sub-corpora, in Natural Resources the frequency of use was more significant than in Economics and Management. In all passive forms under analysis, the agent-author was expressed as a by-adjunct (e.g. "*…is believed by Oldeman (1991)…*", "*…is suggested by Becker and Armstrong (2002)…*").

Economics and Management						
Tense/Subject-agent	Present Active		Past Active		Present Perfect Active	
Named author	630	95.45%	99	84.62%	9	60%
Single-named author	480	76.19%	63	63.64%	0	0%
Pronominal (*he*, *she*)	42	6.67%	6	6.06%	0	0%
Multiple-named author	108	17.14%	21	21.21%	9	100%
Pronominal (*they*)	0	0.00%	9	9.09%	0	0%
Meta-text term	30	4.55%	18	15.38%	6	40%
Total	**660**	**100%**	**117**	**100%**	**15**	**100%**

Table 7: Subject-agent in correlation with tense choice in Economics and Management

Natural Resources						
Tense/Subject-agent	Present Active		Past Active		Present Perfect Active	
Named author	27	60%	276	82.14%	0	0%
Single-named author	0	0%	12	4.35%	0	0%
Pronominal (*he*, *she*)	0	0%	0	0.00%	0	0%
Multiple-named author	27	100%	258	93.48%	0	0%
Pronominal (*they*)	0	0%	6	2.17%	0	0%
Meta-text term	18	40%	60	17.86%	12	100%
Total	**45**	**100%**	**336**	**100%**	**12**	**100%**

Table 8: Subject-agent in correlation with tense choice in Natural Resource

Summary of the results

It could be argued that the number of occurrences could not guarantee the frequency of the actual use of the verbs. However, we can observe the consistency of our results with other research, which showed variations. Studies confirmed the predominance of RVs in soft disciplines as opposed to hard domains (Hyland and Jiang, 2017; Uba, 2020). In soft fields, discourse verbs tend to predominate not only in the writing of inexperienced (Lee, Hitchcock and Casal, 2018; Liardét and Black, 2019; Ramoroka, 2014) or non-native writers

(Jafarigohar and Mohammadkhani, 2015), but they seem to be a superior choice also for native speakers (Hyland, 1998; 1999). Our findings suggest similar disciplinary variations. The number of RVs occurrences in the Natural Resources was strikingly lower than the number of occurrences in the Economics and Management sub-corpus. The vast majority of the occurrences of the RVs in Economics and Management were non-factive Assurance Discourse verbs, while in Natural Resources, it was Procedures Research Acts verbs. Procedures verbs also dominated among less frequent Research Acts in

Economics and Management. Similarly, non-factive Assurance verbs were more frequent among much less used Discourse Acts verbs in Natural Resources.

Cognitive Acts verbs, positive and neutral, occurred scarcely in Economics and Management and were nearly lacking in Natural Resources. Occurrences of RVs in other critical evaluative functions were, except for one occurrence in Natural Resources, virtually non-existent.

Research reports present active forms as dominant in native speakers' soft domain writing (Swales and Feak, 2004). In both sub-corpora, most RVs occurred in active forms. The findings thus do not suggest overuse of the passive. However, in some instances, they might point to inappropriate, if not incorrect use, as shown in example (2) on a tentative discourse verb *suggest* and neutral cognitive verb *believe* (9). The majority of discourse verbs in the Economics and Management sub-corpus were in the present active. Although it may seem that the Economics and Management students-writers used the past tense in a higher number of occurrences of Research Acts verbs rather than Discourse Acts, the present tense remains to be the significant tense choice in the sub-corpus. In Natural Resources, it was the past active used in most structures with Research Acts verbs. Despite being predominant, the past tense was not the foremost choice for Discourse Acts verbs, where the present tense was preferred. However, the results from Economics and Management seem to suggest the overuse of the present tense. When reporting on older sources dated in the past, the present tense might no longer feel appropriate, cf. example (5). The present perfect was used relatively infrequently in either sub-corpus, with a moderately higher frequency of Research Acts verbs in the present perfect in Natural Resources.

Research suggests the dominance of the cited author as the sentence subject in active clauses followed by the cited author as the by-adjunct in passive clauses (Swales, 2014). In the sub-corpora, in the vast majority of citations, the cited author was the sentence subject. Expressions other than the name of the cited author's name were used less. However, they seemed to prevail in Natural Resources, where they were increasingly used with research verbs in the present perfect.

DISCUSSION

This study explored RVs' use in the Literature Review sections of Master's theses written in English by L2 learners, the students of two disciplines, Economics and Management and Natural Resources. The research addressed three research questions regarding the 1) categories and functions of the RVs and differences between the two disciplines, 2) tense and voice of the RVs, and 3) subject-agent in the structures with RVs.

As for the 1st research question, the research, conducted on 82 texts from each sub-corpus, revealed a much higher tendency to use RVs by Economics and Management students (873 occurrences of RVs) than by Natural Resources students (522 occurrences). This finding corroborates previous studies' results (Hyland, 1999; Hyland and Jiang, 2017; Uba, 2020) that there are variations in frequency in using RVs across disciplines. This may suggest that the student-writers of Economics and Management, categorised as arts and humanities or the so-

called soft science, use RVs in higher frequency than those of Natural Resources, which is natural science or hard discipline. As Uba (2020) argues, a higher frequency of RVs in soft disciplines might result from the disciplinary discourse, where there is a need for more subjectivity than in hard disciplines, where writers tend to use a more objective stance. True to this, our findings revealed a predominant use of Research Acts verbs in Natural Resources texts, describing procedures or processes performed in previous studies or introducing results or conclusions of the previous research.

In contrast, our results suggest a predominant use of neutral Discourse Acts verbs in Economics and Management texts, where they merely acknowledge reported communication without expressing a more profound or even critical stance. However, neutral discourse verbs were predominant even in Natural Resources texts, where a more subjective stance towards the reported material was nearly lacking. This is again in line with Uba (2020), whose findings suggest a higher use of neutral RVs in hard and soft disciplines. Many studies confirm the use of neutral discourse verbs in various genres, for example, Ramoroka (2014), Lee, Hitchcock and Casal (2018) or Liardét and Black (2019) in undergraduates' papers, Mansourizadeh and Ahmad (2011), Agbaglo (2017) or Hyland and Jiang (2017) in RAs.

As for the 2nd research question, in most structures with RVs under analysis, the active forms prevailed over the passive forms. While Economics and Management students used the present tense exceedingly not only with discourse verbs but also with other two less frequent categories, research and cognitive verbs, in Natural Resources texts, it was the past tense that dominated not only in structures with the most frequently used research verbs but also with less frequently used discourse verbs. The hard discipline student-writers used the past tense predominantly when reporting on past singular studies, which is justifiable as the Research Acts denote procedures of what the cited author "did" rather than what the cited author "says". Thus, our findings are consistent with Swales and Feak (2004) and Hawes and Thomas (1997), who state that the past tense refers to single studies. The soft discipline students' preference for the present tense might again not be surprising. As Swales and Feak (2004) indicate, this tense is the most dominant in the introduction or literature review sections of RAs. Thus, it seems to be the case that our students' citation practices are not very different from other social science writers in whose writing the use of discourse verbs in the present tense is the most prominent. In the study by Hawes and Thomas (1997), however, the use of the present perfect in the passive voice predominated over the other two tenses, with both the past and the present perfect in the active voice occurring much more frequently than the present tense. While in our study, the use of the present perfect was relatively infrequent. Such contrary findings may well be attributed to different sizes of the corpora and material analysed. The infrequent use of the present perfect forms in the present-study analysis may, according to Hawes and Thomas (1997), also suggest the student-writer's lower ability to provide particulars for a preceding generalisation or the basis for a claim or highlight the direct relevance of the previous studies to their research. Given the generally

infrequent use of the present perfect in academic writing, the finding is not surprising.

As for the 3rd research question, the student-writers in both disciplines extensively used the cited author's name rather than other expressions referring to the cited work (e.g. *the study*, *research*). This finding is in line with Swales (2014), in whose analysis of citation types the cited author was predominant as the sentence subject in active clauses, followed by the agent's function in the passive clause. In line with Swales (2014), our citations show a lower percentage of the cited author in an agent's function, i.e. a "by-adjunct" used with the passive verb. Jomaa and Bidin (2016) assign the cited author a prominent role, especially in soft domains of science, based on arguments rather than action. Hence, the preference for the cited author in the function of the subject integrated with the structure of the clause and, based on argumentative verbal processes, having the role of the "Sayer". Thus, in our study, following the Functional Theory approach and in line with Swales (2014) and Jomaa and Bidin (2016), under the interpersonal meanings, the cited author dominated in the subject's role in active over the adjunct role in passive clauses. The role of the cited author as the subject conflated to a significant extent with the functional role of the cited author as the "Sayer" (in citations with discourse verbs), followed by "Actor" (with research verbs) and "Senser" (with cognitive verbs). The cited author as the adjunct conflated with the role of the "Agent", preceded by the preposition "by" as a "by-adjunct" (Hawes and Thomas, 1997) in clauses with RVs in the passive voice.

Hawes and Thomas (1997) argued that the present tense verbs with named researcher as the subject were always discourse verbs and never non-discourse verbs in the medical journals researched. Past tense verbs with the named researcher as the subject were from both categories. A similar tendency could be observed in Natural Resources texts with a preference for research verbs in the past tense and the named author as the subject but not in Economics and Management, where the present tense was predominant in discourse and non-discourse verbs.

Our findings indicate that the disciplinary differences in the use of RVs in citation frequently reported in the genre of scientific articles (Agbaglo, 2017; Jafarigohar and Mohammadkhani, 2015; Mansourizadeh and Ahmad, 2011) such as lower incidence of RVs in hard disciplines or a preference of neutral discourse RVs in soft domains, may as well be attributed to the writing of undergraduate students. In hard discipline, the student-writers described the processes the cited authors "did", which explains the higher use of research verbs as opposed to a soft discipline, where the student-writers commented on what the cited authors "said". However, in both disciplines, the student writers were disinclined to show a more defined stance toward the cited messages. The disciplinary variations could be caused by different genres cited or by the number of cited materials. Such findings would impact the results on the use of RVs across disciplines, and it would therefore be beneficial to examine citations from this perspective.

We believe that it is still important to emphasise different RV types and make student-writers aware of the variety at their disposal when synthesising other authors' findings and taking a stance towards a cited message. L2 learners should be mindful of their choices regarding tense usage in citation structures, and their practice should not miss on English academic writing courses curricula. We agree with Nguyen and Pramoolsook (2015, 2016), who suggest that a clear focus on the lexical, grammatical aspects of citation in terms of accurate structures and appropriately used RVs should be introduced into the academic writing classroom. As Jomaa and Bidin (2019) suggest, involving the information on citation and different RVs in academic writing textbooks and authentic materials from students and experts' writings would benefit novice writers. We believe in line with Jomaa and Bidin (2019) that combining students' academic practices with understanding academic texts in context is essential for applying the findings into academic writing courses at undergraduate or postgraduate levels.

This research did not aim to change university course syllabi but to establish a proper approach to teaching methodology of RVs in the citation in academic writing courses. As the results imply, the student-writers of undergraduate theses did not significantly differ from other, more expert writers of other genres - in particular RAs. However, a broader awareness of the RVs' repertoire with all their minute distinctions to convey the cited message as closely as possible and paraphrase it to reflect the writer's own stance might benefit them. Conducting our research on Master's theses has allowed us to learn more about academic language in use and students' common errors when using academic English, especially in lexicon and grammar. Grammar is of particular importance in both scholarly written and spoken communication. The examined material comprises RVs that are used in a wide variety of topics in academic contexts. Based on the results, teachers could increasingly concentrate on practising RVs in various discourse functions. We hope that enhancing RVs' issues in academic writing courses will help students succeed in their academic studies in English and write RAs in English.

We are aware of the limitations of this study. The research was limited to the structures containing both the RV and the expressed subject-agent only. The findings were further limited to RVs' types, functions, and characteristics in citations of Master's thesis Literature Review sections of two disciplines. The study did not employ, e.g. discourse-based interviews to support the qualitative approach to the analysis (Hyland, 2012; Jomaa and Bidin, 2019), nor did it make use of, e.g. a move-based analysis (Nguyen and Pramoolsook, 2014), applicable within the genre-based approach (Hyland, 2004; Petrić, 2007; Swales, 1990) to research on academic writing (Hyland 2012, 2014). These descriptive research results are still built on sound evidence of how English is used by Master's students - non-native speakers - in their theses. Thus, as we believe, the study may be considered a sample representation of how citations, and RVs in particular, are used in academic writing by undergraduate L2 learners. The comparison with postgraduate students' final theses in this field of research could be performed to determine how successfully implementing the citation to academic writing syllabi has proven and whether or not there has been any significant progress in proper citation usage upon the implementation.

CONCLUSION

The paper investigated the use of RVs in L2 learners' writing. It did so on two sub-corpora of Literature Reviews of Master's theses written in English by non-native speakers, Economics and Management and Natural Resources students. The findings reported differences in frequencies, types, and functions of the RVs used in the two disciplines. In the former, soft discipline, we could observe high use of neutral discourse verbs in the present active with the named-author as the subject, communicating generalised interpretations or conclusions. However, the students showed a slight preference for the past tense verb forms, providing a basis for a claim or particulars for preceding generalisation. In the latter, hard discipline, RVs were recorded in a lower frequency, with predominating research verbs in the past tense with the named-author as the subject, commenting on procedures or findings. Verbs signifying various evaluative roles were not as frequent in either discipline. The present perfect forms' deployment to highlight the previous research's relevance to the writer's write-up was even less significant.

Promoting various RVs carrying a more pronounced citation stance is still of great importance in L2 learners' academic writing courses. As a practical benefit of this study, the findings might help adjust syllabi of academic English courses at institutions where English is a non-native language, enhancing students' understanding of academic writing elements and RVs in citation structures in particular. Performing broader experimental research might contribute to evidence on academic writing knowledge's effectiveness at a tertiary education level.

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HOW UNIVERSITY GRADUATION SHAPES ATTITUDES TOWARD EMPLOYMENT IN DIFFERENT GENERATIONS OPERATING AT JOB MARKET?

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ABSTRACT

The article deals with the evaluation of university graduates' attitudes towards job characteristics based on their generation. Research shows that the attitudes of individuals in the labor market are currently changing. However, the question is to what extent this change is related to the entry of a new generation or to what extent generational affiliation plays a role in the different attitudes of individuals in the labor market. Therefore, the aim is to test the proposition whether the age of a graduate, respectively his / her affiliation to the generation X, Y or Z affects attitudes towards job characteristics. The partial goal of the article is to identify the main attitudes of searched generations to employment, the second partial goal is to identify attitudes to the evaluation of the benefits of university study in relation to employment. This paper evaluates data from the case study of a selected business university. The return rate of primary survey was representative for the graduates of the case university. The results obtained were statistically tested. Analysis of differences between age and selected factors was used. The analysis showed statistically significant differences between members of generation X, Y and Z in all investigated factors.

KEYWORDS

HOW TO CITE

Highlights

- *The paper brings empirical validation of generational theory, examining influence on generation X, Y and Z.*
- *Statistically significant differences were confirmed between members of generation X, Y and Z in attitudes toward job position.*
- *Higher education plays important role in shaping the requirements on graduates' abilities in current work environment.*
- *Adoption of multi-group analysis informed how generation influence employee attitudes.*

INTRODUCTION

Currently, there are significant changes in the labor market. These changes are related not only to the COVID-19 pandemic but according to some authors (e.g. Gadomska-Lila, 2020, Yogamalar and Samuel, 2016; Becton, Walker and Jones-Farmer, 2014) mainly to the generational change of the workforce. According to research, generational differences are shown mainly in attitudes (Anderson et al., 2017, Becton, Walker and Jones-Farmer, 2014), but also in competencies and experiences (Gadomska-Lila, 2020). But

is a change in attitudes to employment really only the result of a generational change? Does it play a primary role for the baby boomers to retire and the new Z generation to enter the market? What role does education play in attitudes?

Generation Z has completely different wishes, visions and requirements than members of previous generations. On the other hand, the same evaluation of the new generation appeared in the evaluation of members of generation Y, entering the labor market and before it was mentioned regarding members of generation X and previous generations

(Campbell, Twenge and Campbell, 2017). The issue of changing attitudes towards employment thus comes to the forefront of scientific interest. Indeed, research shows that belonging to a certain generation plays a significant role in the attitudes of its members (Campbell, Twenge and Campbell, 2017; Gadomska-Lila, 2020). To understand the attitudes held by individual generations, it is necessary to understand what attitudes are prevalent for individual generations (Gadomska-Lila, 2020). It is the sharing of common values and attitudes that is considered an integrative and motivating factor within the organization, and recognizing employee values becomes a key prerequisite for retaining employees in an organization and for increasing work performance of individuals and groups (Gadomska-Lila, 2020). On the contrary, different values often cause conflicts and may possibly lead to a reduction in the effectiveness of teamwork and demotivation. Yi et al (2015) mention that generational differences in values and attitudes can be viewed both globally and from the point of view of individual cultures.

This article focuses on the comparison of attitudes and approaches of university graduates in relation to employment for members of generations X and Y, which are the most numerous in the labor market, and members of generation Z, which is the emerging generation. Numerous researches focus on the relationship between age and employability (Raemdonck et al., 2015). However, Krahn and Galambos (2013) report that although this number of researches concerning differences in the evaluation of employment factors and different values between generation X, Y and generation Z, this area still needs further investigation. In assessing generation differences, employers need to focus primarily on members of the X and Y generations, as they are the two largest generations active in the current labor market (Glazer Mahoney and Randall, 2019) and generation Z, which is entering the job market.

Research shows that people of different generations have different attitudes and different job requirements (Yi et al, 2015; Mavromaras and McGuiness, 2012 The aim of the article is to test the proposition whether the age of a graduate, respectively his / her affiliation to the generation X, Y or Z affects attitudes towards job characteristics. The partial goal of the article is to identify the main attitudes of searched generations to employment, the second partial goal is to identify attitudes to the evaluation of the benefits of university study in relation to employment. The data were obtained by a questionnaire survey among members of generations X, Y and Z.

Theoretical Background

This chapter introduces generations X, Y and Z their approach to work and their requirements for a work position, respectively preferred job placement are presented with respect to the factors, which are related to the main identified differences between generations. The differences identified in this chapter will be used for the evaluation of results and discussion of this article. Because the article deals with the issue of employment of generations X, Y and Z it is therefore necessary to specify the term generation. Generation is a group of people born in the same time period, growing up in the same conditions and influenced by the same historical, economic, political and other circumstances (Campbell, Twenge, and Campbell, 2017, Yagamalar and Samuel, 2016, Shragay and Tziner, 2011).

The generation cohort theory is based on the assumption that the same period of birth determines that people experience the same social changes and have similar experiences during childhood and adolescence, which then shapes the whole group and causes a consensus in their views, attitudes and behavior. (Campbell, Twenge, and Campbell, 2017; Yagamalar and Samuel, 2016; Lee and Haley, 2020). An interesting fact in this context is that members of different generations often interpret different periods of life in different ways, although all phases of life go through all people, such as starting the first job, leaving school, etc. (Lee and Haley, 2020). Subsequently, it is necessary to define the investigated generations.

However, it can be perceived as a problem that different authors differ in determining the time span of individual generations. As a result, individual generations overlap in places, and defining differences can be misleading. It is, therefore, necessary to begin by asking whether these are really only generational differences or whether these differences are caused or significantly affected by changes in the living and working conditions of the individuals concerned. In this context, it is possible to mention the assumption that an individual's views can be influenced both by belonging to a certain generation and by his / her age (Lyons and Kuron, 2013; Lyons, Scheitzer and Ng, 2015). However, the theory of generations is based on the assumption that the dominant factor is the year of birth of an individual (Lee and Haley, 2020; Rani and Samuel, 2016; Lyons, Scheitzer and Ng, 2015).

Periods of generation X and Y and Z
Generation X

Generation X is the generation of people born after the generation known as Baby Boomers (post-war generation). Its timing is not entirely clear, for example, Kopecký (2013) states that it includes individuals born between 1964 and 1975, but Krahn and Galambos (2014) rank it between 1970 and 1980. Other authors such as Kuron et al. (2015) uses period between 1965 and 1979, Gurau (2012) means years between 1961 and 1979, Gadomska-Lila (2020) includes years 1965–1979. This generation is often referred to as the Sandwich generation. This article defines the years 1964–1975.

Generation Y

Generation Y is the generation following generation X. Malik and Khera (2014) include years between 1981 and 2000; Petro (2013) also mentions 1981 to 2000; Schultz and Schwepker (2012) classify this generation in 1980 to 1993, Gurau (2012) classify it between 1980 and 1999; Kopecký (2013) ranks it in the period 1976 to 2000. In contrast, Ng and Jonson (2016) mention the years 1980–1995, Gadomska-Lila (2020) includes the years 1980–1995 etc. This generation is often referred to as the Millennials (Lyons and Kuron, 2014).

In this article, generation Y is defined between the years 1976 and 1995.

Generation Z

Generation Z includes individuals born in the digital age who are used to the interconnected world of social networks and the Internet, where they spend a large percentage of their time. Internet and social networks are also their main source of entertainment. They emphasize multiculturalism and individualism, are self-confident, empathetic and inclined to self-esteem. They tend to prefer fast action rather than accuracy (Moravcová-Školudová and Vlčková, 2018; Bláha, Horváthová and Čopíková 2016). Generation Z, like other generations, is defined differently by different authors. Moravcová-Školudová and Vlčková, (2018) or Bláha, Horváthová and Čopíková (2016) define it between the years 1996–2010, but Schroth (2019) states the range of 1997–2013. Generation Z is a generation that can be described as a digital generation, sometimes even called e-generation. This is a generation that has been spending time on social networks since their childhood. Generation Z has been using social networks as primarily communication channel (Bencsik, Horváth-Csikós and Juhász, 2016).

Within this article, generation Z is defined as the years 1996–2010.

Based on the above information, it is, therefore, possible to present the generations that are the subject of the study as follows in Table 1.

Generation	Period
Generation X	1964–1975
Generation Y	1976–1995
Generation Z	1996–2010

Table 1: Generation division (source: own processing based on Bláha, Horváthová and Čopíková, 2016; Kopecký, 2013)

The Table 1 introduces that while members of generations X and Y are all at the age that places them in the positions of active participants in the labor market, some individuals from generation Z are still in their childhood and in the labor market we can meet this generation in their age between 18 and 25, i.e., individuals at the very beginning of their working career.

The Attitudes of generation X, Y and Z to Employment

Each generation has its values and attitudes to employment. Their identification is important for employers who want to achieve the alignment of employee values with the values of the organization, to achieve greater efficiency of the organization and be able to stabilize its personnel. Knowledge of these attitudes will also lead to the elimination of possible conflicts of attitudes between individual generations (Yi et al, 2015). Generational differences between employees are a major challenge for managers, especially when it comes to attitudes (Benson and Brown, 2011). According to Horváthová and Čopíková (2015), there are several differences between the views of those generations on employment. It can be stated that values express a specific relationship of an individual to persons, things and situations. The level of which is the attitude of favor or adversity, desire or rejection or love and hate. Each individual has his / her own individual system of values which is made up of values that the individual considers important. What is important to one may not have value to

another. Likewise, the evaluation of values differs in terms of significance and importance. Attitudes are formed based on our values (Gadomska-Lila, 2020). Attitudes towards work are influenced by the importance the individual attaches to his work and how he understands company values. Related to this is the fact that if there is a harmony between the individual values of the individual and the company's values, as part of the company's culture, there is an increase in motivation, commitment and loyalty of the employee (Yogamalar and Samuels 2016). Students´ attitude towards job and employment usually depends on the individuals´ value of his/her job and thus it is necessary to understand each employee or potential employee´s values. Examples of different attitudes to employment and emerging positions include access to work-life balance, career development opportunities, financial rewards, participation in decision-making, etc. (Anderson et al., 2017). However, differences also appear in the very approach to work, the way of communication and the whole world. Benson and Brown (2011) found that generation X is less satisfied with their jobs compared to previous generations. In their research Bencsik, Horváth-Csikós and Juhász (2016) then emphasizes that members of generations Y and Z tend to evaluate themselves far more positively than older generations. If we were to generally assess what is important for individuals in relation to employment, regardless of generation, we would have to list a range of factors, including the ability to learn and develop, the ability to participate in decision-making, work-life balance, the opportunity to apply innovation and independence, friendly environment and good working relationships, diversity and cosmopolitan nature of the team, work that is a challenge and that is in the field studied, the amount and setting of wages or a wide range of benefits (Šnýdrová, Vnoučková and Šnýdrová, 2019; Donia and Tetrault Sirsly, 2016; Jones, Willnessan and Madey, 2014; Rampl 2014, Rupp et al., 2013). However, the evaluation of the significance and order of individual factors from the point of view of individual generations differs. Generational differences between career goals and expectations of generations X, Y and Z are considerable (Deloitte, 2020; Ismail et al., 2016; Turner, 2015).

While the generation X perceives financial rewards as a value, i.e., it is the goal of their job, the generation Y sees it as a way to fulfill their desires and goals (Horváthová and Čopíková, 2015). Financial remuneration is more important for generation X than for generation Y. Generation X also considers the employer's importance of a good atmosphere, the possibility of continuous improvement, or the stability of employment (Gadomska-Lila, 2020; Horváthová and Čopíková, 2015).

The younger generation prefers social values and emphasizes attractivity and fun in their job and the benefit to society (Twenge et al, 2010; Ferri-Reed, 2010). Generation Y also puts more emphasis on non-financial remuneration than generation X. Generation Y needs change, and this generation changes jobs once there is an interesting opportunity (Twenge et al. 2010). Millennials expect a faster career shift than the older generation and tend to seek out employers that enable it (Saba, 2013). Millennials further have higher expectations and demands for different career options (Lyons and Kuron, 2014). On the other

hand, it is worth mention that there is an overall shift in the view of career development. Although the traditional concept of career in terms of vertical development still prevails, many employees prefer horizontal career, towards deepening responsibility or changing positions or disciplines (Kirovová, 2011). Especially members of the generation Y are considered to be motivated by job flexibility and interestingness of work and prefers the possibility of competency development (Kirovová, 2011). Research shows that ambitions represent the deal-breaker for Y generation. Ambitions play also a significant role in career evaluation (Judge and Kammeyer-Muelle, 2012; Spurk and Abele, 2011). Members of this generation are motivated to stay and work for current employer only if they are allowed to enter a higher level in organizational structure, into management and develop their career and to be able to get a rapid shift in the career. The other following areas are primarily assessed: wage / salary, job position and prestige (Judge and Kammeyer-Muelle, 2012; Spurk and Abele, 2011). Furthermore, the possibility of development, fulfillment of personal interests or fair treatment is important for them (Gadomska-Lila, 2020).

Members of the Z generation approach to employment even more specifically, as they choose a job position or career only according to their interests and do not reflect the requirements of other people (Bencsik, Horváth-Csikós and Juhász, 2016). This attitude shapes their view of the world they want to change, they are called the first completely global generation (Iorgolescu and Samuels, 2015). On the other hand, they are less optimistic than previous generations when looking at the labor market and their employment (Bencsik, Horváth-Csikós and Juhász, 2016).

Like members of generation Y, members of generation Z prefer home offices and place even greater emphasis on the possibility of using digital technologies in working life (Delloitte, 2020; Bencsik, Horváth-Csikós and Juhász, 2016; Gursoy, Geng-Quing Chi and Karadag 2013). Stability and adequate financial rewards are also important aspects for generation Z (Deloitte, 2020; Bencsik, Horváth-Csikós and Juhász 2016). They constantly need new impulses and challenges, which is also confirmed by Kubátová (2016), who mentions in her research that a large percentage (almost ¼) of members of the Z generation see their career in their own business. They are looking for a job where they could show their independence, but at the same time, they like working in a team (Gadomska-Lila, 2020; Iorgolescu and Samuels 2015). They are able to work on multiple tasks at once, which they take for granted. To define their preferable employment, it is important to mention: development opportunities, maintaining appropriate work, a pleasant atmosphere, freedom, a sense of recognition, work-life balance (Gadomska and Lila, 2020 Iorgolescu and Samuels 2015).

However, Kunze, Boehm and Bruch (2013) mention in their research on age stereotypes that it is necessary to take into account individual preferences in career settings and goals because this is a highly individual area. Authors also note that research has shown a more positive approach to change among older workers than younger workers.

Attitudes to the contribution of university studies in relation to employment

According to research, the main benefit of studying at a university is the possibility of a better job in connection with a higher position and a higher salary (Vnoučková, Smolová and Depoo, 2019; Fryer et al, 2016). Fryer et al. (2016) cite other reasons associated with the desire to achieve higher education, including the desire for wealth and material security, the desire to acquire or deepen knowledge and skills, or to obtain a university degree. In his research, O'Leary (2017) also points to significant differences between the generations in assessing the benefits of higher education.

In connection with the growing interest in tertiary education, it is necessary to mention that the number of university graduates is growing in the Czech Republic, which is positive, but at the same time, the number of jobs suitable for university students is not growing, i.e., places where they could make full use of knowledge at university, which is a negative factor (Zelenka, 2019).

Thus appears an interesting phenomenon when the university degree has become almost a necessity to be able to get a valuable job, but, on the other hand, it is often required in positions that do not correspond to university knowledge by their nature (Mavromaras and McGuiness, 2012). The term Overeducation is thus becoming increasingly common (Maršíková and Urbánek, 2015). This is also associated with a lower financial remuneration of these positions, respectively of those employees who hold them (Salahodjaev, 2015, Mavromaras and McGuiness, 2012). In some cases, there is a paradoxical situation where graduates hold positions that require neither knowledge which they have acquired during their university studies, nor a university degree (Sánchez-Sánchéz and McGuiness, 2015). Koucký and Zelenka (2011) in their research mention a weaker or missing relationship towards occupied job positions or fields of employment by current graduates in the Czech Republic. Zelenka (2019) states that some individuals hold positions that do not correspond to the field of study and therefore the employee will not use the acquired knowledge and skills.

MATERIALS AND METHODS

The article consists of a theoretical introduction, which was elaborated on the basis of an analysis of scientific articles and publications. Publications and articles were searched electronically using keywords such as age, age group, attitudes, generation X, Y and Z, graduate, labor market, job placement, etc. The questionnaire focused on attitudes of graduates in case business university towards work conditions, work environment and conditions of job position. The survey had 31 questions and was composed of multiple-choice questions and open questions. The loadings of responses were binary or qualitative answers (categorical variables). The type of variables was in all cases nominal as respondents were checking boxes for statements relevant for their perception and experiences, e.g., in the case of financial remuneration, the answers were: sufficient/insufficient. Questions related to attitudes towards preferred employer (Table 2) each graduate was checking whether each criterion is important/

not important for the choice of his/her future or preferred employer. Benefits of graduation by generations were also picked by respondents as perceived/not perceived (Table 3.) At first part, Table 3 shows the implication of university education and graduation with a degree in practice (variables A). The second half of Table 3shows shift in knowledge, skills and abilities after successfully passing university study program (variables B). Respondents always picked one of binary answer: perceived/not perceived. The tested questions in Table 4 were: H02: Higher education was required for your current job position? With binary answer Yes/No and H03: Do you currently work in the studied area? Answers were Yes/No. Other questions in the questionnaire were searching the following areas: work in the studied area, the sufficiency of financial remuneration and benefits, the necessity to be graduated for the current job position, preferences while seeking the job and preferred employer, level of university education and its ability to transfer knowledge and skills to practice, which competences they need for current job, whether those competences were trained and taught during their studies, which changes they perceived after graduation related to job and career, which benefits of higher education they perceive in practice, which competences they gained during studies or were significantly improved (according to respondent´s opinion). Only questions described above were analyzed in this paper.

The questionnaires were sent out electronically and data processed by computer. After collection, the data were cleared and further tested.

The University´s alumni list was used to contact graduates in order to fill electronic survey. All graduates of a private business university in the Czech Republic were contacted. The university is divided into the following departments: Human Resources, Marketing, Economics, Management, and Business. Graduates in the four past academic years were contacted. In total, 400 graduates were contacted. The total return was 175 full responses, i.e., 43.7% of the total sample. The sample is representative for the given university.

The impact of X, Y and Z generation (age of graduates) on the evaluation of selected factors influencing the graduates' job performance expressed by the level of their job position was tested. Furthermore, the following propositions were tested based on generation of graduates: work in the field of study, perception of financial remuneration as appropriate and working at the position for which higher education is required.

Based on the theoretical analysis of the searched issues, five hypotheses were formulated:

H01 There is no difference between generations X, Y and Z and attitudes towards employment.

H02: There is no difference between generations X, Y and Z and holding a position where higher education is not required.

H03: There is no difference between generations X, Y and Z and working in the studied area.

H04: There is no difference between generations X, Y and Z and evaluation of benefits of higher education in practice.

H05: There is no difference between generations X, Y and Z and evaluation of shift in thinking after graduation.

All hypotheses were formulated as null hypotheses declaring the non-existence of the relationship. The Chi-square test of independence for each variable was used to compare differences between generations to determine whether two categorical or nominal variables are likely to be related or not. Always, two variables were observed for each observational unit. The conditions for use of this test were met: the sampling method was simple random sampling. The variables under study are categorical. The expected value of the number of sample observations in each level of the variable is at least 5. We used chi-square test of independence to compare differences between generations, e.g., we tested always gen X with Y and Z and in case both tests have shown significant differences we used the result The tests used were performed at the significance level of 0.05. IBM SPSS statistical software was used for data processing and analysis.

Based on the theoretical background, it was determined that the groups 20–25 years (51 respondents) are classified as generation Z, 26–30 years, and 31–45 years are classified into generation Y (109 respondents). Group 45 years and more in generation X (76 respondents). The groups of respondents were tested according to the generation they belong to.

The structure of respondents at the time of their graduation was the following:

- Generation Z: age group 20–25 years contained 51 respondents (21.6%), from this age group there were 9 men (3.8%) and 42 women (17.8%)
- Generation Y: age group 26–45 years (109 respondents, 46.2%); from this age group there were 63 women (26.7%) and 46 men (19.5%)
- Generation X: age group 46 and over (76 respondents, 32.2%); from this age group there were 50 women (21.2%) and 26 men (11.0%)

We need to keep in mind that this case study has several limits: the respondents took the survey only on voluntary. It is also necessary to mention that the analyzed generation Z in our sample had less respondents, as this generation is now entering the group of graduates, based on their young age. On the other hand, this study is bringing first results and insights, which will be further studied in the future as this generation will broaden its numbers. Despite mentioned limitations, it is possible to state that the sample is representative for this case study, as respondents were formed from different backgrounds, represents all studied generations, and work on different jobs. Moreover, their affiliation to the generations under examination is undisputed and their number is sufficient. The tests shown the sample is significant and representative for our case university and thus may be taken as a case study on representative sample of business graduates.

RESULTS

The results of this paper focus on testing and identifying the differences in generations in selected factors based on successful graduation at business university. The outputs indicate the significant role of generation in higher education in investigated variables affecting the employability of graduates on the job market. Statistical tests were run in

the areas of the field of business and job characteristics and approaches of graduates to the job environment (possibility for development, participation in the decision-making process, work-life balance, innovative and creative environment, diversified collective with cosmopolitan co-workers, development possibilities, friendly relationships at work, independence, responsibility, flow, challenging work, work in studied area, remuneration and benefits). Each of these factors were analyzed and tested separately in relation to generation differences.

Table 2 shows the classification of frequencies (absolute and relative) by generation for each tested variable. The proportion per each generation and variable is presented. As we may see in Table 2, variables vary in several cases for each generation. Table 2 shows firstly frequencies, the statistical testing of differences between generations is shown in Table 4.

Overall, graduates are oriented mostly towards development possibilities, positive relationships at the workplace, flow (interest in their job tasks and seeing them as fulfilling, having a job as a hobby), and, of course remuneration is still very important.

Preferred work conditions	Generation Z		Generation Y		Generation X	
	Abs.	Rel.	Abs.	Rel.	Abs.	Rel.
Work abroad	4	7.84	19	17.43	3	3.95
Development possibilities	31	60.78	83	76.15	46	60.53
Participation at decision-making	4	7.84	25	22.94	22	28.95
Work-life balance	23	45.10	63	57.80	42	55.26
Innovative opportunities	17	33.33	50	45.87	33	43.42
Cosmopolitan collective	3	5.88	22	20.18	12	15.79
Development programs	17	33.33	33	30.28	9	11.84
Friendly relationships	34	66.67	75	68.81	39	51.32
Independence	14	27.45	38	34.86	40	52.63
Flow	36	70.59	83	76.15	48	63.16
Challenging job	15	29.41	46	42.20	22	28.95
Job related to studies	11	21.57	15	13.76	18	23.68
Remuneration	34	66.67	78	71.56	32	42.11
Broad benefits	13	25.49	36	33.03	18	23.68

Table 2: Attitudes of graduates by generation (source: own processing)

The results presented in Table 2 show that among generation Z compared to generations Y and X, the most important variables are development programs and remuneration. Other factors are usually seen as more important for older generations or fluctuating around similar value.

Generation Y (compare to younger and older generation) focuses mostly on development possibilities, work-life balance, innovative opportunities, relationships at the workplace, flow, challenges, remuneration and benefits. These results indicate at the current most active generation which is in productive age and having families, thus the need for balance in their life and they also value challenges, innovations and growth.

Respondents from generation X (the oldest generation in the sample) accents the most independence in their job, participation in decision-making and close connection between job and studied program. Respondents from this generation are already skilled workers with long career history and thus they aspire at leading positions. Based on that they attitudes are oriented toward managerial opportunities (decision-making, independence) the most of all searched generations.

It is possible to see that generation Y is certainly the most active generation with clear approaches towards their job positions after graduation, who accents work abroad, development possibilities, work-life balance, innovative opportunities, cosmopolitan collective, friendly relationships, flow, challenging job, remuneration, and benefits.

Table 3 shows the benefits of graduation by generations. The first part shows the implication of university education and

graduation with a degree in practice (variables A) and the second half of Table 3 shows shift in knowledge, skills and abilities after successfully passing a university study program (variables B). The main benefits of university graduation are seen in gaining better status, deeper knowledge, general overview and ability to search and evaluate information. Table 3 shows firstly frequencies, the statistical testing of differences between generations is shown in Table 4.

The results in Table 3 describe the attitudes of case university graduates towards their shift in job or labor market after graduation and also the perceived upgrade of their skills, abilities and knowledge (statistical differences among generations are shown in Table 4). The table shows absolute and relative frequencies of respondents´ replies. It is possible to mention partial differences between generations. For example, a better lifestyle based on university graduation is perceived most by generation Z (22%) compare to generation Y (14%) and generation X (8%). A similar result can be seen in the case of critical thinking. Generation Z stated the shift in thinking in 25%, generation Y in 18% and generation X in 11%. The same trend can be seen in case of variables "Ability to find information" and "Data and information evaluation". These variables are also mostly pointed out by generation Z, less by generation Y and least by generation X. This shows that university shapes mostly the youngest students and giving them better perceived lifestyle, ability to think critically and search for information and evaluate them compare to older students. Students with several years of experience in practice

evaluated these benefits in the lower number of cases as they were already skilled in searching for information and critical thinking from their previous work and life experience.

The opposite trend may be found in variables "Deeper knowledge", "Analytical skills" and "General overview". Those benefits of university graduation were mostly recognized by older students (generation Y and mainly by generation X). This shows appreciation of older students who are coming back to studies after years in practice. Those students get a broader insight into a current studied area which is showing them a wide range of things compare to their narrow specialization at their jobs. They gained and value new knowledge and skills compare to those they had before and used in their workplace. Other variables are oscillating around similar values for all generations. Interestingly, it is possible to mention, that only a few percent of respondents indicated also non-financial rewards as a benefit after their graduation. This area is still not fully used in the current Czech job market. On the other hand, due to changes related to COVID-19, this area will probably be on its rise.

In relation to the requirements for higher education, we may state that the results are more balanced. 40.78% of graduates work in positions where higher education is required and 59.22% of all respondents said that they work in a position that does not require higher education. An interesting finding of primary research is that 63.59% of respondents after graduation remained in the field of study, while the number of graduates who changed the field and work in a completely different field is almost half lower (36.41%). The same ratio of answers occurs in relation to the evaluation of the amount of salary corresponding to the position held. Most respondents are satisfied with the amount of wages and rate it as adequate (60.19%) and 39.81% of respondents rate the amount of their wages as inadequate. A relatively high percentage of graduates work completely outside the field of study and for a salary that the respondents themselves consider to be inadequate.

The results obtained from the primary survey were further statistically tested in order to keep the hypothesis stated based on the literature valid or to reject them. The Chi-square independence test was used to determine whether two categorical variables are likely to be related or not. Results are shown in Table 4. Hypotheses were rejected only when all questions investigated per each hypothesis shown significant differences between generations. In order to display the results in Table 4, we always run the test between results of generation X and Y, then between Y and Z and finally between Z and X. Only when all results were statistically significant, we rejected the hypothesis.

Benefits after graduation	Generation Z		Generation Y		Generation X	
	Abs.	Rel.	Abs.	Rel.	Abs.	Rel.
A. Career move	8	15.69	30	27.52	17	22.37
A. Better status	19	37.25	42	38.53	26	34.21
A. Better salary	11	21.57	23	21.10	17	22.37
A. Better life style	11	21.57	15	13.76	6	7.89
A. Better position	9	17.65	18	16.51	13	17.11
A. Better non-financial rewards	2	3.92	3	2.75	4	5.26
B. Deeper knowledge	25	49.02	53	48.62	41	53.95
B. Critical thinking	13	25.49	20	18.35	8	10.53
B. Data and information evaluation	29	56.86	52	47.71	20	26.32
B. Analytical skills	11	21.57	24	22.02	22	28.95
B. Ability to find information	27	52.94	51	46.79	23	30.26
B. General overview	25	49.02	28	25.69	46	60.53

Table 3: Benefits of graduation by generation (source: own processing)

	Chi-square test p-value	Evaluation of hypotheses
H01: There is no difference between generation X, Y and Z and attitudes toward job characteristics. (variables displayed in Table 2)	<0.001	Rejected
H02**: There is no difference between generation X, Y and Z and requirement for higher education.	<0.001	Rejected
H03**: There is no difference between generation X, Y and Z and working in the studied area.	<0.001	Rejected
H04: There is no difference between generations X, Y and Z and evaluation of benefits of higher education in practice. (variables displayed in Table 3, part A)	<0.001*	Rejected*
H05: There is no difference between generations X, Y and Z and evaluation of shift in thinking after graduation. (variables displayed in Table 3, part B)	<0.001	Rejected

* Significant difference found only between generations X and Z

** H02 and H03 were tested on other questions which formed part of the questionnaire but were not displayed in Table 2 and 3. The tested questions were: H02: Higher education was required on your current job position? (Yes/No) and H03: Do you currently work in the studied area? (Yes/No).

Table 4: Differences between attitudes of generations (source: own processing)

Table 4 presents the results of statistical testing of set hypotheses. The results for all five tested hypotheses show statistically significant differences between generations of respondents. Hypotheses 1, 2, 3 and 5 were rejected as there are statistically significant differences between all three generations. In case of hypothesis 4, there is the statistically significant difference only between generations X and Z. Based on these findings, it can be stated that belonging to generation X, Y or generation Z plays important role in the attitudes toward job characteristics, requirements for higher education, and working in the studied area. The same result was found in the case of a shift in thinking after passing university program and graduating. Differences in the evaluation of benefits of higher education in practice were found only between generation X and Z. There are no statistically significant differences between generations that are closer in their age characteristics (e.g., between Y and Z and between X and Y). Statistical testing thus confirms the overall results, which show generational differences in the application of university degree in practice and their life change. Despite long-term studies and increase in the qualifications of respondents from all generations, there are still differences in their attitudes, knowledge, positions and application.

Based on the obtained results regarding job position and level of education of graduates we tested relations between obtained position and graduates' abilities. The purpose was to find significant abilities required from graduates. Respondents indicated whether they need and use creativity and teamwork or other variables at their job position. Those answers were put into the analysis. Results of analysis show that there are neither significant relations between the position of graduates nor working in the field of study. On the other hand, significant relations were found in the area of remuneration and requirement of higher education. The perception of financial remuneration as appropriate correlates with creativity, but the correlation is weak ($r = 0.172$, $p = 0.014$). The same result was found between the requirement of higher education and the ability to teamwork ($r = 0.172$, $p = 0.014$). It is possible to induce that creative graduates easily find job opportunities that remunerate their effort accordingly. Further relations with creativity were found in case of innovativeness (moderately strong correlation $r = 0.455$, $p < 0.001$), goal orientation (weak to moderate correlation $r = 0.260$, $p < 0.001$), ability to motivate others shown weak to moderate correlation ($r = 0.243$, $p = 0.001$), and also ability to teamwork (weak to moderate correlation $r = 0.201$, $p = 0.004$). Furthermore, the ability to teamwork correlates with responsibility (weak to moderate correlation $r = 0.242$, $p < 0.001$). Presented relations are shaping the requirements on graduates' abilities in the current work environment. There is a necessity of creativity, innovativeness, teamwork, goal orientation and the ability to motivate others.

The results suggest that in order to get better higher education producing efficient graduates, teaching should meet the needs of graduates to enable them to improve their abilities for job performance. Teachers should encourage students to actively participate in the process of gaining abilities.

DISCUSSION

The results of the primary research showed differences between the attitudes of members of individual generations to employment. The attitudes of the respondents to the following factors influencing their choice of job position, which are: Work abroad, Development possibilities, Participation at decision-making, Work-life balance, Innovative opportunities, Cosmopolitan collective, Development programs, Friendly relationships, Independence, Flow, Challenging job, Job related to studies, Remuneration, Broad benefits. Members of the Z generation rate Flow (70.59%) as the most important, followed by a friendly environment (66.67%) and remuneration (66.67%) and in fourth place Development possibilities (60.78%). On the contrary, members of generation Y value it the most Development possibilities (76.15%) and Flow, (76.15%) followed by remuneration (71.56%) and the friendly environment (68.81%). For members of generation X, the most important is Flow (63.15%), followed by Development possibilities (60.53%), work-life balance (55.26%) and Independence (52.63%). It is interesting that the financial evaluation, which, as important for Generation X, is presented by Horváthová and Čopíková (2015), does not appear among the four most important factors related to employment in primary research. Conversely, in the case of generations Y and Z, there is consistency in the importance of financial evaluation with other research (e.g. Deloitte, 2020; Bencsik, Horváth-Csikós and Juhász, 2016; Judge and Kammeyer-Muelle 2012; Spurk and Abele, 2011). The attitudes of generations thus differ in the evaluation of individual factors, however, it must be stated that the research clearly shows that within all three generations one of the four most important factors are development possibilities, which is in line with what they state in their research Gadomska-Lila (2020) or Iorgolescu and Samuels (2015). The same result is related to friendly relations that are mentioned by Deloitte (2020); Bencsik, Horváth-Csikós and Juhász, (2016) or Horváthová and Čopíková, (2015). An interesting finding from the primary research is that a relatively small proportion of respondents consider it important that the job position corresponds to the field of study, as this aspect was considered important by only 23.68% of respondents from generation X, two percent less (21.57%) of respondents of generation Z and only 13.76% of respondents from generation Y. These results confirm the findings of Kaucký and Zelenka (2011) or Zelenka (2019), i.e. that a relatively large percentage of graduates are willing to work outside the field of study or in a position that does not require a university degree.

When evaluating the benefits of obtaining a university degree, there are again generational differences, because while generation Z evaluates it as the most beneficial Data and information evaluation (56.86%), generation Y Deeper knowledge (48.62%) and generation X as the most beneficial considers the acquisition of a general overview (60.53%). Respondents also differ over generations in the other benefits of a university degree examined for employment, which is in line with what O'Leary (2017) states in his research.

It is also necessary to mention that the analyzed generation Z in our sample had less respondents, as this generation is now

entering the group of graduates, based on their young age. On the other hand, this study is bringing first results and insights, which will be further studied in the future as this generation will broaden its numbers.

CONCLUSION

The labor market is changing with the advent of generation Z and thus the new distribution of the workforce between the three generations X, Y, and the aforementioned generation Z. In this context, research by employers, universities, and other professionals focus on the different attitudes of members of these generations to employment and to evaluating the contribution of higher education to employment. Only in this way is it possible to reflect on these attitudes and thus better address or stabilize individual employees. It can be expected that the situation regarding employment of graduates will further develop in connection with changes in the labor market, which reflects not only the aforementioned generational distribution of workers but also the situation associated with the effects of the COVID-19 pandemic. The results of the primary research clearly showed differences in the attitudes of members of the individual generations studied (X, Y and Z) in attitudes to employment as well as in attitudes to the contribution of higher education in relation to employment. All established hypotheses were rejected on the basis of research and subsequent statistical testing.

The debate on the contribution of university education is important and needs to be highlighted. Our research outcomes indicated that graduates perceived benefits are directly related to data and information evaluation to obtain deeper knowledge and acquire a general overview. The result reveals that graduates confirmed that they are receiving value of their degree.

In this study, it is important to mention its limits. Firstly, it is a narrow focus on one case university which is predominantly business in its focus. On the other hand, the outputs are presented as an indicative approach of generations of graduates. Secondly, it is the low number of generation Z graduates. This is due to overall low number of graduates in general, as those are still too young to graduate. This study brings first approaches and the number of generation Z graduates and their research will follow. Based on shown findings it may support other HEIs in curricula development and adjustment for new generations, as well as to employers to attract generations at labor market. Our article also provides an insight into the importance of focus on expectations of the different generation and the necessity of continuous development and realization of improvements based on changing generational preferences.

Further research would be appropriate and interesting to focus on the impact of the COVID 19 pandemic on the expectations and applicability of university graduates. This study can be expanded to other universities and organizations. Further, revealed differences may be validated at other HEIs and in praxis.

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ANTECEDENTS OF PRIVATE UNIVERSITY STUDENTS' SATISFACTION: THE EFFECTS OF TRADITIONAL AND ELECTRONIC SERVICE QUALITY

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ABSTRACT

High competition in the higher education sector, especially private universities, has brought a high attention to service quality that can increase students' satisfaction and their retention rates. This study aimed to investigate the effect of traditional and electronic service quality of private universities in Jakarta on students' satisfaction. A total of 151 students' responses from three private universities in Jakarta were collected. A factor analysis with the Principal Component Analysis method with Varimax rotation, Partial Least Square-Structural Equation Modeling (SEM) and Importance Performance Map Analysis (IPMA) were performed. The results proved that perceived value of traditional service quality and perceived web value significantly affected student satisfaction. The three indicators of perceived quality provided by administrative staff (β = 0.198), perceived quality of university infrastructure (β = 0.333), and perceived quality of support services (β = 0.362) significantly affected students' satisfaction while in the context of electronic service quality, only accessibility (β = 0.469) and attractiveness (β = 0.123) had significant effects on students' satisfaction. Furthermore, the two-dimensional IPMA matrix indicated the dominance of importance (score = 0.621) and performance (score = 66.438) of perceived value over the perceived web value

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Highlights

- *Traditional and e-Service quality have significant and positive effects on student satisfaction.*
- *The perceived value of traditional service quality has a greater effect to increase students' satisfaction at private universities than the perceived value of electronic service quality.*

INTRODUCTION

High competition in the educational sector has encouraged universities to focus on providing high service quality. This factor has become the main criterion used by students to select universities with all existing uncertainties and risks (Donaldson and McNicholas, 2004). Private universities as one of the higher education institutions have faced intense competition to attract students and to maximize demand. According to Indonesian Law Number 12 of 2012, private universities do not receive operating funds from the government, thus they have to raise funds independently for operating expenses, lecturer as well as education staff salaries, investment and university development (Kemdikbud, 2014). This is in accordance with the statement by the Asian Development Bank (2012) that private universities in Indonesia face three key problems of quality variation, higher education costs, and difficulty in gaining financial assistance. This prevalence causes the continuity of universities, highly depending on the number of student enrollment and their retention rates. Apart from funding, the number of students is also one of the indicators of a decent university since the Indonesian Ministry of Research and Technology requires those with fewer than 1,000 students to merge (Oebaidillah, 2021).

DKI Jakarta Province has the highest number of private universities in Indonesia. The number of private universities in 2018 reached 413 units, consisting of 116 Academies, 11 Polytechnics, 206 Colleges, 26 Institutes, and 54 Universities with the number of students reached 489,496 students (RISTEKDIKTI, 2019). This number shows a significant increase compared to that of in 2015 which only reached 315 units (BPS, 2017) indicating that the market turns to be more competitive. Institutions that are not able to attract students will confront financial risks that have a high impact on business development and sustainability. This problem in macro-level context will not only become a threat for the institutions, but also the society as a whole. Private universities have benefited from limitations of state universities.

Studies on service quality and its effect on students' satisfaction have gained increasingly significant attention due to the above conditions. However, differences in dimensions and measurement scales used are often raising problems in evaluation process. Furthermore, the widely used measurement methods are mainly less valid and reliable for educational sectors (Galeeva, 2016). The development of information technology has also brought changes to the type of quality service provided to students. The service quality provided is now differentiated into traditional and electronic service quality (e-Service quality). Most of the previous studies consent that traditional service quality proved to have a significant effect on students' satisfaction (Leonnard et al, 2015, Joung, Choi and Wang, 2016, Leonnard, 2018a, Leonnard, 2018b, Leonnard and Susanti, 2019). Despite a large number of studies on higher education service quality, there is still a gap in terms of the effect of e-Service quality on students' satisfaction and the difference obtained from both types of services. Some studies have examined the effect of web and portal service quality on students' satisfaction such as Carlos and Rodrigues (2012), Nasirun et al (2012), Chen (2015) and others evaluate the effect of e-Service quality of e-learning activity (Headar, Elaref and Yacout, 2013). However, to the best of our knowledge, there are still limited studies that compare the effect of both types of service quality on students' satisfaction. Therefore, this study examines the effects of traditional dan e-service quality on students' satisfaction to address the gap and provide appropriate managerial implications.

LITERATURE REVIEW

Traditional service quality in educational services

During the past few decades, significant developments have occurred in the concept of service quality. Various measures were developed to precisely measure service quality in various service industries, including Grönroos model, SERVQUAL, SERVPERF, INDSERV, and HEdPERF (Abdullah, 2005; Sultan and Yin Wong, 2010). The Grönroos model divides perceived service quality into technical quality, functional quality, and corporate image (Grönroos, 1984). SERVQUAL consists of five dimensions of tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman, Zeithaml and Berry, 1988; Yarimoglu, 2015). Based on Darawong and Sanmaung (2019) responsiveness is the most significant dimension of service quality that affected students satisfaction, followed by empathy and facility, accordingly. The improvement of these important dimensions would enhance student satisfaction.

SERVPERF consists of similar dimensions as SERVQUAL but it is based on performance only (Cronin and Taylor, 1992). INDSERV consists of dimensions of potential quality, hard process quality, soft process quality, and output quality (Gounaris and Venetis, 2002) while HedPERF (Higher Education Performance only) consists of six factors to evaluate service quality in the education sector. The six factors are non-academic aspects, academic aspects, reputation, access, program issues, and understanding (Abdullah, 2006). SERVQUAL and SERVPERF are the most widely used measures. However, both measures have several disadvantages, including the dimensional issue. Not all dimensions used in SERVQUAL and SERVPERF can be adapted to any service industry (Carrillat, Jaramillo and Mulki, 2007). Most of the previous studies used SERVQUAL to evaluate service quality in educational sectors (Calvo-Porral, Lévy-Mangin and Novo-Corti, 2013; Yousapronpaiboon, 2014; Galeeva, 2016; Leonard, 2018; Leonard and Susanti, 2019). However, some limitations are rising, especially in terms of debatable validity and reliability. Brochado (2009) signified that SERVPERF and HEdPERF are more valid than SERVQUAL.

Therefore, most researchers argue that it is important to improvise basic measurement to be more suitable to evaluate service quality on educational institutions holistically (Galeeva, 2016). On the other hand, several researchers chose to use uni-dimensional measurement scales to assess the service quality of higher educational institutions, such as physical facilities, support facilities, academic facilities, industry relations, and curriculum (Jain, Sinha and De, 2010) while others employ four dimensions of infrastructure, teaching staff, administrative staff, and support services (Douglas et al, 2015; Doña-Toledo, Luque-Martínez and Del Barrio-García, 2017).

Web service quality in educational services

Effective website design and services have become the main criteria adopted by most researchers to explain e-Service quality (Yarimoglu, 2015). Primarily, the measurement scales focus on three important things, including website technical aspects, website service quality, and other factors that affect e-satisfaction (Akinci, Atilgan-Inan and Aksoy, 2010). Based on these three points, several other measures are proposed to evaluate e-Service quality. Among the most widely used are SITEQUAL (Yoo and Donthu, 2001), WebQual (Loiacono, Watson, and Goodhue, 2002), e-SERVQUAL (Zeithaml, Parasuraman and Malhotra, 2002), ES-QUAL, E-RecS-QUAL (Parasuraman, Zeithaml and Malhotra, 2005), and OA-SQ (Liu, Guo and Hsieh, 2010). Of these measures, ES-QUAL is the most frequently used measure. The measurement method is claimed to be applicable to a wide range of industries.

Generally, the selection of valid measurement scales has been a challenge, especially in educational sectors. Most of the measurement scales above are used in commercial context while educational sectors require non-commercial web and portals, of which sales and purchase transactions do not occur (Yang et al, 2005). Instead of using widely applied measurement scales, some researchers settle upon uni-dimensional measurement scales that are more suitable for educational institutions. For instance, Al-Hawari and Mouakket (2010), Chen (2011) Farahat (2012), Nasirun et al (2012) adopt the constructs of usability, responsiveness, accessibility, and attractiveness based on the Technology Adoption Model (TAM). The results indicate that usefulness has a positive influence on student satisfaction (Al-Hawari and Mouakket, 2010; Farahat, 2012). Similar results are also associated with accessibility (Chen, 2011; Farahat, 2012), responsiveness (Chen, 2011), and attractiveness (Nasirun et al, 2012).

To summarize, most researchers used ES-QUAL to explain e-Service quality because of its applicability to be used in a wide range of commercial context. However, some researchers employed uni-dimensional measurement scales suitable for the education context. The Technology Adoption Model (TAM) was adopted to construct usability, responsiveness, accessibility, and attractiveness evaluating e-Service quality in educational services.

Perceived value and perceived web value

Perceived value is the overall assessment of services based on perceptions of what students should receive based on their sacrifice (Doña-Toledo, Luque-Martínez and Del Barrio-García, 2017). The sacrifices are in terms of enrollment and tuition fees. Service quality is the main antecedent of perceived value. Both have proven to significantly affect student satisfaction (Joung, Choi and Wang, 2016; Lunarindiah, 2018). As well as the perceived value of traditional service quality, perceived web quality also thoroughly evaluates what students should receive in the context of online services based on the cost they have spent. Web service quality and perceived web value have proven to significantly affect students' satisfaction (Kilburn, Kilburn and Davis, 2016). Therefore, perceived value and perceived web value were considered to have significant implications on students' satisfaction.

Satisfaction

Satisfaction is the accumulation of consumer perceptions and behaviors derived from the total benefits obtained (Wu, Tennyson and Hsia, 2010). Student satisfaction has gained much attention lately due to rising competition among universities to attract and retain students (Leonnard and Susanti, 2019). This issue takes a special concern, especially in private universities, since universities do not receive any subsidy from the government which increases the effect of student enrollments on profits and university operating expenses. Furthermore, students' satisfaction significantly mediated the relationship between academics, non-academics, reputation, and campus access

towards students' loyalty (Mulyono et al, 2020). Thus, it is important to improve students' academic abilities, programs for administrative staff, marketing campaigns, and also students' direct access to the staff.

Among many factors that have positive effects on students' satisfaction, service quality has been considered a key factor (Leonnard et al, 2015, Alemu and Cordier, 2017, Leonnard and Susanti, 2019) as well as perceived value (Doña-Toledo, Luque-Martínez and Del Barrio-García, 2017, Leonnard, 2018a, Leonnard, 2018b).

Based on the argument above, the working hypotheses to be tested in this study are:

H1: Perceived value has a positive effect on students' satisfaction.

H2: Perceived web value has a positive effect on students' satisfaction.

H3: Perceived quality delivered by teaching staff has an indirect impact on students' satisfaction.

H4: Perceived quality delivered by administrative staff has an indirect impact on students' satisfaction.

H5: Perceived quality of university infrastructure has an indirect impact on students' satisfaction.

H6: Perceived quality of support services has an indirect impact on students' satisfaction.

H7: Usability has an indirect impact on students' satisfaction.

H8: Responsiveness has an indirect impact on students' satisfaction.

H9: Accessibility has an indirect impact on students' satisfaction.

H10: Attractiveness has an indirect impact on students' satisfaction.

RESEARCH METHOD

Research instruments

The measurement scale of traditional perceived service quality, perceived value, and satisfaction was adopted from Doña-Toledo, Luque-Martínez and Del Barrio-García (2017) while the scale of perceived web service quality was perceived from Nasirun et al (2012). Totally, there are 57 indicators that summarize 11 constructs. Traditional perceived service quality is explained by constructing perceived quality delivered by teaching staff (3 indicators), perceived quality delivered by administrative staff (6 indicators), perceived quality of university infrastructure (6 indicators), and perceived quality of support services (3 indicators). On the other hand, perceived web service quality is explained by usability (4 indicators), responsiveness (5 indicators), accessibility (4 indicators), and attractiveness (indicators). In the final model, perceived value consists of 6 indicators, perceived web value consists of 3 indicators, and satisfaction consists of 4 indicators. A detailed summary of each indicator is provided in Appendix 1.

Sampling and data collection

In accordance with the rules for determining samples on PLS-SEM by Hair Jr. et al (2016), the minimum number of respondents should be greater than 10 times the maximum

number of inner or outer model links pointing at any latent variable in the model. The PLS-SEM is a variance-based structural equation modeling and a non-parametric method since it does not have any distributional assumption; thus, it is suitable in cases found to be insufficient sample size and non-normal distribution (Hair Jr., Ringle and Sarstedt, 2011).

The maximum number of inner or outer model links of the construct is 10 (explaining formative measures of satisfaction), therefore the minimum number of samples to be fulfilled was 100 students. To satisfy the criterion, this study surveyed 151 students from three private universities in Jakarta, namely IPMI International Business School, Binus University, and London School of Public Relations through a random selection method by using 5-points Likert scale questionnaires. The final questionnaires consist of 57 indicators and 11 constructs. Of the total respondents, 60.26 % were women and 39.73 % were men aged between 20 and 30 years. Most of the respondents were undergraduate students (89.40 %) and only 10.59 % were master program students.

Research method

To test the hypotheses, this study was conducted using the Partial Least Square-Structural Equation Modeling (PLS-SEM) method. The first step analysis was performed to validate the questionnaire through one-factor analysis as suggested by Podsakoff et al (2013). Principal Component Analysis (PCA) with a varimax rotation was performed against 57 indicators. The results bring 11 constructs that were formed into 4 constructs for traditional perceived quality, 4 constructs for perceived web quality, 1 construct for perceived value, 1 construct for perceived web value, and 1 construct for students' satisfaction. The second step is to analyze structural paths of the latent constructs using the SEM-PLS. The process consists of outer model analysis, inner model analysis, and hypothesis testing. The next stage is analyzing the Importance Performance Map Analysis (IPMA), which is an extension of PLS-SEM analysis. Finally, all direct and indirect effects of PLS-SEM estimate the final importance score (Hair, Ringle and Sarstedt, 2013), while scaling the mean value of indicators is the performance score index (Ringle and Sarstedt, 2016).

RESULTS

Outer model results for exogenous latent constructs

The analysis explains the relationship of indicators with constructs through the significant outer loading values and constructs' reliability and validity (Hair Jr. et al, 2016). Each construct (perceived quality delivered by teaching staff, perceived quality of university infrastructure, perceived quality of administrative staff, perceived quality of support services, usability, responsiveness, accessibility, attractiveness, perceived value, and perceived web value) was analyzed separately. The results validate that all constructs have high loading value factors of 0.70 to 0.90.

All composite reliability values CR) are above 0.80, rho_A values are above 0.70, and Cronbach's Alpha values are above 0.60 (Table 1). All values are above the cut-off values of 0.70, except for Cronbach's Alpha but it is still considered moderate (Cohen, 2013).

Furthermore, Fornell-Larcker Criterion and cross loading values to evaluate discriminant validity signify that the Average Variance Extracted (AVE) values from the Fornell-Larcker Criterion table (Table 2) are higher than the square root AVE (Table 1) and the correlation of each indicator with each construct is higher than other constructs (Hair Jr. et al, 2016). For instance, the Fornell-Larcker Criterion value for PQT is 0.786, while the AVE value is only 0.618, also the value for PWV is 0.987 compared to 0.859.

Outer model results for endogenous latent constructs

Satisfaction is an endogenous construct that is affected by other constructs directly (perceived value and perceived web value) and indirectly (perceived quality delivered by teaching staff, perceived quality of university infrastructure, perceived quality of administrative staff, perceived quality of support services, usability, responsiveness, accessibility, and attractiveness). The various dimensions of the satisfaction construct implied a formative measurement of satisfaction. This formative measurement explained measures as causes of constructs (Edwards, 2011). Besides, Edwards (2011) concluded that formative measures are not necessarily expected to demonstrate internal consistency and not incorporate measurement error.

The model was tested through convergent validity and discriminant validity. Since satisfaction does not affect any other construct, convergent validity was evaluated from the constructs reflective correlation (perceived value and perceived web value) which are 0.783 and 0.646, respectively. Additionally, the weight value of each formative indicator in Table 3 signifies a positive relationship to satisfaction at $\alpha = 0.01$. The Variance Inflation Factor (VIF) value less than 5.00 indicates the model is free from multicollinearity issues. Through the analysis, the robust reflective model has been achieved (Hair Jr. et al, 2016).

Constructs	Indicators	Loading factors	AVE	CR	Cronbach's Alpha
Perceived quality delivered by teaching staff (PQT)	PQT1	0.705	0.618	0.829	0.690
	PQT2	0.836			
	PQT3	0.812			
Perceived quality delivered by administrative staff (PQA)	PQA1	0.781	0.688	0.930	0.909
	PQA2	0.842			
	PQA3	0.767			
	PQA4	0.845			
	PQA5	0.865			
	PQA6	0.871			
Perceived quality of university infrastructure (PQI)	PQI1	0.763	0.641	0.914	0.888
	PQI2	0.764			
	PQI3	0.783			
	PQI4	0.817			
	PQI5	0.856			
	PQI6	0.817			
Perceived quality of support services (PQS)	PQS1	0.810	0.605	0.820	0.673
	PQS2	0.657			
	PQS3	0.854			
Usability (USA)	USA1	0.838	0.822	0.949	0.928
	USA2	0.904			
	USA3	0.939			
	USA4	0.943			
Responsiveness (RES)	RES1	0.798	0.748	0.937	0.915
	RES2	0.889			
	RES3	0.913			
	RES4	0.886			
	RES5	0.834			
Accessibility (ACC)	ACC1	0.861	0.746	0.921	0.886
	ACC2	0.847			
	ACC3	0.888			
	ACC4	0.857			
Attractiveness (ATT)	ATT1	0.903	0.831	0.908	0.797
	ATT2	0.920			
Perceived value (PV)	PV1	0.847	0.697	0.932	0.913
	PV2	0.841			
	PV3	0.821			
	PV4	0.826			
	PV5	0.830			
	PV6	0.844			
Perceived web value (PWV)	PWV1	0.886	0.859	0.948	0.917
	PWV2	0.947			
	PWV3	0.946			

Note: Abreviation explanation is available on Appendix Table

Table 1: Validity and reliability test results, 2019 (Source: Calculated data)

	PQT	PQA	PQI	PQS	USA	RES	ACC	ATT	PV	PWV
PQT	0.786									
PQA	0.745	0.830								
PQI	0.567	0.676	0.801							
PQS	0.598	0.628	0.550	0.778						
USA	0.572	0.597	0.630	0.578	0.907					
RES	0.491	0.500	0.582	0.585	0.779	0.865				
ACC	0.517	0.607	0.657	0.570	0.822	0.797	0.863			
ATT	0.464	0.489	0.524	0.578	0.518	0.625	0.536	0.912		
PV	0.657	0.728	0.725	0.732	0.629	0.557	0.633	0.494	0.835	
PWV	0.489	0.516	0.617	0.611	0.716	0.701	0.756	0.532	0.622	0.927

Note: Abbreviation explanation is available in Appendix Table

Table 2: Fornell-Larcker Criterion test results, 2019 (Source: Calculated data)

	Outer weights	*T* Statistics (|O/STDEV|)
SAT1 –> SAT	0.265	16.827***
SAT2 –> SAT	0.263	16.816***
SAT3 –> SAT	0.260	17.260***
SAT4 –> SAT	0.204	12.113***
SAT5 –> SAT	0.193	8.640***

*Note: *** significant at α = 0.01*

STDEV: Standard deviation

Note: Abbreviation explanation is available on Appendix Table

Table 3:Outer weight test results, 2019 (Source: Calculated data)

Structural model results

The evaluation of inner models indicates that satisfaction has R^2 value of 0.654, perceived value has R^2 value of 0.718, and perceived web value has R^2 value of 0.611. The Q^2 value of 0.962 is above the cut-off value of zero, which represents a good predictive power of exogenous latent construct (Chin, 2010). Similarly, the Goodness of Fit (GoF) value of 0.544 is above the high cut-off value for GoF of 0.360 (Tenenhaus et al, 2005). Therefore, the proposed structural model has satisfied the robust criteria. The path relationship in Table 4 indicates the relationship between perceived value and student satisfaction is confirmed and positive ($\beta = 0.621$; t-value = 11.175) as well as the relationship between perceived web value and student satisfaction ($\beta = 0.259$; t-value = 3.655). Both statistics provide support for H1 and H2. In addition, there are five indirect effects that are significantly confirmed on student satisfaction. First, the indirect relationship of perceived quality delivered by administrative staff ($\beta = 0.198$; t-value = 2.338). Second, the indirect relationship of perceived quality of university infrastructure ($\beta = 0.333$; t-value = 4.291). Third, the indirect relationship of perceived quality of support services ($\beta = 0.362$; t-value = 5.084). Lastly, the indirect relationship of accessibility ($\beta = 0.469$; t-value = 4.233) and attractiveness ($\beta = 0.123$; t-value = 1.699). All of the results provide support for H4, H5, H6, H9, and H10.

Hypotheses	Path	Coeff.		*T* Statistics (|O/STDEV|)	Findings
H1	Perceived value –> Student satisfaction	0.621	direct	11.175***	Supported
H2	Perceived web value –> Student satisfaction	0.259	direct	3.655***	Supported
H3	Perceived quality delivered by teaching staff --> Student satisfaction	0.104	indirect	1.300	Unsupported
H4	Perceived quality delivered by administrative staff --> Student satisfaction	0.198	indirect	2.338**	Supported
H5	Perceived quality of university infrastructure --> Student satisfaction	0.333	indirect	4.291***	Supported
H6	Perceived quality of support services --> Student satisfaction	0.362	indirect	5.084***	Supported
H7	Usability --> Student satisfaction	0.112	indirect	0.953	Unsupported
H8	Responsiveness --> Student satisfaction	0.165	indirect	1.324	Unsupported
H9	Accessibility --> Student satisfaction	0.469	indirect	4.233***	Supported
H10	Attractiveness --> Student satisfaction	0.123	indirect	1.699*	Supported

*Note: *** significant at α= 0.01, **α= 0.05, *α= 0.1*

Table 4:Path coefficients (Source: Calculated data)

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To summarize, on the basis of the table above, performed statistical testing confirms:

1. H1 fails to reject; thus the perceived value has a positive effect on students' satisfaction
2. H2 fails to reject; thus the perceived web value has a positive effect on students' satisfaction
3. H3 rejects; thus the perceived quality delivered by teaching staff has no indirect impact on students' satisfaction
4. H4 fails to reject; thus the perceived quality delivered by administrative staff has a positive indirect impact on students' satisfaction
5. H5 fails to reject; thus the perceived quality of university infrastructure has a positive indirect impact on students' satisfaction
6. H6 fails to reject; thus the perceived quality of support services has a positive indirect impact on students' satisfaction
7. H7 rejects; thus the usability has no indirect impact on students' satisfaction
8. H8 rejects; thus the responsiveness has no indirect impact on students' satisfaction
9. H9 fails to reject; thus the accessibility has a positive indirect impact on students' satisfaction
10. H10 fails to reject; thus the attractiveness has a positive indirect impact on students' satisfaction

The full relationship is presented in Figure 1.
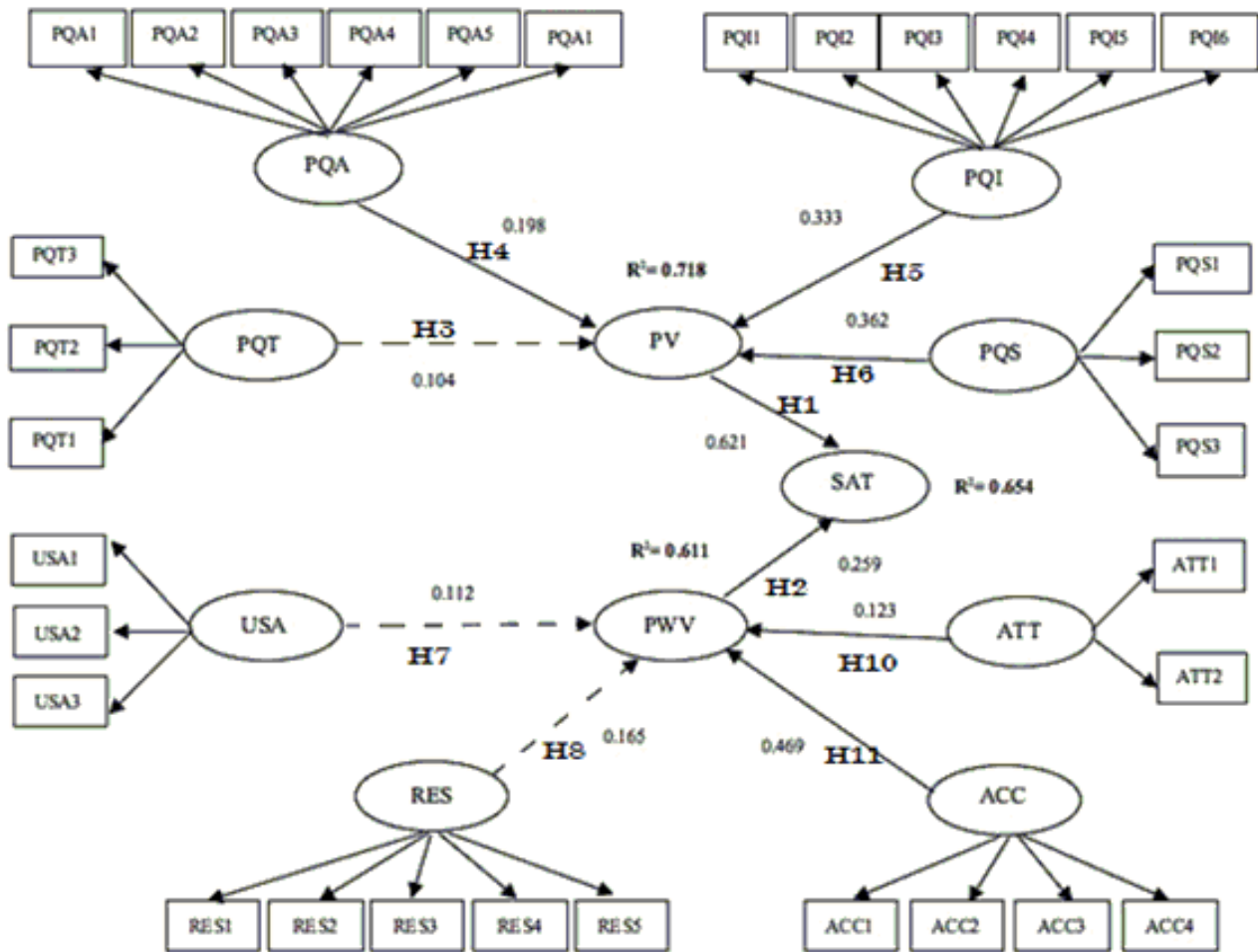
Figure 1:The structural path model, 2019 (Source: Calculated data)

Importance Performance Map Analysis (IPMA) results

The Importance of Performance Map Analysis (IPMA) is used to measure the importance level of perceived value and perceived web value towards students' satisfaction. Figure 2 indicates that perceived value has higher importance and performance scores (0.621 and 66.438, respectively) than the perceived web value (importance score = 0.259; performance score = 62.669). Therefore, statistically, one point increase in private university performance will increase students' satisfaction by 0.621 points, ceteris paribus. On the contrary, a similar increasing point of perceived web value will only increase students' satisfaction by 0.259 points.

Further IPMA analysis is also carried out on the constructs of perceived quality delivered by teaching staff, perceived quality delivered by administrative staff, perceived quality of university infrastructure, perceived quality of support services, usability, responsiveness, accessibility, and attractiveness towards students' satisfaction. Figure 3 indicates that perceived quality delivered by support services
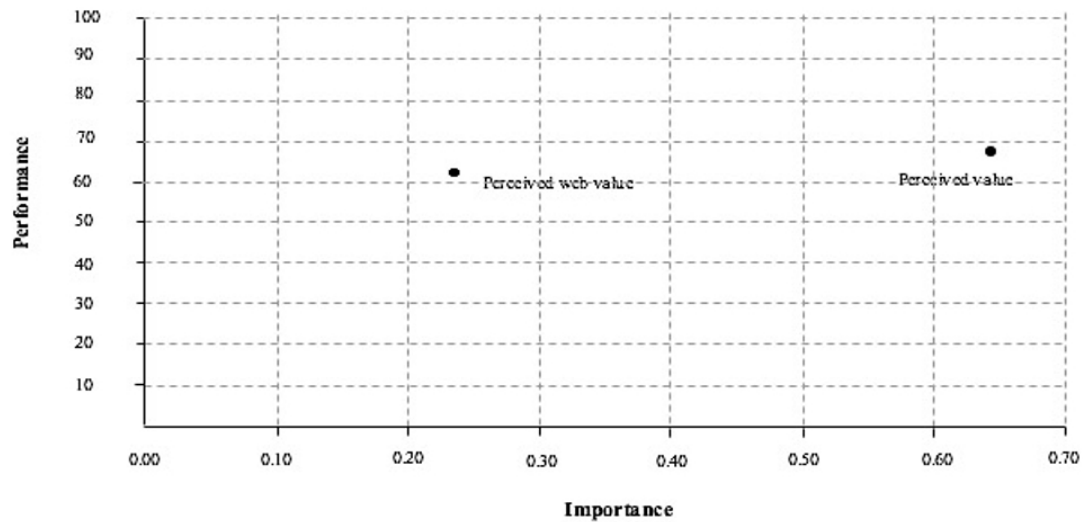
Figure 2: Unstandardized IPMA results of perceived value and perceived web value (Source: Calculated data)

has an importance score of 0.241 and a performance score of 69.690. The score is relatively higher than the perceived quality delivered by teaching staff (0.070), perceived quality delivered by administrative staff (0.123), and perceived quality of university infrastructure (0.213). An increase of the performance level of perceived quality of support services will increase students' satisfaction significantly higher than an increase in other constructs, ceteris paribus (Table 5).
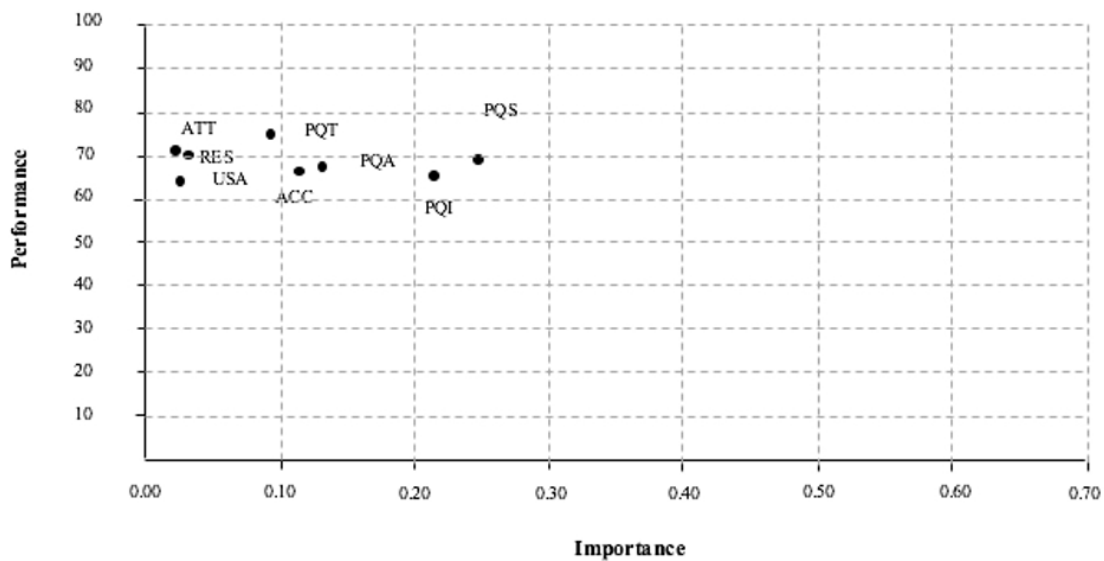
Figure 3: Unstandardized IPMA results of exogenous constructs, 2019 (Source: Calculated data)

Constructs	Importance scores (Total effects)	Performance scores (Index values)
Perceived value	0.619	66.438
Perceived web value	0.231	62.669
Perceived quality delivered by teaching staff	0.070	73.753
Perceived quality delivered by administrative staff	0.123	67.799
Perceived quality of university infrastructure	0.213	65.918
Perceived quality of support services	0.241	69.690
Usability	0.026	64.139
Responsiveness	0.041	69.639
Accessibility	0.116	66.196
Attractiveness	0.030	72.566

Table 5: IPMA total effects and index values, 2019 (Source: Calculated data)

DISCUSSIONS

The results of this study confirm that seven of ten hypotheses tested were supported. Perceived value and perceived web value significantly affect student satisfaction. The result supports previous studies by Joung, Choi and Wang (2016), Doña-Toledo, Luque-Martínez and Del Barrio-García (2017), and Lunarindiah (2018). The effect of the perceived value obtained from traditional service quality is higher than the effect obtained from web service quality. Due to a limited application in educational sectors, we compared the results with other studies in other industries. The result is in accordance with the study of Silva and Goncalves (2016). Even though, some other studies revealed otherwise, such as Broekhuizen (2006) found that the perceived value of online shopping was higher than offline and Walsh et al (2010) stated that perceived value in online and offline service quality was relatively no different. The difference is possibly caused by specific industry differences and the indicators' coverage of traditional and electronic service quality. In the context of online shopping, activities carried out offline can be fully interchangeable into online based. However, in the context of educational services, especially in conventional learning methods, there is a substantial difference between traditional and electronic service quality. There is a limitation to convert all traditional service quality into online based activities. However, a different assumption is expected in e-learning methods.

Technological developments, internet access, innovation, and market needs have changed the way universities provide their services and the types of services offered. The needs and market competition have demanded universities to change their systems and services from traditional to innovation such as the adoption of web and portal-based systems, online sources, online courses, and other electronic services. Adoption of the new system has been proven to provide added value for universities in improving their quality to the traditional standards such as academic standards, accreditation, and conventional education and research standards (Munteanu et al, 2010). However, whether the electronic service quality can replace the role of traditional service quality has become an interesting question for universities and policymakers. Technology plays a role as media and tools to add value and increase influence on student satisfaction to maintain university's competitiveness. However, the replacement of interpersonal interaction with human-machine interaction cannot be fully carried out. Some of the human interactions cannot be replaced by technology, such as friendliness, helpfulness, care, empathy, commitment, and cleanliness (Shauchenka et al, 2010).

The three dimensions of traditional perceived quality, including perceived quality delivered by administrative staff, perceived quality of university infrastructure, and perceived quality of support services are significantly able to improve students' satisfaction. These results are consistent with Douglas et al (2015) and Doña-Toledo, Luque-Martínez and Del Barrio-García (2017). Perceived quality of support services has a higher effect than others which is consistent with the Doña-Toledo, Luque-Martínez and Del Barrio-García (2017) study. In the context of web service quality, only accessibility and attractiveness significantly affect students' satisfaction. This result is in accordance with Chen (2011) and Farahat (2012) and in contrast with the study by Nasirun et al (2012) which stated that the four dimensions significantly affect students' satisfaction.

Perceived quality delivered by administrative staff includes appropriate services, speed, accuracy, and prudence in providing services. These aspects become a traditional differentiator with e-Service quality. Those aspects focus on humans. Interpersonal relationships of support staff in higher education institutions can impact internal service quality; and therefore, affected on job performance, motivation, and commitment of the staff on delivering service (Gibbs and Kharouf, 2020).

Perceived quality of university infrastructure includes physical buildings, interior and exterior design, scientific forums, access to reputable publications and supporting facilities for community service activities. Those factors are traditional service quality which mostly becomes the main facility of academic activities at the university. Perceived quality of support services includes staff fairness, staff competency, and university activeness in social activities. In terms of e-Service quality, the factors of ease, speed of access, designs, fonts, colors, multimedia, and attractive graphics and security influence student satisfaction through websites and portals. It should be underlined that in this study e-service quality is limited to the use of websites and portals. The separation of the two types of service quality is intended to examine how much added value is given by e-Service quality to student satisfaction. However, the form of human-machine interaction that directly replaces interpersonal interaction as in the case of electronic or distance learning is not analyzed.

However, although the perceived quality of supported or administrative staff has a positive effect on satisfaction, the perceived quality delivered by teaching staff has another way. Teaching staff quality had no effect on students' satisfaction. This result was in contrast with Goh et al (2017) that found learning design and interaction with teachers related to learning satisfaction. Additionally, the construct of several factors from the Technology Adoption Model (TAM) was not fully supported by the findings. The accessibility and attractiveness were found to have a positive effect on students' satisfaction, which supports the research from Chen (2011), and Farahat (2012) for accessibility factor, while Nasirun et al (2012) for its attractiveness factor. However, usability and responsiveness have no influence on students' satisfaction. The result was in contrast with research from Al-Hawari and Mouakket (2010) and also Farahat (2012) for usability, while responsiveness from Chen (2011).

This study brings several implications for private universities. First, this study suggests that universities should deliver a high concern on increasing traditional service quality, especially in terms of administrative services, provision of facilities and infrastructure for teaching and learning activities, and supporting facilities for research and community service. As indicated by IPMA results, that the university's performance in providing infrastructure is relatively lower than the other four dimensions. Therefore, it is suggested that universities should provide and improve the quality of the infrastructure,

such as buildings, libraries, seminar rooms, together with interior and exterior designs. Even though, the effect of web service quality on improving students' satisfaction is relatively lower than traditional service quality, but improvement should be made especially in the usability of websites and university portals. For society, the results become an input for evaluating service quality at the university. As for the government and policymakers, the results become the initial key regarding the significance of the use of technology for academic activities and environments in higher institutions. It is also worthy of consideration in formulating the concept of blended learning or the combination of traditional and electronic service quality.

CONCLUSION AND LIMITATION

This study specified that both traditional and e-Service quality have significant and positive effects on student satisfaction. However, the perceived value of traditional service quality has a greater effect to increase students' satisfaction at private universities than the perceived value of electronic service quality. The results of this study contribute to providing academic knowledge in terms of the effect of both types of service quality on student satisfaction. Besides, the emerging of internet technologies has led to an increasing trend in e-Services in higher education. The fact that the traditional service quality brings a higher influence on student satisfaction has become an interesting insight for higher education institutions.

However, the limitations of this study are in terms of a limited number of samples and the scope of electronic service quality discussed which is limited to activities carried out on the web and university portals. In practice, students often do combining activities. Activities carried out online at the portal often must be validated offline by academic staff. Therefore, further research is required to examine this specific condition. Also, different results are expected to be obtained in e-learning methods.

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Constructs	Sources	Indicators	Loading factors
Perceived quality delivered by teaching staff (PQT)	Doña-Toledo, Luque-Martínez, and Del Barrio-García (2017)	PQT1	Lecturers have attractive and professional looking
		PQT2	Lecturers have high skill and knowledge
		PQT3	Lecturers are truly helpful and caring to student questions and problems
Perceived quality delivered by administrative staff (PQA)		PQA1	Employees provide appropriate academic services
		PQA2	Employees respond to student problems quickly
		PQA3	Employees provide academic services carefully
		PQA4	Student complaints are handled quickly
		PQA5	Employees provide adequate administrative services
		PQA6	Employees provide high quality academic services
Perceived quality of university infrastructure (PQI)		PQI1	The spacious and amazing physical building
		PQI2	The university's exterior design is very impressive
		PQI3	The university's interior design looks beautiful
		PQI4	The university has links to reputable scientific publications
		PQI5	The university facilitates scientific forums for improving academic quality
		PQI6	The university has facilities that support community service activities
Perceived quality of support services (PQS)		PQS1	The university actively organizes social activities
		PQS2	Support staff treat students fairly
		PQS3	Support staff are very competent
Usability (USA)	Nasirun et al (2012)	USA1	The web operating system and portal never stop functioning
		USA2	Web and portals regularly update information
		USA3	Information presented on the web and portal satisfy my needs
Responsiveness (RES)		RES1	Web and portals are easily accessible
		RES2	The pages load quickly
		RES3	Web and portals are easy to use
		RES4	I can log in to the portal quickly
		RES5	The web and portal can be accessed at any time
Accessibility (ACC)		ACC1	The web and portal's easy-to-use dashboard make students can find the information quickly
		ACC2	All activities through the web and portal can be performed quickly
		ACC3	Information on the web and portal is presented in a unique and interesting way
		ACC4	Designs, fonts, colors, multimedia, and graphics used on the web and portals are very interesting
Attractiveness (ATT)		ATT1	The web and portal keep the confidentiality of my personal information
		ATT2	I consider the university portal is very safe
Perceived value (PV)		PV1	Tuition fees are in accordance with the facilities received by students
		PV2	Tuition fees are in accordance with the services received by students
		PV3	Tuition fees are in accordance with the quality of the teaching staff
		PV4	Learning facilities provided are as I expected
		PV5	The quality of the teaching staff is as I expected
		PV6	The learning atmosphere at the university is fun and interesting
Perceived web value (PWV)		PWV1	I like to search for information through the web and portals
		PWV2	I am satisfied with the experience of using the web and portal
		PWV3	I am satisfied with the information and services provided through the web and portal
Satisfaction (SAT)	Nasirunet et al (2012); Doña-Toledo, Luque-Martínez, and Del Barrio-García (2017)	SAT1	I am proud to study at this university
		SAT2	I enjoy studying at this university
		SAT3	Overall, I am satisfied to study at this university
		SAT4	I will join any activity carried out by the university

Table 6: Construct operationalization

TEACHER ACCOUNTABILITY FOR TEACHER OCCUPATIONAL PROFESSIONALISM: THE EFFECT OF ACCOUNTABILITY ON OCCUPATIONAL AWARENESS WITH THE MEDIATING ROLES OF CONTRIBUTION TO ORGANIZATION, EMOTIONAL LABOR AND PERSONAL DEVELOPMENT

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ABSTRACT

Accountability enables teachers to exhibit professional behaviors in school processes. However, the contribution of accountability to teacher occupational professionalism depends on the effective structuring of accountability mechanisms. It is necessary to examine how the connection between teacher occupational professionalism and accountability can be effectively established in line with different conceptual models. Therefore, this study investigated the relationship between teacher accountability and occupational professionalism by analyzing a proposed conceptual model of accountability and occupational professionalism dimensions. The first step for effective accountability mechanisms is to raise occupational awareness. Therefore, the effect of teacher accountability on teacher occupational awareness, which is one of the components of occupational professionalism, was examined with the mediating roles of contribution to organization, emotional labor and personal development dimensions of occupational professionalism. Employing correlational research design, the study sample included 576 middle school teachers from Gaziantep province in the southeast of Turkey. The study revealed that contribution to organization and emotional labor play a partially mediating role in the relationship between accountability and occupational awareness. However, teacher personal development has no mediating role. The results present a framework to develop teacher personal accountability supporting teacher occupational professionalism.

KEYWORDS

Accountability, middle school teachers, occupational awareness, occupational professionalism

HOW TO CITE

Highlights

- *Teacher accountability is related to the teacher occupational professionalism.*
- *Emotional labor and the contribution to the organization mediate the relationship between accountability and occupational awareness.*
- *Personal development is not a mediator in the relationship between accountability and occupational awareness.*

INTRODUCTION

The occupational quality of teachers is one of the most effective factors shaping education systems. Hence, teachers should structure their occupational implementations in a professional manner in order to develop their occupational quality and performance. The professionalism of teachers in education and instruction processes requires that they act in accordance with accountability.

Teacher accountability movement is one of the most debated and important topics of modern educational reforms. Teachers with low quality performance lead to insufficient school performance. Lack of accountability and control in schools is the primary reason underlying the issue related to low-performing teachers. The solution for the advocates of the modern educational reform movement is making teachers more accountable (Ingersoll and Collins, 2017). Hodgetts (2010) points out that the accountability of teachers is emphasized through the focus on performance in modern education systems.

The definition of accountability determines how the occupational professionalism of teachers is structured (Poulson, 1998). In this study, accountability is considered as a mechanism that ensures the professional development of teachers and thus improving professional performance. It is included in education systems for supporting the professional development of teachers and guaranteeing the necessary occupational inputs (Jensen et al., 2016). Its contribution to the improvement of teacher occupational professionalism enabling professional development has increasingly drawn more attention in terms of the success of education systems. At this point, occupational awareness which is a component of occupational professionalism is a prerequisite since it reflects teachers' cognitive and psychological readiness at the individual level for both accountability and professionalism. In this study, teacher accountability is considered based on self-accountability including professional self-assessments of teachers. Therefore, it is deemed that occupational awareness appears in a key position for teachers to take responsibility for their duties and to work with a more professional understanding. Educational policies intended to improve the interaction between answerability of teachers and expected competences from teachers aim at increasing occupational awareness of teachers in school processes. Therefore, it is important to examine the relationship between teacher accountability and occupational professionalism especially based on occupational awareness through different theoretical models for the successful design and implementation of these educational policies. For this purpose, the aforementioned relationship was analyzed through a proposed model in which occupational professionalism is divided into its dimensions in order to develop a different perspective in this study.

In this study, the effect of teacher accountability on teacher occupational awareness which is one of the components of occupational professionalism was examined with the mediating roles of contribution to organization, emotional labor and personal development which are other components of teacher occupational professionalism. The research questions of the study are as follows:

1. Is there a significant relationship between middle school teachers' accountability and their occupational professionalism?
2. Do the contribution to organization, emotional labor and personal development mediate the effect of middle school teachers' accountability on their occupational awareness?

The following parts of the study respectively include a theoretical foundation concerning the relationship between teacher accountability and professionalism and the conceptual framework on which the model proposed in the study is based.

Teacher Accountability and Occupational Professionalism

Accountability is required in order to consider an occupation as professional and its implementations that are put into practice in different ways make up a distinctive characteristic of professionalism (Maphosa et al., 2012). Hence, teacher accountability is an inseparable part of teacher professionalism. However, an accountability system should take place along the axis of professionalism. Otherwise, a system that is harmful rather than supportive will emerge in terms of occupational professionalism.

Poulson (1998) classifies accountability as internal and external. External accountability is delivered through a contractual mandate and inspection. Whereas internal accountability represents the self-regulation in which teachers consider themselves as professionally responsible. Accountability of teachers can be organized through systems of external assessment, while it can also be attained personally. The essence of the teaching profession brings forth the concept of personal accountability (Sahu, 2018). In the present study, accountability of teachers is evaluated as part of internal (personal) accountability and therefore the understanding that it points out self-assessment of teachers regarding their professional implementations is adopted in the study. As a framework reflecting this understanding, Arslan Durmuş (2016) indicates teacher accountability includes five dimensions named duty and responsibility, obstacles, expectations and communication. She explains these dimensions in this framework as follows: the things teachers do to fulfill their duties and responsibilities in a proper manner and their ability to explain the consequences of their responsibilities are defined as the accountability with regard to their *duties and responsibilities*. The requirements of teachers concerning school and assessment processes in order to ensure accountability make up their *expectations*. Factors that either prevent or make it more difficult for teachers to be accountable for their applications are expressed as *obstacles* related to accountability. Whereas *communication* indicates the support by the communication structure in schools and the communication between teachers and school administration for ensuring the accountability of teachers. Consequently, teacher accountability includes not only ensuring transparency in job-related processes, but also the awareness of opportunities that support professional development and practices, and the threats that limit them.

Teachers' being accountable in education is generally considered as a part of the occupational professionalism of teachers (Poulson, 1998). According to Møller (2009), professional accountability emphasizes that teachers are aware

of the needs of the students and their parents as well as the society they live in. He states that it requires the acquisition and implementation of the knowledge and skills necessary for successful professional applications. In addition, it also includes a commitment to place the needs of the students at the center, cooperate and share information (Møller, 2009). At the individual level, it is based on the concept of responsibility for meeting the standards. Therefore, individual accountability can be used to predict the work performance of teachers (Rosenblatt, 2017). As a result, teachers' being accountable shows itself as professionalism and accordingly professional performance in school processes.

Teacher professionalism encompasses factors such as having sufficient subject knowledge and pedagogic knowledge, commitment to continuous improvement and maintaining responsibilities in the work environment (Sockett, 1993). Yılmaz and Altınkurt (2014) put forth that the occupational professionalism of teachers is comprised of contribution to organization, emotional labor, personal development and occupational awareness and explained these dimensions further as follows: following publications related to their fields for professional development and taking part in professional development activities are related with the *personal development* of teachers. Teachers who *contribute to organization* use their knowledge and skills voluntarily for the improvement and success of the school. Teachers with *occupational awareness* strive to be successful in their professions and to set an example for their students. In the meantime, they are open to innovations and change. Whereas *emotional labor* enables teachers to prevent themselves from carrying over their problems to the professional environment and to control their emotions. Consequently, occupational professionalism of teachers is considered as showing the necessary performance and emotional effort for the development of their schools and students, and attaching importance to their own personal development, showing the framework adopted in the present study.

The attainment and improvement of teacher professionalism are related to the teachers' having required personal and occupational competence. A professional teacher should have high standards as well as high expectations for themselves and their colleagues (Tichenor and Tichenor, 2005). Therefore, implementations based on personal accountability are considered effective tools for ensuring the effective occupational performance of teachers as well as for their professionalism. Systems with answerability standards and formulated principles of working culture may strengthen the roles played by teachers as autonomous professionals by providing internally guiding approaches for them (Smith and Persson, 2016). Teachers' feeling responsible for their work and working in a professional manner can mutually support each other under suitable conditions. Since the professional development of teachers is part of the accountability system, accountability supports teachers to focus on a professional goal (Hochberg and Desimone, 2010). Moreover, teacher professionalism indicates the responsibility of teachers with regard to student development and their own professional development, accordingly, this situation points to the fact that professionalism supports accountability (Wang, Lai and Lo, 2014).

The Effect of Accountability on Occupational Awareness with the Mediating Roles of Contribution to Organization, Emotional Labor and Personal Development

Increased attention of teachers to the processes and events that take place in schools is of special importance with regard to contributing to their professional development and thus their occupational professionalism (Price and Weatherby, 2018). In other words, the occupational professionalism of teachers is improved when they have greater occupational awareness. Teachers who are aware of their requirements, who are in good communication and cooperation with their colleagues and who strive to do their job as best as they can have high occupational awareness (Çelik and Yılmaz, 2015). Considering teaching as knowledge expertise makes it necessary for teachers to work as knowledge workers and to improve and renew their knowledge and skills continuously (Schleicher, 2012). However, lack of sufficient feedback received by teachers from the assessments in schools and insufficient collaboration with their colleagues slow down the development of their professional capital (Hargreaves and Fullan, 2012) and accordingly awareness towards professional issues. At this point, accountability serves as a mechanism to develop the professionalism of teachers based on occupational awareness by providing feedback concerning school- and job-related processes. Teachers' being aware of teaching profession necessities is of special importance with regard to establishing the foundation for teachers to act professionally and have a tendency for being accountable.

The occupational awareness level of teachers may vary subject to contextual factors as well as their personal and professional factors including attitudes and behaviors. The effect of accountability on occupational awareness may be therefore strengthened or weakened depending on these factors. At this point, teacher behaviors related to dimensions of occupational professionalism such as contributing to the organization, displaying emotional labor and personal development may play a mediating role in the shaping of the occupational awareness of teachers together with their accountabilities.

The performance of teachers concerning job-related processes is either positively or negatively affected by personal and environmental factors. Teachers cannot always control events that are not directly related to themselves. Hence, it is of special importance that teachers develop emotional labor strategies. These strategies help teachers with the factors preventing desired occupational performance and causing problems in the educational environment. Emotional labor is centrally located in teaching performance (Yin, 2015). The emotional labor of teachers stems from the nature of the work they perform and plays an important role in increasing the performance of teachers (Zaretsky and Katz, 2019). Teaching satisfaction is remarkably related to emotional labor of teachers (Huang, Yin and Han, 2019). Deep acting and fake emotions of teachers within the scope of the emotional labor strategies of teachers are important with regard to making an impact on student output (Burić, 2019). Deep acting enables experiencing positive emotions thus reflecting on the class management effectiveness of teachers (Lee and van Vlack, 2018). It also enhances the intrinsic motivation of teachers (Truta, 2014). Therefore, teachers' ability to show emotional labor requires

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awareness of situations and requirements concerning teaching and school.

The occupational awareness of teachers may increase when teachers suitably exert emotional labor contributing to their accountability to maintain their occupational performance at the desired level and to properly manage the relationships in school. The emotions of teachers also depend on subjective assessments related to situations (Becker et al., 2015). As a result, the fact that teachers having a thorough understanding of accountability can make more accurate evaluations concerning their emotions may be effective in the development of their awareness of occupation and professionalism.

Teachers' attitudes toward improving personal development constitute an important aspect of their professionalism that requires a high awareness of occupation. Occupational qualities and development are included among the factors supporting teachers to work professionally (Toh et al., 1996). According to Mustaffa et al. (2013), there is a strong relationship between personal development and personal awareness. Awareness of teachers is an important indicator that improves the quality of education (Buettner et al., 2016). Therefore, teachers' efforts for personal development and their awareness towards educational processes reinforce each other. Teachers' personal development can be formed based on their responsibility for the teaching profession which is also considered within the scope of teacher accountability (Kanika, 2016). The definition of the concept of professionalism changes over time and takes on a different context (Moore and Clarke, 2016). In this context, evaluation of competences of professionals in the public service indicating their professional development also plays a role in improving accountability (Watson and Fox, 2015). Accordingly, teachers' being responsible for their professional implementations may raise their awareness of professional issues by stipulating personal development in the teaching profession.

Teaching is a profession that requires expertise and continuous development. Therefore, quality teaching depends on the continuous self-development of teachers (Yılmaz and Altınkurt, 2014). The continuous development of teachers lays the foundation for them to contribute to the organization they work for. Professionalism in the teaching profession requires working with colleagues in school and collaborating with other stakeholders of education (Department for Education and Employment [DfEE], 1998). Teachers who show these professional behaviors can also contribute to their schools. Teachers' efforts to contribute to organization for the improvement depend on ensuring that they participate in school and administration processes (Weingarten, 2012). When it comes to teachers' contributions to their schools except for contributions to the teaching process, expected teacher behaviors generally include participation in school administration processes and assuming a leading role. Schools that encourage teacher accountability and especially teacher leadership at the same time have better performance (Ingersoll, Sirinides and Dougherty, 2018). Therefore, teachers who participate in school-related processes and those who assume the role of leaders in consequence of their occupational awareness contribute to their organizations while also becoming more accountable. Teachers' awareness of job- and school-related issues makes their professional learning easier in teaching and school processes. Since

occupational responsibility and self-development are included together in professional learning (Watson and Michael, 2016), accountability enables the improvement of teachers' performance quality (Dizon-Ross, 2018) as an indicator of contributions to their schools. In other words, teachers' being responsible for both school and personal development enables teachers to develop their occupational awareness and thus occupational performance. The conceptual framework created based on the described theoretical foundation is presented in Figure 1.
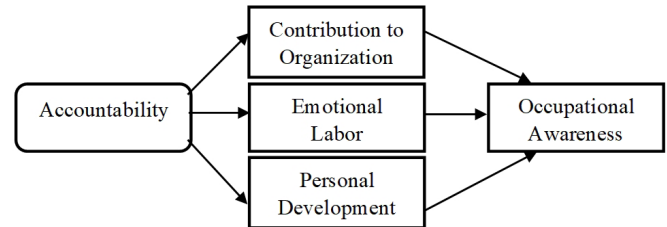

Figure 1: Conceptual framework of the relationships between accountability, dimensions of occupational professionalism (contribution to organization, emotional labor and personal development) and occupational awareness dimension of occupational professionalism

MATERIALS AND METHODS

This correlational study explores the relationships between teacher accountability and occupational professionalism. A mediation analysis of the Structural Equation Modeling (SEM) for the structural proposed model is also conducted. SEM is an analysis method defined as a combination of different statistical methods. It includes regression analysis in terms of defining causality relationships between variables (Tabachnick and Fidell, 2007). The main purpose of SEM is to test a causal model (Jöreskog, 1970). According to Tarka (2018: 314–318), the foundations of SEM lie in the Spearman's factor models and Wright's path analysis. In later periods, the methodological concepts of SEM were included in the publications of Jöreskog (1970), Keesling (1972) and Wiley (1973), however, Jöreskog (1973) has been mostly mentioned with the first developed SEM model (as cited in Tarka, 2018: 318).

SEM is a multivariate technique in which a structural model including hypotheses about relationships among different variables is tested (Stephan and Friston, 2009). The specification of a model is the first step of SEM. A model tested through SEM includes statistical hypotheses concerning the relationships between variables (Hoyle, 1995). SEM allows the examination of both direct and indirect relationships between variables (Tarka, 2018). After specifying the model, estimates of the free parameters are derived from observed data and following this step, the value of the fitting function is produced through estimation procedure (Hoyle, 1995). The value of the fitting function 'summarizes the degree of correspondence between the implied and observed covariance matrices' (Hoyle, 1995: 6). Then, various fit indices are calculated in structural equation models to determine to what extend the proposed models fit with the data (Schermelleh-Engel, Moosbrugger and Müller, 2003). When the χ^2 goodness of fit test and adjunct fit indexes show acceptable fit of the model, 'individual estimates of free parameters are evaluated according to their difference from

some specified null value, typically zero' (Hoyle, 1995: 9). In this direction, model parameter estimates showing standardized and unstandardized coefficients are produced (Kwan and Chan, 2011). Hoyle (1995: 9) states that 'unstandardized estimates indicate the number of units change in the dependent variable per unit change in the independent variable when all remaining independent variables are at their mean' and 'standardized parameter estimates are transformations of unstandardized estimates that remove scaling information and, therefore, invite informal comparisons of parameters throughout a model.'

Hypotheses included in the proposed structural model in this study are as follows:

H1: There is a correlation between accountability and occupational awareness.

H2: Contribution to organization has a mediator role in the relationship between accountability and occupational awareness.

H3: Emotional labor has a mediator role in the relationship between accountability and occupational awareness.

H4: Personal development has a mediator role in the relationship between accountability and occupational awareness.

Sample

The sample of this research included 576 middle school teachers from Gaziantep province in the southeast of Turkey. Sampling was carried out on the basis of the consideration that it will not be possible to reach the entire population and therefore simple random sampling was used in the study. The survey was applied on a total of 710 teachers at 38 schools within the scope of the study population and a total of 576 filled surveys were included in the study for analysis. The sample consisted of 576 teachers corresponds to 10.84% of the total population of the study. Table 1 presents the demographic characteristics of middle school teachers included in the sample.

Variable	Options	f	%
Gender	Female	352	61.1
	Male	224	38.9
Marital Status	Married	454	78.8
	Single	122	21.2
Age	20–25	74	12.8
	26–30	119	20.7
	31–35	126	21.9
	36–40	135	23.4
	41–45	80	13.9
	46 and above	42	7.3
Field of Study	Turkish	107	18.6
	English	59	10.2
	Mathematics	107	18.6
	Science	62	10.8
	Social Sciences	40	6.9
	Physical Education	37	6.4
	Visual Arts	18	3.1
	Music	11	1.9
	Information Technologies	21	3.6
	Psychological Counseling and Guidance	22	3.8
	Religious Culture and Moral Knowledge	57	9.9
	Technology and Design	27	4.7
	Arabic	5	.9
	Special Education	3	.5
Union Membership	Member	356	61.8
	Not a member	220	38.2
Professional Seniority	0–5 years	171	29.7
	6–10 years	128	22.2
	11–15 years	115	20
	16 years and above	162	28.1
Number of Students in Schools	0–400	81	14.1
	401–900	225	39.1
	901 and above	270	46.9

Table 1: Demographic characteristics of the sample (source: own calculation)

Measurement

Personal information form, the Levels of Teachers' Accountability Scale and the Occupational Professionalism of Teachers Scale were used in the study as data collection tools.

Personal Information Form

The demographic data in Table 1 for the teachers included in the sample were acquired via personal information form.

The Levels of Teachers' Accountability Scale

The Levels of Teachers' Accountability Scale has been developed by Arslan Durmuş (2016). The first form of the scale developed by the researcher includes 39 items. A total of 5 items were excluded from the scale following the validity studies and the final version of the scale consists of a total of 34 items. Teachers are asked to rate their accountability, for each item, on a 5-point frequency-based Likert type scale, ranging from 1 (rarely) to 5 (always). The scale is comprised of four dimensions called duty and responsibility, obstacles, expectations and communication. The items of the obstacles dimension are coded in reverse since they include negative propositional statements.

First level Confirmatory Factor Analysis (CFA) was carried out to determine whether this scale is verified for the sample of this study or not. The fit indices of the scale were as follows: χ^2/df (2.40), the Root Mean Squared Error of Approximation [RMSEA] (.05), Root Mean Square Residual [RMR] (.04), the Goodness of Fit Index [GFI] (.91), the Adjusted Goodness of Fit Index [AGFI] (.90), the Comparative Fit Index [CFI] (.92), Tucker-Lewis Index [TLI] (.91), Incremental Fit Index [IFI] (.92).

Reliability analysis was carried out by using Cronbach's Alpha coefficient for estimating reliability for the scale and its dimensions. As a result of the analysis, Cronbach's Alpha values for the scale and its dimensions were as follows: The scale (.74), duty and responsibility (.83), obstacles (.74), expectations (.76), communication (.72).

The Occupational Professionalism of Teachers Scale

The Occupational Professionalism of Teachers Scale was developed by Yılmaz and Altınkurt (2014) to determine the opinions of teachers regarding their occupational professionalism. The 5-point Likert type scale is comprised of 24 items. The items in the scale are ranked from 1 (I certainly do not agree) to 5 (I certainly agree). Higher scores obtained from the scale indicate positive opinions of teachers regarding his/her occupational professionalism, whereas lower scores indicate negative opinions. The scale is comprised of 4 dimensions called personal development, contribution to organization, occupational awareness and emotional labor.

The first level CFA was conducted in order to determine whether the scale can be verified with the sample of the present study or not. The fit indices of the scale were as follows: χ^2/df (2.72), RMSEA (.06), RMR (.03), GFI (.93), AGFI (.90), CFI (.93), TLI (.92) and IFI (.93).

Reliability analysis was carried out by using Cronbach's Alpha coefficient for estimating reliability for the scale and its dimensions. As a result of the analysis, Cronbach's Alpha values for the scale and its dimensions were as follows: The scale (.88), contribution to organization (.74), emotional labor (.78), personal development (.83), occupational awareness (.79).

Data Analysis

SPSS 23.0 and AMOS 23.0 software were used to analyze the acquired data. The skewness and kurtosis coefficients were examined for determining whether the data display normal distribution or not. Skewness and kurtosis coefficients between -1 and +1 indicate perfect fit with regard to a normal distribution, whereas values between -2 and +2 indicate acceptable with regard to a normal distribution (George and Mallery, 2010). It was determined that the skewness and kurtosis coefficients of the scales and the dimensions of both scales were between +1 and -1. Accordingly, it was concluded that the data set of the present study followed a normal distribution. Descriptive statistics including the mean ($\bar{x}$) and standard deviation (sd) values were first determined for the scores obtained from the scales. Pearson correlation analysis was applied for examining the relationships among occupational professionalism, accountability and the dimensions of occupational professionalism.

The conceptual model concerning the mediating roles of contribution to organization, emotional labor and personal development dimensions of teacher occupational professionalism (mediator variables) in the relationship between teacher accountability (independent variable) and occupational awareness dimension of occupational professionalism (dependent variable) was analyzed through SEM. Accordingly, path analysis was conducted to test the proposed conceptual model. The value intervals suggested by Browne and Cudeck (1993), Kline (2011), Bentler (1980), Marsh et al. (2006) and Schermelleh-Engel, Moosbrugger and Müller (2003) were taken as a reference when interpreting the fit indices of the model. Sobel Test analysis was applied for testing whether the mediating effect is statistically significant or not. Sobel Test is used to test the mediation relationships included in the proposed conceptual models.

Sobel test investigates whether the indirect effect is significant and detected indirect effect points out the path between dependent and independent variables through a mediator variable (Sobel, 1982). The existence of a potential mediating variable can be detected by comparing the difference between total effect and direct effect of the independent variable and consequently, the type of mediation can be whole or partial (Neiheisel, 2017). If the effect of the independent variable on the dependent variable decreases but it is still significant in the presence of a mediator variable, the mediator variable has a partial mediation role. However, if the independent variable no longer significantly affects the dependent variable in the presence of a mediator variable, the mediator variable has a full mediation role (Abu-Bader and Jones, 2021). In Sobel test, 'Z score will be statistically significant if it falls outside ±1.96 given a two-tailed alpha of .05 and outside ±2.58 given a two-tailed alpha of .01' (Abu-Bader and Jones, 2021: 47).

RESULTS

Descriptive Statistics and Correlations of Teacher Accountability and Occupational Professionalism

Table 2 presents the descriptive statistics including mean and standard deviation values regarding the accountability and occupational professionalism of middle school teachers along with the correlation coefficients calculated for the relationships among accountability, occupational professionalism and the dimensions of occupational professionalism.

When the ranges of mean scores for the 5-point scale were evaluated, the scores between 3.40 and 4.19 were in the fourth range, and the scores between 4.20 and 5.00 were in the fifth range. Therefore, the scores in the fifth range indicated a more positive perception. As can be seen in Table 2, teachers' self-assessments on their occupational professionalism ($\bar{x}$ = 4.25) were more positive than teachers' self-assessments on their accountability ($\bar{x}$ = 3.80). Teachers also evaluated themselves quite positively concerning emotional labor ($\bar{x}$ = 4.49) and occupational awareness ($\bar{x}$ = 4.40). However, personal development ($\bar{x}$ = 3.80) had the lowest average score along with accountability.

	1	2	3	4	5	6
1. AC	1	.458	.384	.420	.269	.348
2. OP		1	.823	.758	.779	.699
3. CtO			1	.450	.552	.418
4. EL				1	.373	.575
5. PD					1	.362
6. OA						1
Mean	3.80	4.25	4.09	4.49	3.80	4.40
Sd	.29	.39	.50	.42	.72	.43

Note: p < .01

Abbreviations: AC: Accountability, OP: Occupational Professionalism, CtO: Contribution to Organization, EL: Emotional Labor, PD: Personal Development, OA: Occupational Awareness

Table 2: Descriptive statistics and correlations among teacher accountability, occupational professionalism and the dimensions of occupational professionalism (source: own calculation)

When the correlation coefficients related to the variables included in the research questions were examined based on the correlation coefficient ranges (Ratner, 2009), it was seen that there were moderate positive correlations among variables, except for the weak positive correlation between accountability and personal development.

A positive and statistically significant correlation was observed between the accountability of middle school teachers and their occupational professionalism (*r* = .458). A positive and statistically significant correlation was also observed between the accountability of middle school teachers and their contribution to the organization (*r* = .384), emotional labor (*r* = .420), occupational awareness (*r* = .348) and personal development (*r* = .269). Occupational awareness of teachers was significantly and positively correlated with occupational professionalism (*r* = .699), contribution to organization (*r* = .418), emotional labor (*r* = .575) and personal development (*r* = .362).

The Effect of Teacher Accountability on Teacher Occupational Awareness with the Mediating Roles of Contribution to Organization, Emotional Labor and Personal Development

After investigating the correlations among variables, the direct impact of accountability on occupational awareness was first examined prior to analyzing the proposed conceptual model regarding the effect of accountability on occupational awareness with the mediating roles of contribution to organization, emotional labor and personal development dimensions of occupational professionalism. Figure 2 presents the results regarding the effect of accountability on occupational awareness with the standardized path coefficients obtained by employing SEM technique.
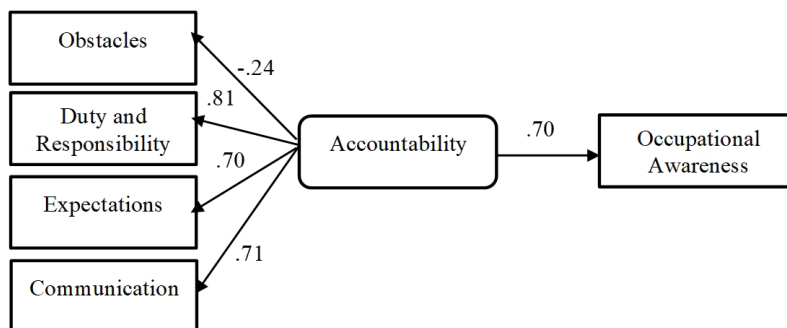

Figure 2: SEM results regarding the effect of accountability on occupational awareness (source: own calculation)

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To analyze the mediating roles of other variables in the relationship between accountability and awareness, the direct effect of accountability on awareness should be examined. The values included in Figure 2 show the standardized path coefficients (β) and point out the effects of the variables. A positive relationship can be observed in Figure 2 between the accountability and occupational awareness of middle school teachers ($\beta = .70$, $p < .05$) and it was revealed that teachers' being accountable directly affected their occupational awareness. There is no hypothesis related to the dimensions of accountability in the model. However, they are also shown in Figure 2 to illustrate the structure of accountability clearly. The goodness of fit of the model was also determined through SEM analysis. Fit statistics show whether the conceptual model in Figure 2 explains the sample data or not. In case the model does not fit the data, the model is rejected. The fit indices of the conceptual model regarding the effect of accountability on occupational awareness were calculated as follows: χ^2/df (2.179), RMSEA (.045), RMR (.038), GFI (.91), AGFI (.90), CFI (.92), TLI (.91) and IFI (.92). Since these indices showed good and acceptable fits, the conceptual model that indicates the direct effect of accountability was verified. Therefore, the first hypothesis (H1) of the study indicating a correlation between accountability and awareness was not rejected.

Contribution to organization, emotional labor and personal development dimensions of occupational professionalism were included as mediating variables in the relationship between accountability and occupational awareness dimension of occupational professionalism after determining the impact of accountability on occupational awareness. Figure 3 presents the results including the standardized path coefficients (β) of the conceptual model proposed in the study by employing SEM technique.
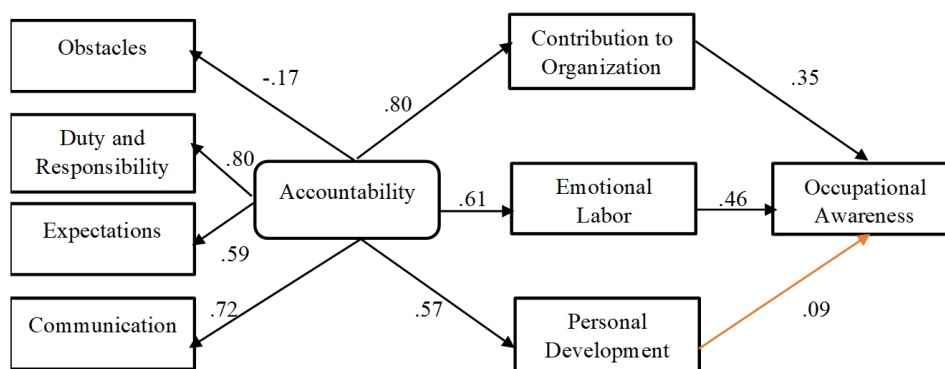

Figure 3: SEM results regarding the mediating roles of contribution to organization, emotional labor and personal development in the relationship between accountability and occupational awareness (source: own calculation)

The dimensions of accountability are also shown in Figure 3 to illustrate the structure of accountability clearly although they are not included in research hypotheses. In order to explain the values in detail concerning the proposed model illustrated in Figure 3, Table 3 presents the unstandardized estimation values (B) for the paths set forth in the model, standard error (SE), t-value, standardized beta (β) and significance (p) values.

Path	B	SE	t-Value	β	p
CtO ← AC	1.8	.12	9.63	.80	<0.001
EL ← AC	.54	.07	7.83	.61	<0.001
PD ← AC	.99	.11	9.17	.57	<0.001
OA ← CtO	.24	.05	5.34	.35	<0.001
OA ← EL	.54	.08	6.75	.46	<0.001
OA ← PD	.05	.03	1.71	.09	.09

Table 3: Path coefficients regarding the mediating roles of contribution to organization, emotional labor and personal development in the relationship between accountability and occupational awareness (source: own calculation)

A positive and statistically significant relationship was determined between accountability and contribution to organization ($\beta = .80$, SE = .12, $t = 9.63$, $p < .05$), emotional labor ($\beta = .61$, SE = .07, $t = 7.83$, $p < .05$) and personal development ($\beta = .57$, SE = .11, $t = 9.17$, $p < .05$).

A positive and statistically significant relationship was observed between occupational awareness and contribution to organization ($\beta = .35$, SE = .05, $t = 5.34$, $p < .05$) and emotional labor ($\beta = .46$, SE = .08, $t = 6.75$, $p < .05$). However, no statistically significant relationship could be observed between personal development and occupational awareness ($\beta = .09$, SE = .03, $t = 1.71$; $p > .05$).

The fit indices of the proposed conceptual model were also calculated within the scope of SEM analysis as follows: χ^2/df (1.954), RMSEA (.041), RMR (.037), GFI (.91), AGFI (.90), CFI (.91), TLI (.90) and IFI (.91). Fit indices concerning the conceptual model represented good and acceptable fits. Accordingly, the proposed conceptual model can explain the underlying structure of the research data.

It was determined following the SEM analysis of the conceptual model developed that contribution to organization and emotional labor play a mediator role in the relationship between accountability and occupational awareness. Sobel test analysis was implemented to test whether the mediating effect was statistically significant or not. Accordingly, MedGraph-I software developed by Jose (2003) was used to enter the data and the results are presented in Table 4.

Type of Mediation	Contribution to Organization Partial	Emotional Labor Partial
Sobel *Z*-Value	5.571822	8.580824
p-value	< 0.000001	< 0.000001
Direct Effect	0.391	0.293
Indirect Effect	0.097	0.195
Total Effect	0.488	0.488

Table 4: Sobel mediation test results regarding the mediating roles of contribution to organization and emotional labor in the relationship between accountability and occupational awareness (source: own calculation)

As a result of the Sobel test, it was shown that the contribution to the organization and emotional labor dimensions played partial mediating roles and that the mediating impacts were statistically significant at a level of $p < .001$. The results regarding contribution to organization variable were as follows: The direct impact of accountability on occupational awareness was $\beta = 0.391$, the indirect impact due to the mediating effect of contribution to organization was $\beta = 0.097$ and the total impact was $\beta = 0.488$. According to the mediation analysis of emotional labor in the conceptual model, the direct impact of accountability on occupational awareness was $\beta = 0.293$; the indirect impact due to the mediating effect of emotional labor was $\beta = 0.195$ and the total impact was $\beta = 0.488$. Consequently, the second (H2), third (H3) and fourth (H4) hypotheses of the study were not rejected and finally, the proposed conceptual model was fully confirmed.

DISCUSSION

The study discusses the role of teacher accountability in the improvement of occupational professionalism of teachers. However, relationships between teacher accountability and occupational professionalism were analyzed through a different theoretical model in the study. It was revealed that how teacher accountability strengthens teacher occupational awareness considered an important indicator of occupational professionalism by means of other components of occupational professionalism.

As the answer to the first question of the research, a positive and significant relationship was determined between accountability and the occupational professionalism of teachers. An increase in the accountability of teachers enables them to be more professional in their occupation. Hence, making teachers accountable may be used as an effective tool for improving their occupational professionalism. Torres and Weiner (2018) state as a result of their study on new professionalism that accountability enables teachers to develop the sense of competition and to question their practices. Questioning of teaching practices with the aim of increasing student success supports teacher occupational professionalism as an important component of their accountability. The fact that especially in our day teachers are expected to display a successful professional performance by increasing the academic success of students renders teachers more accountable. Therefore, the implementations put into practice in accordance with these expectations that support occupational professionalism further strengthen the accountability of teachers. Especially, the understanding of teacher performance evaluation based on exam results of students makes the accountability of teachers

more important (Kraft et al., 2018). Accountability based on student exams has become the focus of various education reforms to examine the effect of teacher performance on student success (McCaffrey et al., 2003). The increasing focus on student success in education systems makes the professional development of teachers an obligation. Thus, there is a need for effective personal accountability systems for teachers to ensure that professional development and hence occupational professionalism requirements are met in a systematic and planned manner. It is only in this manner that activities that may support occupational professionalism can be put into practice in a more systematic manner especially at the school level. The results of studies by Maxwell and Schwimmer (2016), Adams (2017) and Garver (2019) also support that accountability improves occupational professionalism. According to the results of these studies, accountability systems contribute to the attainment of quality teaching by ensuring teacher professionalism and professional development. The professional development of teachers is important with regard to the outputs of the education system. Countries that strive for high quality in their educational processes should accept the importance of professional development of teachers while developing their education policies and should make systematic investments in professional development (Visković and Višnjić Jevtić, 2018). The establishment of personal accountability systems as part of the investments which can be made for the professional development of teachers and hence their occupational professionalism plays an important role by itself as well as by enabling us to keep track of the quality of other educational investments. However, putting into practice the aforementioned personal accountability system with a school-based understanding and its internalization by teachers will lead to more effective results.

As the answer to the second question of the research, it was determined that contribution to organization and emotional labor played a partially mediating role in the relationship between the accountability of teachers and their occupational awareness and therefore, both of them mediated the effect of accountability on awareness. However, the personal development of teachers did not have a mediator role in this relationship and therefore, it did not mediate the effect of accountability. Improved understanding of accountability of teachers leads to increased use of emotional labor strategies to fulfill duties in the required manner and contributory behaviors related to the school processes. The ability of teachers to manage their emotions gains significant importance when the difficulties of educational environments are considered along with their individual and organizational connections (Wang,

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Hall and Taxer, 2019). Emotional labor strategies enable analyzing emotions of individuals and ensure structuring a leader performance in this way (Zheng, Yin and Wang, 2018). Therefore, it can be considered that emotional labor plays an active role in increasing awareness and developing performance. Personal accountability also enables the individual to fulfill his/her duties in the most effective manner and emotional intelligence which is an important factor for emotional labor can be the descriptor of personal accountability (Mordhah, 2012). For these reasons, it can be stated that the relationship between emotional labor and accountability improves occupational awareness which enables the individual to carry out his/her profession in the most effective manner. In other words, the occupational awareness will be high for teachers who display emotional labor behaviors with the understanding of accountability.

It makes it easier to obtain outputs that contribute to schools when teachers strive to control their emotions while fulfilling their duties. Hence, the interaction between contribution to organization and emotional labor may improve teacher accountability and occupational awareness. Acting responsibly is the most effective precursor of work commitment (Mróz and Kaleta, 2016). Accordingly, it can be said that the work commitment will increase for a teacher who wants to take part in the development of the school and thus contributes to the school and consequently his/her occupational awareness will expand. Therefore, making more contributions to schools and putting forth more emotional labor with the understanding of accountability are the indications of occupational awareness of teachers. Indeed, the understanding of accountability supports and encourages the display of voluntary contributions to schools (Figlio and Kenny, 2009). Hence, an increase in the behaviors of teachers related to contributing to organization is an indicator of their occupational awareness as well as the result of accountability. The fact that contribution to organization and emotional labor make accountability easier in addition to strengthening occupational awareness helps us better understand their mediating roles in the relationship between accountability and occupational awareness.

Teacher accountability measures were based on self-assessments of teachers concerning their professional accountability in the study. However, the examination of teacher accountability based on formal implementations of teacher accountability in the education system could reveal different results in terms of teacher occupational professionalism. The study is the first to examine the theoretical model concerning teacher personal accountability and occupational professionalism in Turkey. There is also a limited number of empirical studies providing findings for the conceptual model proposed in the study. Therefore, it should be considered that the relationships between teacher accountability and occupational professionalism can be examined through different conceptual models including dimensions of occupational professionalism and accountability besides the conceptual model proposed in the study.

CONCLUSION

Occupational professionalism of teachers is becoming an increasingly important factor in the success of education systems. For this reason, occupational awareness of teachers should be increased so that they can work with a professional understanding. However, supervisory practices for teachers may sometimes limit teacher professionalism. Therefore, structuring a supervision system based on teachers' individual accountability is a more effective choice in increasing teachers' occupational awareness and professionalism.

There has been a great global interest in efforts to ensure teacher accountability without harming teacher autonomy and professionalism. The results of this research also support this global interest in education. The results show that teachers' being accountable is related to their occupational professionalism. Since teacher accountability was considered based on personal accountability in the study, it can be inferred that the understanding of accountability supporting occupational professionalism is developed depending on professional self-assessment. Therefore, the establishment of supervision systems based on teachers' self-assessment is more beneficial in terms of teacher accountability and professionalism. The lack of a supervision system based on self-assessment can prevent the establishment of the links among teacher occupational professionalism, awareness and accountability.

According to the results of the study, accountability of teachers improves occupational awareness as an indicator of occupational professionalism. The accountability for teachers affects their occupational awareness with the partially mediating roles of their contribution to organization and emotional labor. However, their personal development does not mediate this effect. The results show how the accountability system should be designed, especially in countries like Turkey where a teacher accountability system based on self-assessment is needed. In an accountability system that can increase teachers' occupational awareness, there should be performance indicators related to contributing to the school and exhibiting emotional labor behaviors in the relations during school processes. An accountability system that includes these indicators will strengthen teacher professionalism.

Based on the results of the study, it can be recommended that obligatory standards can be put into effect regarding the number and characteristics of the professional development activities that teachers should take part in during a school year. It could be easier for teachers to make professional self-assessment with a systematic understanding in this way. Opportunities for improving occupational professionalism can be also provided by applying professional standards. Periodical analyses can be made regarding the needs and expectations of teachers related to the educational processes as well as school administration processes in order to support teachers to contribute to their schools and display emotional labor behaviors.

Different accountability systems result in different outcomes for teacher performance. Therefore, it is suggested that future studies should evaluate the effects of various accountability implementations designed for teachers on teachers' occupational professionalism and awareness to provide different perspectives. Results of the study have reflected teachers' personal opinions on their accountability and occupational professionalism. Future studies based on

observations could provide more comprehensive results in the evaluation of how teacher accountability affects teacher occupational professionalism and awareness as well.

Note

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HOW TEACHERS IN ELEMENTARY SCHOOLS EVALUATE THEIR CLASSROOM ENVIRONMENTS: AN EVALUATION OF FUNCTIONS OF THE CLASSROOM THROUGH AN ENVIRONMENTAL APPROACH

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ABSTRACT

Understanding the educational environment and effectively regulating it in consistent with educational objectives is an important factor in facilitating teaching and a crucial ability for the teachers. Investigating the perception of 12 classroom teachers at four elementary schools about their classroom environment, this study aims to reveal the situation about their classroom environment, its effects, and the desired classroom environment in terms of the functions of the classroom environment. Two analytical frameworks, Classroom Functions Theory as well as Environmental Competence, are means to understand this topic. A semi-structured interview form and an observation form were used as data collection instruments. In the study, it was observed that the majority of teachers were able to evaluate the classroom environment, but they remained unsolved about how the classroom can be designed better. Besides, the teachers stated that their classroom environments performed social, symbolic identity, and task instrumentality functions in a limited way for various reasons while largely functioning the shelter and security. Finally, the teachers emphasized that their classes did not fulfill growth and pleasure functions and that most of their desires about the classroom environment were related to these functions.

Highlights

- *Classrooms fulfilled the function of shelter and security considerably.*
- *Classrooms performed the functions of social, symbolic identity, and task instrumentality in a limited way.*
- *Classrooms hardly served the functions of pleasure and growth.*
- *A classroom that serves all its functions facilitates the other dimensions of classroom management*

INTRODUCTION

Is no matter where learning and teaching take place for an effective teacher and enthusiastic students a truth? Now, it has been understood that it is a favorable legend (Taylor and Enggass, 2009). Even if the classroom learning environment distinguishes merely by its physical properties (Frenzel, Pekrun and Goetz, 2007), it is related to the areas of psychology, such as environmental, educational and social psychology (Graetz, 2006; Lackney, 1994).

The research has revealed that the inconvenient physical conditions of the classroom environment, in terms of the arrangement of the desks, light, and indoor climate, disturbs the concentration, engagement and clear mind of the students in the educational process (Powers et al., 2020; Ford, 2019;

Malik and Rizvi, 2018). In turns, these negative effects hinder their academic learning (López-Chao et al., 2020; Asino and Pulay, 2019; Han, Moon and Lee, 2019; Richardson and Mishra, 2018; Barrett et al., 2017; 2015). Furthermore, the classroom environment provides students a setting for teacher-students and peer interaction (Obaki, 2017; Weinstein and Novodvorsky, 2015; Amirul et al., 2013). Additionally, the environment, which allows sharing of experiences, ideas, emotions, and knowledge, is an essential device for their social development and behavior management (Memari and Gholamshahi, 2020; Obaki, 2017; Amirul et al., 2013; Guardino and Fullerton, 2010). The spatial, colourful and functional classroom environment also plays a crucial role in the satisfaction of students and teachers (Han, Moon and Lee, 2019; Earthman and Lemasters, 2009; Uline and Tschannen-Moran, 2008). However, educators have still distinguished the learning environment from the education process (Clark, 2002). The design of the classroom environment received less attention than instruction and behavior management (Weinstein and Novodvorsky, 2015; Horne, 1999).

The present study, therefore, has sought how elementary school teachers evaluate the classroom environment, the desired classroom environment, and how they arrange its physical and psychological properties. Two analytical frameworks have guided this study in determining evaluations of the elementary school teachers about the current and desired classroom environments and their arrangements. Classroom Functions Theory suggested by Steele (1973) and adapted to the classroom environment by Weinstein and Novodvorsky (2015) has provided a comprehensive understanding of the multidimensional nature of the classroom environment and its effects on teachers and students. This theory has revealed that the classroom environment is not only an area for teaching activities, but rather a part of social life (Weinstein and Novodvorsky, 2015; Taylor and Enggass, 2009). Also, Environmental Competence has enabled us to conceptualize awareness about the classroom potentials and skills in its arrangement to educational activities (Lackney, 2008; Steele, 1973). This study provides a valuable contribution to raising awareness about the visibility of the classroom environment to teachers and the researchers and its importance for students and teachers and regenerating interest in teachers' classroom environmental competence.

Functions of the classroom environment

The functions of the classroom environment enable a beneficial framework to evaluate it in detail and indicate that it is much more than a few bulletin boards (Asino and Pulay, 2019; Weinstein and Novodvorsky 2015), or heating and lighting conditions of the environment (Baum, 2018). A classroom environment has six functions: shelter and security, social contact, symbolic identification, task instrumentality, pleasure, and growth (Steele, 1973). *Shelter and Security* can be defined as the ability to provide a safe and comfortable learning environment, physical and psychological, to students (Weinstein and Novodvorsky, 2015). The physical aspect of the classroom can be related to the comfort level of teachers and students during teaching (Puteh et al., 2015). Elements of the physical

environment in the classroom, such as heating, lighting and air quality, have a significant impact on student outcomes (Barrett et al., 2017; 2015; Hurst, 2005). A comfortable environment in terms of the quality of desks and light facilititates learning (Hill and Epps, 2010).

The *Social Contact* function of a classroom is the ability to regulate the quality and quantity of interaction among students and between students and the teacher (Weinstein and Novodvorsky 2015). The arrangement of the classroom environment affects, for example, the distance between the teacher and the student and the possibilities of visual interaction (Cardellino, Araneda and Alvarado, 2017). Furthermore, the students' seating position in the classroom limits their access to information and thoughts of the other students and restrains sharing their knowledge and feelings with their teacher and peers (Weinstein and Novodvorsky, 2015; Fernandez, Huang and Rinaldo, 2011; Marx, Fuhrer and Hartig, 2000).

The function of *Symbolic Identification* of the classroom environment is defined by Weinstein and Novodvorsky (2015) as the provision of information about the teacher's goals, values, and beliefs on education, as well as students' products, activities, and achievements. How the classroom is arranged gives various messages about learning and social expectations (Harris, Shapiro and Garwood, 2015). The classroom environment is filled with both, teaching activities that take place during the learning process, and desirable behaviors stated by the teacher (Weinstein and Novodvorsky, 2015), as well as indicators of the teacher's appreciation of students (Weinstein and Novodvorsky, 2015; Burden, 2000).

The *Task Instrumentality* function is considered as the organization of the classroom environment in line with the teaching approach. The arrangement of the physical environment varies with the role of the teacher, the pedagogy and the learning activities (Fernandez, Huang and Rinaldo, 2011; Doyle, 2006), as well as the teaching strategies (Fernandez, Huang and Rinaldo, 2011; Sztejnberg and Finch, 2006; Clark, 2002) during the teaching process. The *Pleasure* function of the classroom environment is defined as the ability to arrange the environment as a fun space for teachers and students, and finally, the *Growth* function, understood as the way the classroom is organized to support students' development (Weinstein and Novodvorsky, 2015).

Environmental Competence

Classroom environment and its physical conditions are integral and nonpassive components of the learning process (Taylor and Enggass, 2009). Since physical setting associates with teaching and learning actions. If the classroom is designed in a traditional way, the strategy used in the course will be teacher-centered. On the other hand, various student-centered activities will be preferred in flexible learning environments (Martin, 2002). Most of the teachers cannot recognize this relation and the others think that nothing is under their control about the structure of their classrooms (Lackney, 1994). However, they have the capacity to influence many elements in their environments (Martin, 2002). The only thing they need have environmental competence. Environmental competence can be defined as "the ability to understand and effectively use physical instructional space for

a pedagogical advantage" is conceptualized as environmental competence (Lackney, 2008: 133).

Steele (1980) conceptualizes environmental competence as learning about the environment. The researcher states that it includes three different learning types related to characteristic properties, knowledge about the physical setting, and functional ability. These learning types can be explained as: characteristics refer to attitudes to physical environment and awareness about it; knowledge about physical situation is acquiring information about technical issues and environment-behavior relation and; functional ability represent the skills in organization and personalization. Lackney (2008) attributes a lack of environmental competencies to individual, social and organizational factors. Individual factors can be linked with three learning types suggested by Steele (1980), while the social and organizational factors can be identified with norms, rules, inadequate sources, and unawareness of other people.

The aim and significance of this study

The classroom environment is not a "black box" in the teaching-learning process (Harris, Shapiro and Garwood, 2015: 765), though it is a neglected issue for educators and researchers (Weinstein and Novodvorsky, 2015; Amirul et al., 2013; Horne, 1999; Lackney, 1994). While the interest in the planning of teaching is very high, the arrangement of the environment in which the teaching and learning takes place has received little attention in the literature (Horne, 1999). However, it could be claimed that all of the classroom functions together work for or against both the attitudes of teachers and students and the learning of the students. All classroom functions serve to facilitate learning and teaching and eagerness to be there. If the classroom arrangement enables to fulfill all of them, it will ensure positive attitudes towards the school in teachers and students or vice versa.

The research also indicates that adequate classroom facilities and their spatial arrangement contribute not only to the physical environment by providing a safe environment and wide range of stimulus to facilitate academic learning (Amirul et al., 2013), but also provides the social context that offers vast opportunities for interaction with peers and decreases undesirable behaviors (Obaki, 2017; Amirul et al., 2013; Guardino and Fullerton, 2010). On the other hand, inadequacies and disarrangements of the classroom environment result in an increase of disruptive student behavior, attention and motivation difficulties as well as reduction of teacher energy levels (Şahin, Tantekin-Erden and Akar, 2011; Di Giulio, 2007; Martin, 2006). Although teachers cannot control all factors in this environment (Lackney, 1994), the arrangement of the classroom is one of their responsibilities, even before the teaching and learning process begins (Suleman and Hussain, 2014; Sterling, 2009; Emmer, Evertson and Worsham, 2006). Indeed, the understanding of the classroom environment is a very important element for the creation of effective and efficient learning environments (Weinstein and Novodvorsky, 2015; Sztejnberg and Finch, 2006; Martin, 2002; Lackney, 1994). Therefore, teachers that are not aware of importance of the classroom environment and its condition are not able to arrange it (Martin, 2002).

Awareness of the functions of the classroom environment and the

ability to design it in line with their educational objectives; that is, environmental competence, is an ability every teacher should have (Weinstein and Novodvorsky, 2015; Hannah, 2013; Doyle, 2006). The environmental awareness and environmental competence of the teachers and attitudes towards environment associate with each other (Memari and Gholamshahi, 2020; Clark, 2002; Horne, 1999). If we can raise environmental awareness of the teachers, we can improve their environmental competence and positive attitudes to environment. This research aims to determine the perception of elementary school teachers on the current situation, their arrangements, and the desiredsituation of their classrooms in terms of six functions of the classroom and their effects.

METHODOLOGY

Research design

This study has been designed under phenomenology approach from the qualitative research method. The aim of this research is to determine the perception of elementary school teachers of their classroom environment. As such, a research method where further information can be obtained about the nature or meaning of directly lived experiences is needed. The phenomenology design provides a deeper understanding of the participants on a real-world phenomenon by conducting in-depth interviews and focusing on the common part of their perceptions (Fraenkel and Wallen, 2005).

Study Context

Elementary, or primary, education in Turkey takes 4 years (i.e., children between 66 months and 72 months begin primary school and complete this school level when they are about 11 years old) and is compulsory. One of the main objectives of this education in the country is to 'prepare each Turkish child for life and higher education by educating them in terms of their interests and abilities' (MoNE, 1973), and elementary school teachers are instructed to fulfill this objective. Between years 1973 and 1974 their training consisted of a two year programme in an educational institute; between 1990 and 1993 its was a four-year courses at colleges of education, and since 1993 it is the duty of the University Faculties of Education (MoNE, 1992).

The study cases include four private schools and four public ones located in the different central districts of Antalya with three elementary teachers working in each school. The teachers were selected through the convenience and maximum diversity sampling method by considering their gender, type of school, grade levels, experience and class size.

- School 1: public primary school in Konyaalti, Antalya. The school has 33 elementary school teachers. The school provides dual education, i.e. secondary school level education in the morning (07.20–13.10) and primary school level education in the afternoon (13.20–18.30). Although the school was established a long time ago, the school building has been recently renovated.
- School 2: private primary school located in Kepez, Antalya. It provides education from kindergarten to secondary school level with 4 primary school teachers. This school is funded by an institution with different branches in various regions of Turkey.

- School 3: private primary school located in Döşemealtı district of Antalya province. It provides education from kindergarten to secondary school level. With an international reputation, the school has one branch in Antalya.
- School 4: public school located in the Muratpasa, Antalya. There are 15 classroom teachers in elementary level. Full-day education is provided to its students between 08.30–14.30. There is optional study activity for students after 14.30.

Participants

12 elementary teachers working in Antalya were participants. Those teachers were from four different schools. They had different properties in tearms of age, experience as a teacher, graduation, school type and grade level. Demographic information about participants is presented in Table 1.

Participants	Age	Experience as a Teacher(in years)	Graduation	School type	Grade level	Classroom size
Fatma (School 1)	50	25	Department of physics	Public	4	24
Arzu (School 1)	38	20	Education institution	Public	2	26
Ali (School 1)	45	23	Turkish teaching	Public	1	25
Elif (School 2)	24	1	Elementary school teaching	Private	3	5
Ebru (School 2)	26	3	Elementary school teaching	Private	2	4
Fatih (School 2)	40	17	Elementary school teaching	Private	2	17
Esra (School 3)	35	11	Postgraduate	Private	3	16
Asiye (School 3)	52	30	Associate degree	Private	1	15
Ahmet (School 3)	37	16	Elementary school teaching	Private	4	23
Irmak (School 4)	43	21	Elementary school teaching	Public	3	41
Aylin (School 4)	49	30	Undergraduate	Public	2	40
Sami (School 4)	45	27	Undergraduate	Public	4	42

Table 1: Demographic information of participants (source: own interview, 2020)

Instruments

The data collection used semi-structured interviews and observations prepared by the researcher, and carried out based on a protocol. While preparing instruments, the concepts of Environmental Competence adapted to teachers by Lackney (2008) and Classroom Functions Theory suggested by Steele (1973) and adapted to the classroom environment by Weinstein and Novodvorsky (2015) were taken as the basis of this research. It was claimed that these two analytical framework enabled to address the topic comprehensively, and contributed to the validity of the research. The classroom environment serves students and teachers with six functions: shelter and security, social contact, task instrumentality, symbolic identification, growth, and pleasure (Weinstein and Novodvorsky, 2015). For this purpose, a semi-structured interview protocol and an observation protocol were prepared within the scope of the classroom environment's functions related to the current situation, their arrangements and the desiredclassroom environment to determine the environmental competence of teachers. The semi-structured interview protocol included seven main questions, six of them were related to the function of the classroom environment, and the last one was about its effects, as well as three probe questions related to the current situation, their arrangements and desired situation of the classroom environment.

Procedures and Process

The data were collected by the researcher during the academic year 2020. For the meetings, firstly, the researcher made an appointment with the teachers and schools to explain the purpose of the research. And then, the appropriate time was agreed with the teachers for the interview and observation. In order that teachers were able to evaluate the classroom environment more comfortably, the interviews were held in their classrooms when students were in the school garden for physical education lessons. Each interview lasted between 25 and 35 minutes and was recorded with a voice recorder. After the interview data was transcribed, the teachers were asked to confirm their statements. Also, 120 minutes (3 lesson hours) were observed for each teacher. A nickname was given to each teacher, considering ethical rules and the contribution to obtaining reliable findings.

In the analysis process, the NVIVO 9.0 program was used and adopted the content analysis method. The purpose of the content analysis was to bring together similar data through common themes determined by the researcher and ensure that the data were understood and interpreted (Patton, 2001; Yıldırım and Şimşek, 2013). Data analysis was carried out using six stages specified by Creswell (2014) during the content analysis process. Firstly, the data were prepared and arranged for analysis. Secondly, to gain an overview, all of the data were read. Thirdly, research data were coded based on the functions of the classroom environment. Fourthly, data related to the environment were described. Fifthly, the descriptions and codes were arranged through the themes in the tables. Finally, the findings were interpreted.

Validity and Reliability

In this study, the validity and reliability were evaluated through two stages: validity and reliability of the instruments and the analysis process. The validity of the instrument means that it can measure the intended structure exactly (Fraenkel and Wallen, 2005). In the qualitative research, giving an expert opinion about whether the instrument can measure is a way for determining the validity of the instruments (Yıldırım and Şimşek, 2013). Cizek (2020) suggested cognitive interviewing that included the examination of the meaning of the questions, necessary knowledge for answering, experiences, and judgment process of the participants

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in the evaluation of the questions, to ensure the validity of the contents of the interview instruments. In the first stage, two faculty members who had previously worked as teachers evaluated both interview and observation protocols. They considered these forms in terms of appropriateness, meaningfulness, and usefulness with the purpose of this study. As for the reliability, 'A reliable research procedure delivers the same result on the same sample at different times or on different but equivalent samples' (Dick, 2014: 683). Based on this ground, Fraenkel and Wallen (2005) offer that interviewing with a participant one more time is a way to determine the reliability of the instrument. For this purpose, the researcher of this study interviewed a teacher two times as a pilot study and compared the answers in terms of consistency.

In the second stage, the validity and reliability of the analysis process were ensured by giving importance to participant diversity, verifying the data, calculating internal consistency coefficients, arranging detailed tables, and making comparisons with national and international relevant studies (Yıldırım and Şimşek, 2013; Patton, 2001). As stated before, the researcher made sure to select participants with different attributes related to school districts, gender, type of school, grade level, their experience as a teacher, and the class size (See Appendix I). Secondly, each teacher verified their statements after the transcription of the interviews. Thirdly, a specialist with a master's degree in education management coded the research data independently from the researcher to calculate internal consistency coefficients (See Appendix II). The internal consistency between the two codings was calculated by Cohen Kappa analysis. The result obtained (Cohen Kappa,.838) showed that the internal consistency between themes was excellent (Landis and Koch, 1977: 165). Fourthly, the findings were presented in detailed tables under results heading. Finally, the results of this research were compared with national and international relevant studies under the discussion heading.

RESULTS

Under this heading of the research, the results of the interview and observation data analysis regarding the evaluation of classroom environments in terms of classroom functions were included.

The results of observation data about the evaluation of classroom environments in terms of class function

Observations and views about the security and shelter function of the classrooms

When the observation data on shelter and security functions were examined, it was seen that all classrooms had air conditioners and the teachers could control heat of the classrooms. But there were some problems related to furnitures in some classrooms. The desks were too high for elementary school students and there weren't enough curtains for the windows. Considering the arrangement of the teachers, it was seen that all of the teachers designed their classrooms considering the location of the technological devices, and they took account of the physical inadequacies of the students in arranging the seating. Consistent with the observation data, Table 2 suggested that the participant teachers stated that their classroom environments were generally adequate in terms of heat and light and ventilation functions, although some teachers stated that the desks were rather high for the students, and they had difficulty in cleaning the classroom. They stated that they arranged their classroom to provide learning comfort by considering students with physical disabilities. For instance, Ali said that *"Our class has its own heating and cooling system. We can get the optimum level of heat at any moment. The windows are very well designed, so we can get intense levels of light. The ventilation system works flawlessly. About the seating arrangement, if the children have a physical disability such as vision and auditory, I consider it. I wish I had a class where I could create a different order.".*

As for their opinions about a desired classroom, they offered suggestions on light, height of desks, space usage, and the possiblitiy of creating different desks arrangements. For example, Ebru stated that *"Due to the location of the classroom, the windows and lack of curtains, it gets very hot in the summer, and this prevents me from using the smartboard efficiently. Moreover, students are polluting the classroom a lot. If only, the class space was more functional, there would be no cleaning problem.".*

Function of the physical environment		Current situation	Arrangements	Desired Situation
Security and Shelter	Heat	Optimal (*n* = 9)	Private air conditioner (*n* = 9)	
	Light	Optimal (*n* = 10)	Controlling of artificial light (*n* = 7) Benefitting from natural light (*n* = 5)	Benefitting from natural light (*n* =2)
	Ventilation	Sufficient number of windows (*n* = 12)		
	The height of the deks	Very high (*n* = 4)		Proper desk height for student development (*n* = 4)
	Cleanliness	Failure in classroom cleanliness (*n* = 2)		Making all areas in the class functional (*n* = 2)
	Comfort in learning	Seating the students with visual and hearing disability in the front desks (*n* = 8)	Designing the seating arrangements suitable for the students with disability (*n*=8)	Designing different desk arrangement (*n* = 8)

Table 2: Elementary school teachers' views on the security and shelter function (source: own interview data presentation)

Observations and views about the social contact function of the classrooms

Regarding the social contact function of the class, it was observed that the majority of teachers were careful to access to all students and bring them with different social and academic levels together, but most of them used the traditional desk order. This situation made the interaction between teacher and student and among the students more difficult. When conducting group work, students only had the opportunity to interact with the student sitting next to them, in front of, or behind them.

Table 3 confirmed the observation data. As seen in Table 3, most of the participant teachers stated that the students could interact with the teacher easily in the classroom, and some teachers indicated that the classroom environment did not prevent the interaction among students. For instance, Elif stated that *"Our classroom arrangement has a U-shape. Students can communicate with each other at any time. I can see all of them, I can interact with them all.".*

Some teachers, on the other hand, thought that the traditional desk arrangement and the disproportion between number of the students and the class space negatively affected the interaction between the teacher and students, and among students. Related to this function, it was observed that teacher tended to seated children with different characteristics together, and they regularly moved the students to different places, so that each student had equal access to the teacher, thereby increasing interaction amongst students. For a desiredclassroom environment, teachers wished that they could use different desk layouts, and a better balance between class sizenumber of the students and class space. In relation to this, Irmak expressed that *"It is difficult for me to walk around, and our movements are limited because the class is narrow. The interaction of students with each other is possible only at close range. It is difficult for every student to communicate with me. I wish my classroom would be large enough to form the U-shape.".*

Functions of the physical environment		Current situation	Arrangements	Desired Situation
Social Contact	Accessibility to teacher	Proper (*n* = 8) Traditional desk order barrier (*n* = 6) Limited peer sharing (*n* = 4) A disproportionality between class size and class space (*n* = 8) Proper (*n* = 4)	Rearranging seating periodically (*n* = 8) Seating children with different characteristics together (*n* = 11)	Designing U desk order (*n* = 6) Having a space for cluster work (*n* = 2) A balance between class size and class space (*n* = 8)
	Accessibility of a student to others			

Tablo 3: Elementary school teachers' views on the social contact function (source: own interview data presentation)

Observations and views about the symbolic identification function of the classrooms

Regarding the function of the symbolic identification of the class, the observation data indicated that the noticeboards were inadequate in all classes, the walls were not used efficiently in some classrooms, and the teachers did not have a personal area, which prevents the class from fulfilling this function.

As seen in Table 4, there was a consistency between the observation data and the interview data. All teachers agreed that there were not enough boards in their classrooms, and many mentioned that they did not have their own personal space. A few teachers stated that they could not arrange the environment as they wanted because they shared their classes with other students. Related to this function, a few teachers stated that they used the walls and windows as exhibition areas, while many teachers stated that they could not exhibit student works as much as they desired. Also, teachers who did not have a personal area stated that they did not make any arrangements in this regard. For a desired classroom environment, all of the teachers stated that there should be a large number of appropriate height boards, a space for the teacher, and the transition to single education. For insrance, Elif reported that *"There are not enough boards in our class, and I hang the students' products on the windows. If I had more boards, I would display more student products. Also, I think every lesson should have a board, and there should be a place for the teacher in every classroom.".*

Functions of the physical environment		Current situation	Arrangements	Desired Situation
Symbolic Identification	Board	Insufficient number of bulletin boards (*n* = 12)	Using walls and windows as exhibition areas	A large number of boards in the classroom and at students' height
	Sharing of classrooms	Double shift schooling (*n* = 3)	Limited number of students' works on boards	Eliminate double shift schooling
	Teacher's area	Lack of personal space for teachers (*n* = 8)		Design of personal space for teacher

Table 4: Elementary school teachers' views on the symbolic identification function (source: own interview data presentation)

Observations and views about the task instrumentality function of the classrooms

Considering instrumentality function, the teachers who had available space and uncrowded classrooms could practice more student-centered activities and cope with the undesired behaviors faster than the other teachers. Furthermore, it was seen that both the students and teachers had difficulties in accessing teaching materials since the majority of teachers did not have suitable places for teaching materials.

The interview data presented in Table 5 was in line with the observation data. Some of the teachers stated that classroom environments were suitable for practicing various teaching activities. However, most teachers stated that they did not have an available area for different techniques. In addition, some teachers stated that they had difficulties in monitoring students and managing time due to the classroom environment.

While some of the teachers stated they could use different classroom designs, others argued that they designed the classroom considering the place of technological devices. Teachers who had difficulties with classroom management stated that they preferred to place students with behavioral problems in different corners of the classroom. For a desired class, teachers suggested having activity areas for both students and themselves and to be able to create different layouts. For instance, Arzu stated that *"Our classroom space limits my teaching methods and techniques. I can't use cluster activities. The crowding and tightness of the classroom affect my time management negatively. It is difficult to walk around in a narrow classroom and to watch the students. If I could arrange the class, I would like to have a class that is large enough to make a U shape and change the desk arrangements for group work.".*

Functions of the physical environment		Current situation	Arrangements	Desired Situation
Task Instrumentality	Suitability of the classroom environment for different teaching techniques	Proper (*n* = 6) Limited teaching technique (*n* = 6)	Design the classroom differently Design the classroom considering the place of technological devices (*n* = 8)	Areas for students to work in groups Area for the teacher activities
	Classroom management	Difficulty in watching students (*n* = 2) Difficulty in managing time (*n* = 4)	Seat students with behavior problems in different corner of the classroom	Arrange desks differently
	Place for teaching materials	Lacking of space (*n* = 11)		

Table 5: Elementary school teachers' views on the task instrumentality function (source: own interview data presentation)

Observations and views about the growth function of the classrooms

When the growth function of the classroom were considered, it was observed that there were no spaces in the classrooms that could contribute to the development of students outside the class. There were not any activity areas such as reading, science and maths areas.

Table 6 showed the views of the teachers about this question were similiar to the observation data. Most of the teachers stated that they did not have a reading area in their classrooms, and some stated that they did not have any activity areas for different lessons. Other teachers, on the other hand, did not express an opinion on this matter. The teachers stated that they could not make any arrangements regarding the related function, but most of them stated that an desired classroom should have reading and activity areas. In relation to that, Ali indicated that *"There are no areas in our classes where we can do different activities. Students are waiting without doing anything when they complete their duties before their friends. If I could organize my class, I would design activity corners. For example, I would arrange a corner where children who finish their work early can read books, a corner where they can play chess, or separate corners for each lesson.".*

Functions of the physical environment		Current situation	Arrangements	DesiredSituation
Growth	Activity areas for lessons	No activity area (*n* = 3)	-	Have a suitable area for activities (*n* = 3)
	A reading area	No reading area (*n* = 7)	-	Have a reading area (*n* = 7)

Table 6: Elementary school teachers' views on the growth (source: own interview data presentation)

Observations and views about the pleasure function of the classrooms

Considering pleasure function of the classrooms, the observation data indicated the fact that the walls of classrooms were pale colors did not encourage students to spend a fun and effective time in the classroom.

In line with the observation data, Table 7 suggested that some of the teachers argued that the color of the walls is not suitable for students in their classrooms, and some stated that there are no resting and playing areas for students. However, other teachers did not express an opinion on this function. The teachers stated that they could not make any arrangement regarding the related function, and they stated that a desired classroom should have more vivid colored walls and resting and playing areas. For instance, Ebru expressed that *"On rainy days, students cannot go out during breaks. They have to spend time in classrooms*

and corridors. I would like to have a playground in one corner of my class, a class library, and a resting area in the other ... *corners, so they can spend time in these areas. Furthermore, I would like the class to be very colorful.".*

Functions of the physical environment		Current situation	Arrangements	Desired Situation
Pleasure	The colour of the walls	Unsuitable ($n = 4$)	-	More colourful walls ($n = 5$)
	A resting and playing area	There isn't ($n = 5$)	-	A suitable area for it ($n = 7$)

Table 7: Elementary school teachers' views on the pleasure function (source: own interview data presentation)

Observations and views about the effect of the classroom environment on the teachers and students

The observation data suggested that there were differences in satisfaction of the teachers and students. It was observed that in classrooms where class size and the number of students were not proportional, the teachers got more tired, and the student complained much more than in other classrooms. On the other hand, in uncrowded classrooms, the teachers and students were happy.

In the interviews, the teachers who stated their satisfaction with their classroom environments emphasized the positive effects on them, their students and the learning and teaching process. They reported that when they were working in their classroom, they were motivated and satisfied. Besides this, they believed their lessons were quite effectively, and their students were happy. For instance, Asiye expressed that *"I love my classrooms. I can use different teaching methods and activities, so I don't feel restricted, my job satisfaction is getting higher, and my students are enthusiastic and happy. Moreover, they rarely behave undesirably; in this way, I can allocate more time to my students and teaching."*. On the other hand, the teachers, unsatisfied with their classrooms, underlined that working at these classrooms caused fatigue, unhappiness for teachers and students, and distractions in teaching and learning process. Furthermore, they claimed that they had difficulties in classroom management due to classroom arrangement. In relation to it, Irmak stated that *"I am so tired and my students aren't happy because I can't arrange my classroom. It is always messy whatever I do."*.

DISCUSSION

This study aimed to determine the perceptions of elementary school teachers about their classroom environment and the effect it has on their activities and to reveal their opinions about the desired classroom environment in terms of the functions of the classroom. Generally, the majority of teachers were able to evaluate the classroom environment. However, it was seen that teachers considered the classrooms had fixed structures, and the teaching environment was still arranged according to traditional teaching methods, consistent with the research of Martin (2006). Lackney and Jacobs (1999) also emphasized that the teachers were not sufficiently effective in designing their classroom environments. This might be due to the teachers' lack of knowledge about architecture and design (OECD, 1988). Their perceptions and observation data relating functions of the classroom have been discussed under the research questions in detail.

With respect to the first research question related to the perception of elementary school teachers on the security and shelter function, the teachers stated that the physical environment of their classes was generally appropriate in terms of heat and light. One possible explanation was they had artificial lighting and air conditioning systems in the classroom. Since most classroom environments had such facilities, they were often not considered (Graetz and Goliber, 2003). The adequate lighting of the learning environment had a positive impact on students' attention and eye health (López-Chao et al., 2020; Malik and Rizvi, 2018; Winterbottom and Wilkins, 2009), and affected the quality of their social and academic outcomes (López-Chao et al., 2020; Hurst, 2005; Burke and Burke-Samide, 2004; Graetz and Goliber, 2003). However, some participant teachers in this study complained that they were not able to benefit from daylight sufficiently. Daylight was much more beneficial than artificial lighting (Malik and Rizvi, 2018), which causes the student to feel sleepy and lazy (Hannah, 2013). Therefore, where possible, daylight should be used more (Roskos and Neuman, 2011; Graetz and Goliber, 2003).

Teachers also stated that they were satisfied with the temperature levels in the classrooms. The teachers can control the temperature in the classroom through temperature climate control system at any time, but the central heating system cannot adjust the heat to classrooms' conditions, so it might cause the classroom to be too hot or too cold (Hannah, 2013). The amount of heat in the classroom influences students' concentration and performance during the learning process (Hannah, 2013; Şahin, Tantekin-Erden and Akar, 2011; Wargocki and Wyon, 2007; Graetz and Goliber, 2003). Finally, some teachers evaluated the height of the desks were too high for the students. The size and placement of the items in the classroom that was not suitable for student development prevented comfort, safety, productivity and efficiency (López-Chao et al., 2020; Malik and Rizvi, 2018; Amirul et al., 2013; Burke and Burke-Samide, 2004). Concerning the observation data on their classroom arrangements, the majority of teachers used the traditional desk arrangement responding to the location of technological devices. For this reason, it could be said that they considered their classrooms fulfilled shelter and security and task instrumentality functions more than other functions.

As for the second research question, related to the views of elementary school teachers about the social interaction function, most of the participant teachers stated that their classrooms were appropriate for teacher-student interaction. They stated that they could reach all students and that the students could

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easily interact with them all the time. All teachers tried to develop intimate relations with their students (Yıldızlı, 2021). However, other teachers emphasized that some characteristics, such as the physical size, great number of the students, and double shift schooling limited the teacher-student interaction. A great number of desk rows and traditional desk arrangement prevented teacher-student interaction (Ford, 2019; Cardellino, Araneda and Alvarado, 2017). Moreover, the narrowness of the classroom caused teachers to remain in the front of the class. Therefore, they had difficulty walking around the classroom and interacting with the students at the back of the classroom (Muthusamy, 2015; Onwu and Stoffels, 2005; Ehrenberg et al., 2001). Besides, it prevented changing the position of the teacher table in the classroom, and they were not able to observe the students properly (Hannah, 2013). Due to their crowded classroom, the teachers lacked opportunity to take care of, to monitor, or even to make eye contact with all the students during the 40 minutes lesson (Onwu and Stoffels, 2005; Finn, Pannozzo and Achilles, 2003). Finally, it was recognized that working at double shift schooling were not able to arrange the desks and bulletin boards in the classroom affected teachers negatively in their interaction with the students.

Considering the interaction among the students, it was observed that the classroom environment affected the quality and quantity of its social contact function. Most of the teachers stated that they preferred the traditional desk order, as the classroom environment was narrow compared to the number of students. The traditional desk order, however, inhibited students from communicating with their peers, as it limited the opportunity to see each others face and communicate with peers (Ford, 2019; Obaki, 2017; Hannah, 2013). Teachers with large enough classrooms relative to class size preferred arranging desks in a U shape and grouping in small clusters, emphasizing that these kind of arrangements allowed children to see, hear and communicate with each other better. In the literature, it was observed that as the physical distance between students decreased, they look at each other more positively (Van den Berg, Segers and Cillessen, 2012). Sitting in small groups enabled students to be more productive in their relationships and social skills (Powers et al., 2020; Farmer, Lines and Hamm, 2011; Patton et al., 2001). The crowded classroom in combination with the traditional desk order, caused noise in the classroom, and students sitting very close to each other exhibited distractive behaviors. Also, several teachers stated that these factors adversely affected classroom interaction. These were common problems in crowded classes due to the traditional order (Hannah, 2013), and the limited range of motion (Evans, Saegert and Harris, 2001; Lackney, 1994).

Another factor that determined students' interaction with each other was the seating arrangement in the classroom in relation to their deskmates. Where the students were seated encouraged them to communicate with each other (Baum, 2018; Culp, 2006). The teachers emphasized factors, such as ensuring peer sharing among students, the their desire to be fair, and considering students' physical disabilities, in arranging the seating plan. The seating arrangement is used by teachers to develop positive peer relationships (Farmer, Lines and Hamm, 2011; Van den Berg, Segers and Cillessen, 2012). Also, the

researcher observed that the teachers considered there should be gender, academic, and social diversity between deskmates while arranging the seating plan. Culp (2006) stated that behavioral characteristics, learning needs, and the differences between students should be taken into account while making a seating arrangement. Having deskmates with different cognitive levels and interests supported the development of cooperation and leadership skills in a high-level student (Hannah, 2013), and the development of the other child seated with them in the academic and social field (Culp, 2006). Besides, the teachers indicated that they frequently changed seating arrangements to show fairness, as a student, sitting constantly in the back of the classroom, could feel punished. The students sitting in the back row were less willing to interact with the course materials and others (Pedersen, 1994).

In relation to the third research question concerning the evaluation of elementary school teachers on the symbolic identification function, most of the elementary school teachers stated that they used the boards in their classrooms for symbolic identity function. The teachers emphasized that they exhibited student work on the boards to improve their self-confidence and motivation as Memari and Gholamshahi, 2020; Weinstein and Novodvorsky (2015) and Di Giulio (2007) stated. The display of students' work was an indication that the teacher valued his work (Malik and Rizvi, 2018) because the classroom environment was a strong nonverbal variable and provided information about the teacher and student (Maxwell and Chemielewski, 2008). Displaying the products in the classroom increased the sense of belonging to the class for students (Killeen, Evans and Danko, 2003). Many teachers have stated that they enabled the students to display their products on boards, and some of them designed boards with their students. Student participation in classroom arrangement made students feel valued, increased their self-esteem and their sense of belonging to the school (Maxwell and Chemielewski, 2008).

In this study, the boards were placed quite high in most of the classes, although Sanoff (1991) stated that it was more functional for the boards to be at the eye level of the students. On the other hand, all of the participant teachers complained about the insufficient number of boards in line with the findings of Maxwell's (2000) study. However, it was observed that only two participant teachers designed walls as bulletin boards, and the other two teachers used the windows as exhibition space. The teachers could not use the walls effectively (Snow, 2002). One explanation of this inefficient usage could be that the school administration banned hanging anything on the walls. Finally, most of them emphasized a lack of personal space for the teacher, sometimes due to double shift schooling. The researcher observed that sharing desks and boards with students in other classrooms prevented the feeling that all students belonged to their classrooms. Furthermore, some teachers emphasized that the absence of their own spaces in the classroom affected the symbolic identity function negatively. The fact that teachers could not find a place to put their personal belongings, and even teaching materials, created problems in terms of time management during the teaching period and did not encourage the teacher to spend time in the classroom

outside the teaching process. Similiarly, Snow (2002) stated that very few teachers had an area to prepare for the lesson or to meet with a student individually.

Regarding the fourth research question, related to the perception of elementary school teachers on the task instrumentality function, the teachers informed that the physical size of the classroom environment was rather wide or narrow to carry out lessons effectively in line with the observation data. On the one hand, the narrow classroom limited teaching methods and techniques, and they usually applied teacher-centered methods because they lacked extra space to perform various activities. Powers et al. (2020) revealed that classroom design associated with teaching methods performed by teachers. The teachers having a narrow classroom prevented from using different teaching techniques (Ford, 2019; Duncanson, 2014; Blatchford et al., 2007; Snow, 2002), used the traditional desk order, and teacher-centered method (Martin, 2002). Like the teachers, each student needed a certain amount of space to perform activities in the learning process (Allen, Duch and Groh, 1996). When the personal space each student needed for learning had not been provided in the classroom environment, it could have affected his productivity, communication, and learning experiences negatively (Martin, 2006) in addition to increasing the negative behavior of students whose mobility was restricted. Teachers, on the other hand, might lose their control in large classrooms (Şahin, Tantekin-Erden and Akar, 2011).

Considering the fifth research question related to the opinions of elementary school teachers on the growth function, they were aware of the importance of this function, all of them desired classrooms that fulfilled it. Especially in crowded classrooms, the students who completed their works faster can feel bored while waiting their peers, on the contrary some students couldn't keep up with the learning speed of their peers (Kostolányová, Šarmanová and Takács, 2011). The function of the classroom could serve both groups of the students. It could provide extra activities for the speedy learners and complementary activities for slow learners. However, the shortage of space in the classroom prevented teachers from creating a reading corner, activity areas related to various lessons, and appropriate space to develop their psychomotor skills. And the observation data supported this results. Teachers complained about the limited areas of interest and discovery in the classroom environment (Obaki, 2017; Duncanson, 2014). A lack of visible educational materials restricted academic and social development for students owing to limited opportunity to interact with information and peers (Obaki, 2017; Weinstein and Novodvorsky, 2015; Di Giulio, 2007). When students could work somewhere apart from their desks, their peer relationships would improve and contribute to their social development (Van den Berg, Segers and Cillessen, 2012). Furthermore, empty spaces in the classrooms provided an opportunity for students to develop their creativity and experience directly (Lasky and Yoon, 2011).

As for the sixth research question related to the perception of elementary school teachers on the pleasure function, the partcipant teachers indicated that the limited range of movement of students in the classroom prevented them from playing games similiar to the research of Obaki (2017). Most of the classrooms lacked a rest area for break times outside the lesson period. Furthermore, it was stated that the paint colors in the classes are not geared towards children. Colors in schools reflected the official institutional identity. However, it was desired that the classrooms became a creative environment (Obaki, 2017; Warner and Myers, 2009). Teachers, students, and even parents thought that changing the school colors would make the school a better environment (Maxwell, 2000). Concerning the observation data, most of the classrooms resembled formal offices in terms of colors of the wall and arrangements of the devices, and they lacked an area for spare time activities.

Finally, the seventh research question related to the view of elementary school teachers on the overall effect of the classroom environment, it could be claimed that those teachers with optimum classroom environments were more satisfied than the others, their students were happier, and their learning processes were more effective. The classroom environment, where students were able to move comfortably, and the suitability of its factors, such as light, air, and classroom objects for student development, were positively associated with the learning and teaching comfort (Puteh et al., 2015; Asiyai, 2014; Clark, 2002), and the attitudes of teachers and students (Ford, 2019; Snow, 2002). The interesting classrooms facilitated the teaching-learning efforts, and the teachers who thought their classrooms were interesting were more willing in the teaching process than other teachers (Earthman and Lemasters, 2009). This interest reflected on the effectiveness of the teacher (Anderson, 2004; Snow, 2002) and the success of the teachers in education process was a source of motivation for them (Yıldızlı, 2021). Similiarly, the students thought that physical environment conditions had an impact on their learning and motivation (Asino and Pulay, 2019; Asiyai, 2014). In this study, it was observed that students had difficulties in sharing peers and focusing on the lesson.

The teachers who were unable to rearrange their classrooms for reasons of space or double shifting felt tired at the end of the day because they had to spend more effort during the teaching process. They were indecisive in various fields during the day, and they had various problems in terms of classroom management in the learning process Earthman and Lemasters (2009), Uline and Tschannen-Moran (2008), and Brophy (1988) pointed out that teachers made more effort to organize the environment in crowded classrooms, and the students in this classroom were distracted more quickly than other students. Furthermore, students with a poor classroom environment behaved in a more damaging way (Snow, 2002). During observation process, it was recognized that the classroom environment had an impact on both the teacher, the student and the teaching process in line with the perceptions of the teachers. The impact of the environment was continuous, and the quality of communication of the environment with the users depended on how the environment was regulated (Martin, 2006).

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IMPLICATION, SUGGESTIONS AND LIMITATIONS

This study revealed that the growth, pleasure functions of the classroom were disregarded in classroom design, and no enterprises for classroom arrangement were made to compensate for these functions. Furthermore, the most effective factor in the arrangement of the classroom environment by the teachers was the placement of the technological devices determined by the school administration for the physical dimension of the classroom environment, and peer sharing among students for its psychological dimension. Finally, it could be asserted that school administrators had a responsibility as well as teachers in the arrangement of the physical environment of the classrooms. For this reason, it would be beneficial to cooperate with teachers, administrators, and experts in the physical arrangement, such as interior designers, about the arrangement of the equipment of classrooms, and to increase both the awareness and professional knowledge of teachers and administrators in this regard. In addition, dual-shift education, disproportionality between class size and class space, and inappropriateness of classroom equipment to the developmental characteristics of the students should be addressed. Prioritizing the solution of this problem by the Ministry of National Education would make a significant contribution to the effectiveness of teaching and classroom management of teachers. Finally, the classrooms should have areas that would contribute to the academic and social development of the students, rather than being a teaching environment where only desks, tables, and technological devices were placed.

The strengths of this research were that the functions of the classroom environment enabled us to deal with the classroom environment in more detail, and the observation data, together with the interview data provided an opportuniity to handle the topic from a broad perspective. However, there were some limitations in terms of the research design. The interviews were conducted with only twelve elementary teachers, and their classrooms were observed for a total of 36 lessons.

Finally, the perception of the students and their parents were disregarded. Future researchers should be interested in this part of the topic.

CONCLUSION

This research has investigated the perception of elementary school teachers on their classrooms in terms of six functions of the classroom and its effects on them and their students. It concluded that most of the teachers were aware of the functions of classroom environment but they disregarded some functions, especially growth, pleasure functions, during their arrangements. Their classrooms were adequately performing the security and shelter function while they were less effective at fulfilling social interaction, symbolic identity, and task instrumentality functions. Also, it could be claimed that they barely fulfilled the pleasure and growth functions. Consistent with these findings, the awareness and arrangements of the teachers related to classroom environment focused on the security and shelter, social and task instrumentality functions, although their desires were about the task instrumentality, growth, and pleasure functions. When the effects of the classroom environment were considered more generally, it was concluded that the elements of the classroom environment were highly related to each other, and to factors of the physical and psychological dimension of the classroom. A favorable property in the classroom environment alleviated problems in other factors as well and left a positive impression on the teacher, the student, and the learning process. The factors that were negative in the physical environment reduced the interaction between the student-teacher and among the students. Moreover, these teachers had difficulties in time management, the instructional techniques were limited, and they tried to cope with unwanted behavior more than the other teachers. Besides its effect on teaching and learning process, it influenced the job satisfaction and fatigue of teachers and the happiness of the students.

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APPENDIX

APPENDIX I PARTICIPANT DIVERSITY

Lackney (2008) underlines that individual and organizational factors cause a lack of environmental competence. For validity and reliability of the findings, participant diversity is given importance because the different characteristics, such as working district, school type, classroom size, grade level, and demographic information of teachers, can be determinative factors in their environmental awareness and environmental competence. A control list was prepared to ensure participant diversity. The first, second, third, and fourth items were related to organizational factors. The last item represented personal factors. The control list was presented in Figure 1.
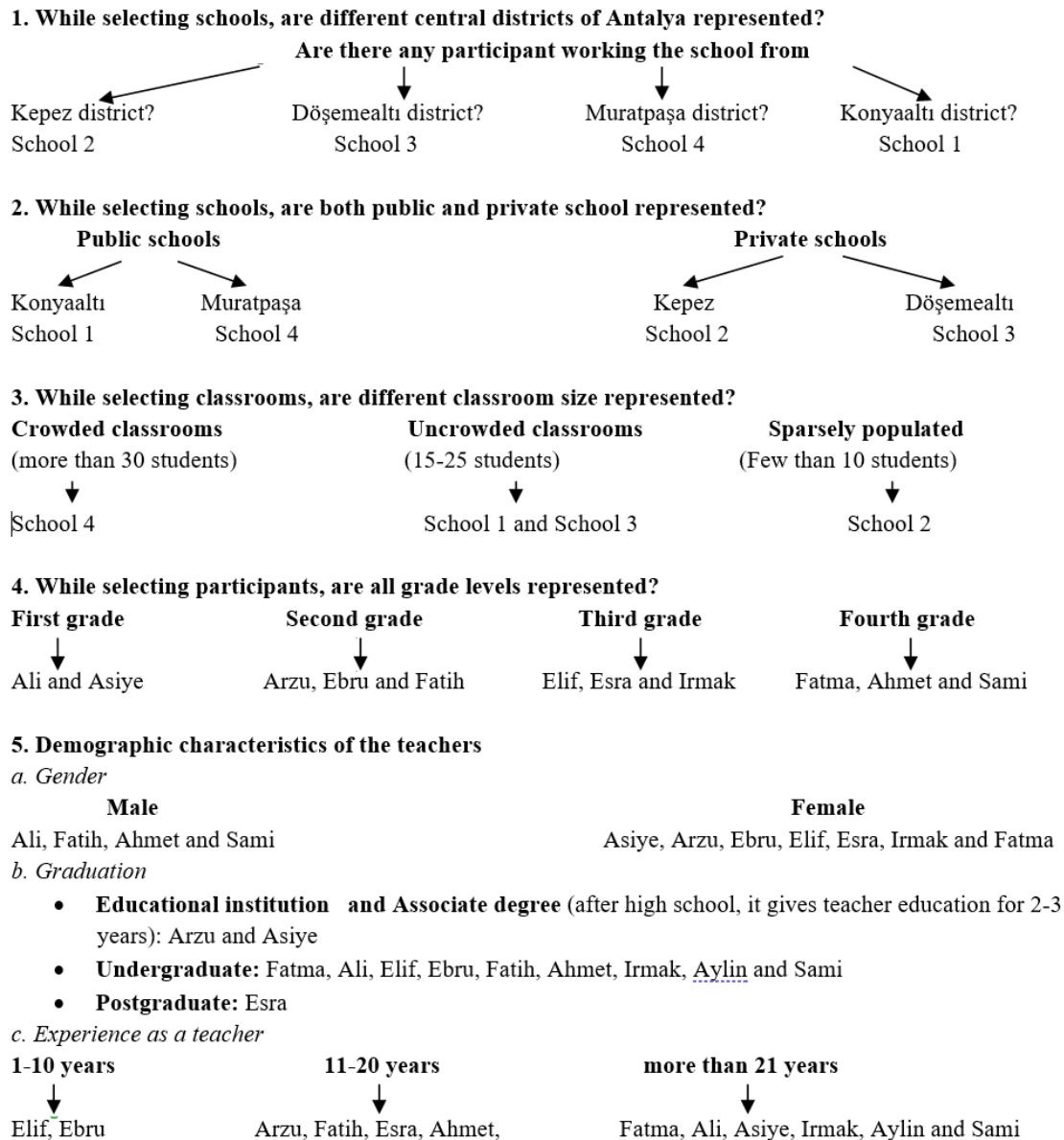
1. While selecting schools, are different central districts of Antalya represented?

Are there any participant working the school from

| Kepez district? | Döşemealtı district? | Muratpaşa district? | Konyaaltı district? |
| School 2 | School 3 | School 4 | School 1 |

2. While selecting schools, are both public and private school represented?

Public schools		**Private schools**	
Konyaaltı	Muratpaşa	Kepez	Döşemealtı
School 1	School 4	School 2	School 3

3. While selecting classrooms, are different classroom size represented?

| **Crowded classrooms** (more than 30 students) | **Uncrowded classrooms** (15-25 students) | **Sparsely populated** (Few than 10 students) |
| School 4 | School 1 and School 3 | School 2 |

4. While selecting participants, are all grade levels represented?

| **First grade** | **Second grade** | **Third grade** | **Fourth grade** |
| Ali and Asiye | Arzu, Ebru and Fatih | Elif, Esra and Irmak | Fatma, Ahmet and Sami |

5. Demographic characteristics of the teachers

a. Gender

| **Male** | **Female** |
| Ali, Fatih, Ahmet and Sami | Asiye, Arzu, Ebru, Elif, Esra, Irmak and Fatma |

b. Graduation

- **Educational institution and Associate degree** (after high school, it gives teacher education for 2-3 years): Arzu and Asiye
- **Undergraduate:** Fatma, Ali, Elif, Ebru, Fatih, Ahmet, Irmak, Aylin and Sami
- **Postgraduate:** Esra

c. Experience as a teacher

| **1-10 years** | **11-20 years** | **more than 21 years** |
| Elif, Ebru | Arzu, Fatih, Esra, Ahmet, | Fatma, Ali, Asiye, Irmak, Aylin and Sami |

Figure 1: The control list for participant selection process (source: own presentation)

APPENDIX II CALCULATING INTERNAL CONSISTENCY COEFFICIENTS

For the reliability of the findings, internal consistency coefficients can be calculated. There are three steps: (I) two people analyze the data independently; (II) the coding is compared in terms of consistency and gave points; and (III) all points are analyzed (Landis and Koch, 1977). For this study, a specialist different from the researcher coded the research data independently from the researcher, then the researcher compared the coding and gave points. If there is a consistency, both of them took "1" (see Table 8). But if the coding was stated by only one person, the one stated it took "1", the other took "0" (see Table 9). Finally, all points were analyzed through SPSS 20. For instance, A statement related to first question:

"Our class has its own heating and cooling system. We can get the optimum level of heat at any moment. The windows are very well designed, so we can get intense levels of light. The ventilation system works flawlessly. About the seating arrangement, if the children have a physical disability such as vision and auditory, I consider it. I wish I had a class where I could create a different order." (Ahmet).

The expert coded it: Heat and cool condition of the classroom is good.
 The researcher coded it: Heat and cool condition of the classroom is optional.

Expert	Researcher
1	1

Table 8:Score table for first coding (source: own presentation)

The expert coded: The teacher didn't state anything about his/her satisfaction about classroom.
The researcher coded: The teacher didn't satisfied with his/her classroom.

Expert	Researcher
1	1
0	1

Table 9:Score table for first and second codings (source: own presentation)

BURNOUT SYNDROME AND DARK TRIAD AT SCHOOLS: ENGINEERS AS TEACHERS OF VOCATIONAL TECHNICAL SUBJECTS

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ABSTRACT

The aim of the present study was to verify the relationship of three aversive personality traits - Machiavellianism, narcissism and psychopathy, nowadays known by experts as the Dark Triad and burnout syndrome on the sample of vocational technical subject teachers. The study was carried out on a sample of 241 participants (M_{age} = 44.53; SD = 10.29). Females represented 75.1% of all respondents (M_{age} = 44.48; SD = 10.02), males represented the remaining 24.9% of respondents (M_{age} = 42.36; SD = 11.8). The Slovak version of Short Dark Triad- SD3 and the adapted Slovak version of Maslach Burnout Inventory - HSS on the sample of helping professionals were administered. Significant positive relations of the Dark Triad traits with emotional exhaustion, depersonalization and personal satisfaction were identified. Regression analysis indicated the Dark Triad as a significant predictor of emotional exhaustion and depersonalization, psychopathy was the most significant predictor. The Dark Triad concept predicted 58% of burnout syndrome's variance.

HOW TO CITE

Highlights

- *Dark Triad is a significant predictor of emotional exhaustion and depersonalization.*
- *Dark Triad concept predicted 58% of burnout syndrome´s variance.*
- *Issue of courses for future teachers with practical personal development training.*

INTRODUCTION

The Slovak legislation (Law Act No. 138/2019; the Act on Educational and Professional Employees and on Changes and Supplements to Some Laws) allows an individual to become a teacher in several possible ways. Usually, the teacher obtains the necessary qualification either by graduation at the second stage at the Faculty of Education in the relevant teaching field of education or, as far as teachers of vocational subjects are concerned, by graduation at the second stage of the university providing the specialization in the vocational field and additionally by obtaining the necessary pedagogical qualifications via pedagogical course. According to this law, therefore, not only a person who has completed education in Pedagogy but also an expert in another field (e.g. an engineer) who has acquired the pedagogical competencies within the additional pedagogical qualification can become a teacher.

Although this path may seem relatively simple, there are some problems with the focus of the initial teacher´s education, especially if the teacher is initially a technical specialist, i.e. an engineer.

During engineering studies at the university, the student is trained primarily in the technical field. There is no reason to develop pedagogical-psychological competencies in some way. If the graduate engineers decide to complete a qualification in a pedagogical direction, they will also be in contact with the field of pedagogy, didactics, and psychology. However, given the length of qualification training (2 years), these topics are only marginally discussed. Table 1 presents a brief comparison of hours dedicated to psychological subjects during 2 years long pedagogical course and 5 years long university study. It is important to note that hours may vary due to a specific study programe.

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| **195**

	Pedagogical course *(in hours)*	Faculty of Education *(in hours)*
UNIPO*	390	720
UMB*	54	240
TRUNI*	35	x
TUKE*	45	x
UNIBA*	240	330

data obtained from websites of University of Prešov (www.unipo.sk), Matej Bel University (www.umb.sk), Trnava University (www.truni.sk), Technical University of Košice (www.tuke.sk), Comenius University in Bratislava (www.uniba.sk)

Table 1: Psychological subjects – hours at the course and university studies

From a psychological point of view, the great emphasis is placed on the teacher meeting certain criteria related to his or her personality, e.g. teacher should be empathetic, fair, open, flexible, skillful in interpersonal relationships, emotionally stable, conscientious, student-centred, and resistant to workload and stress. Since engineers are not typical teachers compared to those who graduate from a university with a pedagogical focus, the teaching profession does not have to be calling for them and therefore it is more likely that the teacher becomes a person who possesses the dark sides of personality. As there is no additional space for psychological resistance training during the qualification study, the question of inclination to burnout is also raised. These questions have motivated research aimed at teachers of vocational subjects with a technical focus, their dark personality traits and its relationship to the probability of burnout.

The Dark Triad and Teaching Profession

The Dark Triad is a concept that has received still increasing attention in the last twenty years. Paulhus and Williams first came up with this concept in 2002, conceptualizing it as a phenomenon of three aversive personality traits - Machiavellianism, narcissism and psychopathy at their subclinical level. It means the level of mentioned traits does not meet the diagnostic criteria of any personality disorder. On the contrary, those traits are commonly found in the normal population. The traits included in the concept of Dark Triad share certain common characteristics that are considered to be not socially desirable. Several authors (Lee and Ashton, 2005; Paulhus and Williams, 2002) identified those overlapping characteristics as like aggression, emotional coldness, self-centered support, lack of honesty or insincerity. The most aversive dark trait is psychopathy. Subclinical psychopaths tend to be impulsive, brave, and seeking excitement. They do not feel remorse or guilt what makes them prone to hurt others without any interest in their well-being (Forsyth and O'Boyle, 2012). Machiavellians are well known for their manipulative behavior performed in order to achieve own goal regardless of others (Al Aïn et al., 2013). They crave power and success. Narcissism is typical for exaggerated self-love with the signs of high anxiety, because their self-image is fragile and vulnerable. They enjoy the feeling of importance and belief of superiority (Morf and Rhodenwalt, 2001). Some authors argue that this concept could be a reaction to the concept of well known Big Five (Oluf and Furnham, 2015), which is now a kind of

so-called gold standard in personality research. When taking a closer look at the factor concepts of personality, it is possible to notice that in their interpretation there is an emphasis on adaptive personality traits, the so-called "brighter" side of personality. Oluf and Furnham (2015) described the Big Five model as such a concept. However, less attention was paid to the fact that each person, to some extent, also has maladaptive personality traits, the so-called "dark" side of personality. This above-mentioned statement is supported by several studies, where the relationship of Big Five traits with Dark Triad traits was examined in the context of discriminant validity (e.g. Egorova and Adamovich, 2019; Furnham, Richards and Paulhus, 2013; Jakobwitz and Egan, 2006; Malesza et al., 2019; Odiakosa, 2018; Paulhus and Williams, 2002).

Given that the personality structure predestines an individual to a great extent for the selection and subsequent pursuit of a certain profession, the research of the Dark Triad did not even skip the sphere of working behavior. A wide range of research has dealt with the Dark Triad of employees (Jonason, Slomski and Partyka, 2012; O'Boyle et al., 2012) as well as senior staff (Babiak, 1995; Furnham, 2010; Hogan and Hogan, 2001). In this environment, the Dark Triad has been associated with the use of manipulative techniques (Jonason, Slomski and Partyka, 2012), the desire for power (Lee et al, 2013) or counterproductive work behaviors such as employee theft, abuse of power or politics (O'Boyle et al., 2012). Specifically, Machiavellianism has been associated with abuse of power against subordinates, using manipulative techniques (Kiazad et al., 2010; Kessler et al., 2010); psychopathy with lowering the level of corporate responsibility and adversely affecting productivity (Boddy, 2010); narcissism with unethical behavior of executives and need for power (Amernic and Craig, 2010; Galperin, Bennett and Aquino, 2010; Rosenthal and Pittinsky, 2006). Obviously, those who exhibit the traits of the Dark Triad - Machiavellianism, narcissism and psychopathy are more likely to seek out professions where they can more easily demonstrate their power, for example, law, economics, business or politics. In these professions, in addition to exerting power, which is typical for Machiavellianism, they can show and experience the excitement that is a characteristic of narcissism or to emotionally separate, which is typical of psychopathy. Much less attention, although we cannot claim that none, is devoted to the research of the Dark Triad in the professions where their performer is expected to possess particularly desirable social characteristics (Adams and Maykut, 2015; Bakir et al., 2003; Bratek et al., 2015; Pegrum and Pearce, 2015; Selingson, 1992), and these are helping professions.

The helping profession is the group of professions typical by the specific relationship between worker and client. The main goal of helping professionals should be reaching the well-being of the client in all life areas – physical, intellectual and psychological (Graf, Sator and Spranz-Forgasy, 2014). One of the helping professions is also a teaching profession. The helping aspect is proven by supporting the students´ personal and educational development by helping professionals – teachers (Kopřiva, 1997). Besides many other working tools that are useful in the performance of helping professionals, the helpers´ personality seems to be one of

the most important (Kopřiva, 1997). According to Kasáčová (2004), there are 3 categories of personality traits required from a good teacher - personal (self-esteem, creativity, self-worth, purposefulness, responsibility, emotional stability, patience, flexibility, tameness, optimism, conscientiousness, decisiveness, predictability); social (communicability, sociability, tolerance, acceptance of others, empathy, respect for others, friendliness, sense of humor, justice, pro sociability, tactfulness); ethical (altruism, congruency, honesty, self-sacrifice, consistency, straightness). As suggested above, much of the teacher´s personality research is focused on identifying teacher´s positive personality traits, with the Big Five perspective most often used (Berkovich and Eyal, 2019; Kalinnikova et al., 2018; Rohani, 2017; Tamban and Banasihan, 2017; Tan, Marsi and Furnham, 2018). As Lenkov, Rubtsova and Nizamova (2018) state, much less attention has been paid to the other side of the teacher's personality. A more comprehensive view of his personality, thus from both the bright and the dark perspective, could explain the diversity of teacher responses in the performance of their vocation. Fortunately, despite the inadequate examination of professional-specific samples in the Dark Triad, we can find some empirical evidence that does not exclude the occurrence of Machiavellianism, narcissism and psychopathy in a sample of teachers.

The study of Lenkov, Rubtsova and Nizamova (2018) examined the occurrence of the traits of the Dark Triad among pedagogues at three different levels of the educational process – kindergarten, school (primary and secondary) and university level. The authors obtained interesting results about school (primary and secondary) teachers who scored significantly higher in psychopathy than kindergarten teachers and university teachers. The next useful result for educational management is the significantly highest value of Machiavellianism in the sample of university teachers compared to kindergarten and school teachers. Kalinnikova et al. (2018) focused on the negative personality characteristics of secondary school teachers in the context of self-monitoring, stating that teachers with a high level of Machiavellianism are more adapted to the rules in modern secondary schools and are oriented towards the management requirements of these schools, compared to teachers from ordinary schools who are more oriented towards quality teaching of their subjects. Teacher´s narcissism, in turn, results in a decline in the quality of teaching and the organization of educational processes, leading to a decrease in the academic motivation of students. Bańka and Orlowski (2012) focused their attention on one of three aversive traits of the Dark Triad - the teacher's Machiavellianism. They tried to explain the mechanism of its functioning by personality factors - self-efficacy, disposition to gratitude, values, personal resources, professional burnout syndrome; and contextual factors - organizational culture, attitude to work, duration of employment and specialization. The dominant position of Machiavellianism as a significant dark trait in teachers was also confirmed by another study in which teachers and students (future teachers) were compared in the Dark Triad components, Machiavellianism being the most dominant trait of the Dark Triad in both samples, but

students scored significantly higher than teachers (Čopková, 2020).

Burnout Syndrome and Teaching Profession

Burnout syndrome is a phenomenon that, unlike the Dark Triad, is explicitly linked to work performance, although some authors (Barnett and Flores, 2016) point out that since both work and school are places where some pressure is put on individuals, burnout can also occur within students. Burnout is defined as the psychological syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment, that occurs mainly among workers who encounter other people at work (Maslach, Jackson and Leiter, 1986). Over time, however, some reports have emerged that today it is no longer a phenomenon typical for helping professions, but also occurs in other professions. Therefore, the revised version of the definition of burnout syndrome refers to symptoms in the context of unsolvable work stress (Maslach, Schaufeli and Leiter, 2001). Emotional exhaustion is the most important symptom of burnout syndrome and is related to the feeling of exhaustion of one's emotional energy, predicting most of the health consequences caused by stress. Depersonalization is seen as a dysfunctional way to deal with emotional exhaustion, which means emotional cutting off from work. The reduced personal accomplishment from work refers to a negative assessment of one's work performance and the overall value of work (Maslach and Leiter, 2010; Maslach et al., 2001).

Nowadays, the teaching profession is considered to be one of the riskiest in terms of developing burnout (Schaufeli, Leiter and Maslach, 2008). In this context, Sears, Urizar and Evans (2000) speak of the syndrome that affects physical, academic, and social performance in teaching that emerges in response to a long-term stressful working conditions. Reduced teacher performance results in reduced interest in their students, colleagues, and parents of students, leaving a negative impression on the people they come in contact with (Baran et al., 2010). Van Horn, Schaufeli and Enzmann (1999) specifically highlighted the issue of burnout in high school teachers and described it as a serious occupational hazard. Travers and Cooper (1993) point out that teachers' stress levels were significantly higher than the average stress levels of other professionals in the helping professions.

The key variables that are considered to support the developing of burnout symptoms in teachers tend to be grouped into two categories - personality and contextual. Personality variables have been discussed in several studies and have included personality traits, perceived self-efficacy, existential fulfillment, constructive thinking, engagement, age, gender, length of practice, motivation to learn, willingness to work, abilities (Baran et al., 2010; Loonstra, Brouwers and Tomic, 2009). Aloe et al. (2014) summarized the findings on the length of practice and the grade at which the teacher teaches, pointing out that younger teachers tend to experience a higher degree of burnout than older colleagues, as well as high school teachers compared to those teaching in primary schools. Contextual factors include the educational system, the quality of the educational institution, workload,

school equipment, time pressure, working conditions, lack of recognition, legislative changes, social support, relationships between colleagues, student learning problems, large classes, etc. (Aloe et al., 2014; Baran et al., 2010; Fiorilli et al., 2015; Loonstra et al., 2009). The development of teacher burnout syndrome may result in absences that directly affect the academic performance of students, increased punishing of students or disinterest in them (Aloe et al., 2014).

The Dark Triad and Burnout Syndrome

The mentioned information suggests that personality characteristics are one of the key factors influencing the development of burnout syndrome, for which due attention has been given. As expected, the studies most commonly encountered verifying the relationship of burnout with the five components of the Big Five model - emotional stability, extraversion, openness, agreeableness and conscientiousness (Anvari, Kalali and Gholipour, 2011; Bakker et al., 2006; Magnano, Paolillo and Barrano, 2015; Rothmann and Storm, 2003). Much less attention has raised the question to what extent the dark side of the personality can contribute to the development of burnout. Some studies have addressed this relationship but in a separated manner, that is, they were interested in the relationship of burnout and one of the three aversive traits of personality – Machiavellianism, narcissism and psychopathy. Mirkovic and Bianchi (2019) focused on Machiavellianism, which in their studies had a positive relationship with all three components of burnout syndrome - depersonalization, emotional exhaustion and personal accomplishment, which was mainly determined by depersonalization. Barnett and Flores (2016) focused on narcissism and burnout at school, showing a positive relationship between dark traits and burnout determined by self-pity. Schwarzkopf et al. (2016) also looked at narcissism, which in their research explained the variation of emotional exhaustion and depersonalization. Prusik and Szulawski (2019) tested the relationship of the whole dark triad with burnout and work motivation. Machiavellianism and psychopathy correlated positively with emotional exhaustion and depersonalization, and these relationships were determined by the motivational resources that led respondents to performance of the job.

The above-mentioned information shows that the relationship between burnout syndrome and Big Five personality traits has been previously examined in several studies. It follows that there is still little information on the nature of the relationship between burnout syndrome and Dark Triad what is the model that gets more and more attention in recent years. In addition, there is a lack of empirical studies working in this regard with a professional-specific sample. As we have found support in previous researches, we have decided to conduct our study on a sample of secondary school teachers of vocational technical subjects who attended only pedagogical course, not the university studies in pedagogy and were supposed to receive less psychological preparation for their future work. We aimed to test the relationship between the Dark Triad traits and burnout syndrome components in this context.

MATERIALS AND METHODS
Sample

The research sample consisted of 241 teachers of vocational technical subjects at Slovak secondary vocational schools. All participants got engineer university degree at the university with technical specialization in the past. Their age ranged from 26 to 62 years (M_{age} = 44.53; SD = 10.29). Females accounted for 75.1% of all respondents (N = 181), aged 26 to 58 years (M_{age} = 44.48; SD = 10.02). Males represented the remaining 24.9% of respondents (N = 60), aged 26 to 62 years (M_{age} = 42.36; SD = 11.8). The length of respondents' pedagogical experience ranged from 1 year to 35 years. Convenience and purposive sampling methods have been used.

Tools

Short Dark Triad (Jones and Paulhus, 2014; for Slovak version see Čopková and Šafár, 2021). Three subscales, each consisting of nine items evaluated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree), saturate the scale: (1) Machiavellianism α_m = 0.692 *("I like to use clever manipulation to get my way.")*, (2) narcissism α_n = 0.487 *("I know that I am special because everyone keeps telling me so.")* (3) psychopathy α_p = 0.758 *("Payback needs to be quick and nasty.")*. There are five reverse-coded items in the questionnaire, which must be reversed before calculating the final score.

Maslach Burnout Inventory - HSS (Ráczová and Köverová, 2020). The questionnaire is an adapted Slovak version based on the original MBI - Human Services Survey (Maslach and Jackson, 1981). It consists of 22 items that saturate the three subscales – depersonalization - DP (5 items - *"My work exhausts me emotionally."*), personal accomplishment – PA (8 items - *"I feel I have a positive effect on other people's lives through my work."*) and emotional exhaustion - EE (9 items - *"I'm afraid my work makes me emotionally cool."*). The respondent sign answers on a 7-point scale (0 - never; 1 = several times a year; 3 = once a month or less; 3 = several times a month; 4 = once a week; 5 = several times a week; 6 = daily) indicates the frequency of occurrence of the symptoms formulated in each item. Items in the personal accomplishment subscale are reverse-coded. The final score is calculated as the sum of the points marked by the respondent for each subscale separately. The indicators of the internal consistency of the scales expressed by the Cronbach alpha coefficient were as follows - α_{ee} = 0.876; α_{pa} = 0.731; α_{dp} = 0.726.

Procedure

Data collection was carried out from March 2019 to April 2019 via an electronic form (Google Docs Form). First, respondents were informed that completing the questionnaire is voluntary and anonymous and that the data will only be processed within the context of this research.

All respondents agreed to participate. The collected data were analyzed in two statistical software: IBM SPSS Statistics (version 21) and IBM Amos (version 23). There were no missing data in the dataset. For testing the normality of data distribution we have used Kolmogorov-Smirnov. The data were normally distributed (p < 0.05). The value of the skewness and kurtosis did not exceed the criterion > ± 1, which supported the

assumption of normal distribution. The internal consistency was measured by Cronbach's α. The obtained data were described using other descriptive indicators (mean, standard deviation). Pearson correlation coefficient was used to test the occurrence and significance of relationships between variables; complex relationships between variables were tested by multiple linear regression and structural equation modeling.

RESULTS

In the first step of the analysis, we tried to answer the question about the relationship between the Dark Triad traits and the factors of burnout on the sample of teachers teaching vocational technical subjects. The correlation analysis revealed several significant relationships. The exact values of the correlation coefficients are in Table 2.

	M	SD	MACH	NAR	PSY	EE	DP	PA
MACH	26.30	6.32	-					
NAR	26.00	5.40	0.558**	-				
PSY	19.90	7.80	0.649**	0.569**	-			
EE	21.10	10.7	0.319**	0.245**	0.387**	-		
DP	5.02	4.75	0.332**	0.267**	0.484**	0.549**	-	
PA	31.30	6.22	0.048	0.133*	0.026	-0.179**	-0.265**	-

*MACH = Machiavellianism; NAR = narcissism; PSY = psychopathy; EE = emotional exhaustion; DP = depersonalisation; PA = personal accomplishment; M = mean; SD = standard deviation; *$p < 0.05$; **$p < 0.01$*

Table 2: Correlation matrix of SD3 and MBI-HSS

Significant positive relationships were identified in the case of Machiavellianism with emotional exhaustion and depersonalization, on the contrary, a very weak and insignificant relationship occurred between Machiavellianism and personal accomplishment. In the case of narcissism, significant positive relationships with all three components of burnout were identified - depersonalization, emotional exhaustion, and personal accomplishment. Psychopathy, same as Machiavellianism, significantly positively correlated with emotional exhaustion and depersonalization, and had a weak and insignificant relationship with personal accomplishment.

Another question we have tried to answer is to what extent we can consider the individual components of the Dark Triad as predictors that explain the variability of burnout syndrome factors. Therefore, we tested the data by multiple linear regression, where the basic model was made up of three independent variables - Machiavellianism, narcissism and psychopathy, and all the factors of burnout syndrome were replaced in the role of the dependent variable step by step. The results of multiple regression analysis suggested

2 significant models. The Dark Triad explained 15.7% of the emotional exhaustion variability ($F_{(3/240)} = 14.751$; $p < 0.001$; $R^2 = 0.157$), the psychopathy has explained 4.9% ($\beta = 0.309$; $t = 3.719$; $p < 0.001$). Furthermore, the Dark Triad explained the 23.5% variability of the depersonalization factor ($F_{(3/240)} = 24.261$; $p < 0.001$; $R^2 = 0.235$), psychopathy has explained 11.5% ($\beta = 0.472$; $t = 5.973$; $p < 0.001$). As far as the personal accomplishment factor is concerned, the Dark Triad was not confirmed as a significant predictor ($F_{(3/240)} = .716$; $p = 0.164$; $R^2 = 0.021$), we can add that from this low percentage (2.1%) narcissism has explained 1.9%.

The above results led us to the idea of testing the acquired data more comprehensively. By analyzing the relationship between the Dark Triad and burnout syndrome, we tried to answer the question to what extent the Dark Triad traits contribute to the presence and intensity of the symptoms of burnout. By structural equation modeling, we tested a hypothetical model, model fit indicators showed acceptable values (Table 3).

According to the test model, the Dark Triad traits explained 58% ($R^2 = 0.580$) of the variation of burnout syndrome

	N	χ^2	df	p	χ^2/df	CFI	TLI	RMSEA	SRMR
Test model	241	30.794	8	<0.001	3.849	0.947	0.900	0.109	0.077

Table 3: Model Fit (*N*=241)

factors in secondary school teachers of vocational technical subjects, which we consider as satisfactory result. The

Figure 1 presents a test model with standardized parameter estimates.
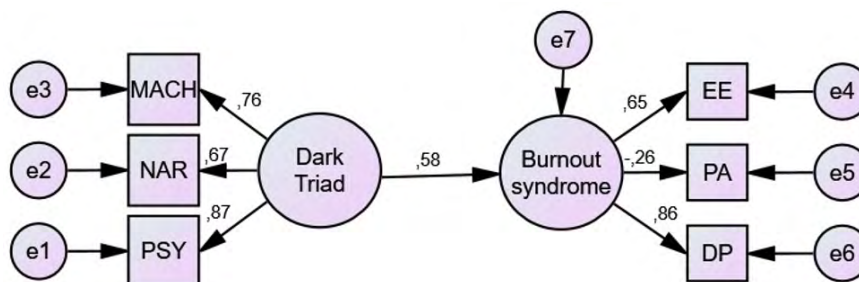
MACH=Machiavellianism; NAR=narcissism; PSY=psychopathy; EE=emotional exhaustion; DP=depersonalisation; PA=personal accomplishment

Figure 1: Tested model – standardized estimates, 2020

DISCUSSION

Since the relationship of burnout syndrome and personality traits, especially the Big Five model, was previously examined in several studies (e.g. Anvari, Kalali and Gholipour, 2011; Bakker et al., 2006; Magnano, Paolillo and Barrano, 2015; Rothmann and Storm, 2003), the primary aim of the presented study was to examine the relationship between another personality model - Dark Triad (Machiavellianism, narcissism and psychopathy), and the components defining burnout syndrome (emotional exhaustion, depersonalization, and personal accomplishment) on a sample of secondary school teachers teaching vocational technical subjects. We were brought to this by the fact that while burnout syndrome has been extensively studied in the context of the "bright" personality traits (Anvari, Kalali and Gholipour, 2011; Bakker et al., 2006; Magnano, Paolillo and Barrano, 2015; Storm and Rothmann, 2003), much less attention has been paid to the extent to which the "dark" personality traits are involved in the development of burnout (Bańka and Orlowski, 2012; Prusik and Szulawski, 2019; Schwarzkopf et al., 2016). The selection of a specific sample on which our study was conducted - secondary school teachers of vocational technical subjects - also has its merit. The teaching profession is considered to be one of the riskiest in terms of the development of burnout (Schaufeli, Leiter and Maslach, 2008). The stress level of teachers is reported to be significantly higher than the average stress levels of workers in other helping professions (Travers and Cooper, 1993). Several authors even point out that secondary school teachers are more prone to burnout, compared to university teachers or those who teach at elementary schools (Aloe et al., 2014; Van Horn et al., 1999).

The results suggest that there are significant positive relationships between the Dark Triad and burnout. Specifically, the higher the level of Machiavellianism and psychopathy is, the greater the likelihood of developing emotional exhaustion and depersonalization is. This result partly correlates with that of Mirkovic and Bianchi (2019). Their study identified a positive relationship between Machiavellianism and all three components of burnout. We also find support in the results of Prusik and Szulawski (2019), who came to the same result as we did. The relationship between narcissism and burnout syndrome components was richer, suggesting that a higher level of narcissism is associated with a higher level of emotional exhaustion, depersonalization, and personal accomplishment. Our outcome is supported by the results of Barnett and Flores (2016), who have identified positive relationships of narcissism with all components of burnout. In Schwarzkopf et al. (2016), narcissism correlated positively with emotional exhaustion and depersonalization. The regression analysis has shown that the Dark Triad significantly predicts the development of emotional exhaustion at a rate of 15.7% and depersonalization at a rate of 23.5%, psychopathy was the most important predictor in both cases. This result is not surprising when looking at the research of Lenkov et al. (2018), which points to a significant level of psychopathy among secondary school teachers compared to elementary and secondary school teachers. More comprehensive testing of Dark Triad-burnout syndrome relationship suggests that up to 58% of burnout syndrome can be explained by the presence of aversive personality traits. This result supports the idea of continuing research and expanding the research portfolio to address the relationships and the broader context of these negative phenomena.

In the future, the question arises as to whether it would be worthy to incorporate the Big Five concept into the model and to look in more detail at what personality traits, both dark and bright, are involved in the development of the symptoms of burnout. Our study is considerably limited by the fact that its results can be generalized only to a limited extent, as it was carried out on a narrow profile sample of secondary school teachers of vocational subjects with a technical focus. Therefore, we consider it beneficial if in the future the research of the Dark Triad and burnout syndrome would be aimed at comparing teachers at different levels - elementary, secondary and higher, as several studies suggest that there should be differences between them as in personality (Bańka and Orlowski, 2012; Kalinnikova et al., 2018; Lenkov, Rubtsova and Nizamova, 2018) as well as at the risk of developing burnout syndrome (Aloe et al., 2014). Several studies (Aloe et al., 2014; Baran et al., 2010; Barnett and Flores, 2016; Fiorili et al., 2015; Loonstra et al., 2009; Prusik and Sulawski, 2019) have already proposed the possibility to consider other mediation variables in relation to the Dark Triad and burnout syndrome. In our opinion, there should be variables such as job satisfaction (Čopková and Araňošová, 2020), career motivation (McLean, Taylor and Jimenez, 2019), experiencing crisis in achieving goals (Bavoľár and Kačmár, 2020), coping (Vavricová, 2013), leadership styles (Arnold et al., 2015), self-efficacy (Skaalvik and Skaalvik, 2010), self-care (Lichner, 2017) or length of practice considered as the potential mediators of this relationship. It might also be interesting to compare teachers of vocational subjects with technical and non-technical focus.

CONCLUSION

The present study aimed to examine the relationship between burnout syndrome and personality model popular in recent years - the Dark Triad. The uniqueness of the study results from the specific sample – teachers of vocational technical subjects who are not considered as common teachers in Slovakia. Teachers as helping professionals are more prone to burnout syndrome development. On the other hand, the teaching profession offers the environment for negative personality traits demonstration as well. The present study showed that psychopathy is the significant predictor of emotional exhaustion and depersonalization. Moreover, dark traits (Machiavellianism, narcissism, psychopathy) explained the majority of burnout syndrome occurrence what is considered to be the most important finding.

Due to results obtained in the research, our study shows the necessity of paying more attention to the personalities of teachers who have not been trained as common teachers, since teachers are the people who influence students not only at the professional but also at the affective level. The negative effect of teachers´ personality might be prevented or avoided by including the personality assessments in recruitment interviews for novices at universities or organizations providing pedagogical courses, but at the schools as employing institutions as well.

Therefore, it is necessary to consider extending courses for future teachers with practical personal development training as a compulsory part of the curriculum. As a part of long-life development, we suggest the implementation of personality development soft skills training for teachers at all levels of educational system. It could be the way how to teach teachers the principles of self-regulation what includes standards of desirable behavior, motivation to meet standards, monitoring of situations and thoughts and willpower (Baumeister, Heatherton and Tice, 1994; Čopková, 2020), not excluding the resistance to stress development by adoption of basic psychohygiene principles (Kusý and Báthoryová, 2013). Sure, the personality structure can not be fully changed, but the training is at least the opportunity how to learn how to suppress the performance of negative traits and strengthen the desirable outcomes.

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