RAIS Journal for Social Sciences

CONTENTS

The Relationship Between College-Educated Officers and Their Self-Efficacy on Performance: A Quasi-Experiment

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ABSTRACT: This quasi-experimental study aimed to examine by statistical analysis the relationship between college-educated police officers and their self-efficacy in the performance of their duties, whether it is patrol, investigations, research/ planning, etc. Previous research has provided mixed perspectives on the benefits of a college education and police officers' levels of job effectiveness and performance. The purpose of the study is two-fold: (1) to determine if there is a causal correlation between an officer's level of education and their self-efficacy, and (2) to ascertain whether or not officers believe a college degree made a difference in them being more effective on the job. Findings from this study indicated a moderately positive level of significance from police officers with a college education as having a higher level of self-efficacy than police officers without a college education. The study findings provide insight into police officers' ability to resolve conflicts, communication skills, emotional intelligence, and critical thinking. This case study suggests that possessing a college degree may improve crucial aspects of field performance, including using a lower level of physical force and receiving fewer complaints and disciplinary actions than officers of the same experience without a degree. Policing in the 21st Century has evolved as a solemn profession, and officers are held to higher standards and accountability. The investigators theorized that many police departments place a greater value on educated officers because of the changing nature of law enforcement and the cultural diversity needs of citizens in the community.

KEYWORDS: Police, Police Education, Education, Self-Efficacy, Self-Effectiveness, Self-Perceived Effectiveness, Police Training, Perception, Training, College Educated Officers

Introduction

According to Paoline, Terrill, and Rossler (2015), aggressive patrol tactics in the community have created significant concerns among citizens, including outright distrust of police officers. According to Weichselbaum (2015), widespread misconduct in local police departments has increased federal response to neglect and abuse of power claims. The Justice Department mandated police reform in several police departments across the country to minimize discriminatory policing, unjustifiable shootings, civil rights violations, and mistreatment of prisoners (Weichselbaum 2015). In order to offset these concerns, there must be a maturing of the core culture and values driving public operations, as well as expectations for American law enforcement to change significantly and meet current issues (Ramirez 2009). The major components of this change include training, education, organizational design, and leadership (Ramirez 2009).

Adequate training of new police officers is vital to law enforcement agencies because it reduces officer fatality rate, lessens citizen complaints, lowers wrongful death lawsuits, and enhances officers' self-confidence in their decisions (Dominey & Hill 2010). According to Vega and Eligon (2014), with deep tension rising between police and the community, it is increasingly important for city officials to hire police officers with integrity, good judgment, and education to build public trust. Supporters of higher education for police officers opine that college-educated officers better understand the complexities of policing than do officers without a college degree (Paoline, Terrill, & Rossler 2015)." Policing is one of the few occupations where danger is imminent, and police officers have to react to an unknown danger that is presented to them (Roberts, Herrington, Jones, White, & Day 2016). Dominey and Hill (2010) posited that academy recruits should emerge from training with the ability to communicate and effectively provide quality service to the public. Police officers must receive extensive training in many aspects of law enforcement work, including state and federal laws, customer service, driving, firearms, evidence handling, defensive tactics, and handcuffing. Effective training enhances individuals' abilities to perform a job or task and creates a strong belief in their capability and self-confidence.

Literature Review

Police and Education

According to Hilal, Densley, and Zhao (2013), Minnesota is the only state requiring aspiring law enforcement officers to have an associate's degree before entering the police academy. Hilal et al. (2013) noted that policing is the only human service profession that does not require a college degree as a prerequisite for entry, unlike nursing, social work, and teaching, which require a baccalaureate degree before hiring. Hilal et al. (2013) examined 627 Minnesota police officers' attitudes toward higher educational requirements before joining the police force. The findings indicated that 30% of aspiring police officers feel a college degree should be a prerequisite to entering the profession.

Police departments formed partnerships with local universities to develop programs catered to a career in law enforcement (Macvean & Cox 2012). Police departments nationwide believe that increasing academic standards would decrease police applicants and diminish the number of qualified candidates (Telep 2011). Telep (2011) noted that increased educational standards would strongly impact police officers' performance and attitudes. Higher education influences the abuse of authority and encourages moral behavior (Rydberg & Terrill, 2010; Telep 2011). Bond (2014) observed that law enforcement officials are reluctant to change higher educational standards for aspiring police officers. According to Bond (2014), higher education is essential to police officers' performance and productivity.

Higher education enhances the following qualities on the job:

- Quality in performance level
- Problem-solving skills
- Quality writing skills
- Superior communication skills
- Decrease citizens' complaints
- Experience with technology

- Innovative thinking
- Minimal disciplinary action
- Promotions
- Awareness of cultural diversity
- Personal growth (maturity)
- Adaptability

Paterson (2011) noted higher education enhances several characteristics and improves police officers' accountability. In Jenkins and DeCarlo's (2014) study, authors suggested that college-educated police officers are rated higher on their performance evaluation than police officers without a college education. The study conducted by

police executives also indicated an increase in college-educated officers in the last 20 years. Improving police professionalism through educational requirements benefits criminal justice institutions (Patterson 2011). Police supervision, vital to the performance and attitude of any law enforcement agency, should produce a positive change for all regular members (Jenkins & DeCarlo, 2014). In Chapman's (2012) study on 511 police officers' use of force, researchers proclaim that personal attributes are considered a significant component in using force in minority communities. Chapman (2012) indicated that understanding each variable might assist law enforcement with preventative methods for using force. A significant relationship between education and the use of force showed that officers with education used less force upon arrest (Chapman 2012).

Self-Efficacy and Work Performance

Cherian and Jacob (2013) noted that overall self-efficacy positively influences employees' performances. According to Cavazotte, Moreno, and Bernardo (2013), self-efficacy is crucial in promoting goal achievement. Yakin and Erdil (2012) suggested that people with high self-efficacy are satisfied with the work environment and are competent in solving difficult problems when they occur. Individuals with high self-efficacy are more likely to obtain a favorable outcome through persistence while gaining fulfillment from their jobs (Yakin & Erdil, 2012). According to Cherian and Jacob (2013), employees' incomes are not the only source of satisfaction but represent employment stability. Self-efficacy and motivation are positive factors for quality service in the workplace (Cherian & Jacob 2013). Personal values that enhance job performance can bolster confidence in employees (Cherian & Jacob 2013). Ashwini's (2013) survey of 100 male and female police officers exploring occupational self-efficacy and job satisfaction based on gender revealed no significant difference in job performance among men and women. The study used a purposive sampling technique, implying that female police officers are well-prepared for police work.

Self-Efficacy and Motivation

Managers have a difficult time trying to motivate and inspire employees to increase work performance (Van Der Roest et al. 2011). Management must find innovative ways to build confidence and motivate employees; there is no blueprint on how to motivate subordinates (Van Der Roest et al. 2011). According to Fortenbery (2015), motivating police officers is difficult because they become jaded by dealing with the worst people in society. The routine aftermath of violent crimes can also make police officers desensitized to personal goals and goals of the organization (Fortenbery 2015). Fortenbery (2015) noted that management must take the initial steps in motivating police officers by having a positive attitude. Supervision is vital to how police officers interact, communicate, and perform their duties (Brain 2008). Brain (2008) noted that police officers are motivated by a sense of fairness within the department, and allowing an equal opportunity for advancement is critical to work performance. Madonna and Philpot's (2013) survey of 135 college students from a southeastern liberal arts university indicated a weak to moderate relationship between self-efficacy and motivation. Students were administered the Motivated Strategies for Learning Questionnaire. The study findings revealed limited information on student satisfaction and motivational and learning strategies predicting self-efficacy.

Self-Efficacy and Academic Success

A strong correlation exists between the achievement of goals and self-efficacy (Kandemir 2014). In Kandemir's (2014) study on achievement goals consisting of 513 students, he found that several personality traits significantly influence academic self-efficacy. Perceived academic self-efficacy is considered to impact students' educational performances and

careers (Abd-Elmotaleb & Saha 2013). According to Mattern and Shaw (2010), a student's self-efficacy is not always a predictor of his or her performance or the skills he or she has. York, Gibson, and Rankin (2015) measured academic success by using job performance intrinsic and extrinsic rewards. Extrinsic success included job promotion, job advancements, and increased salary (York, Gibson, & Rankin 2015). Employee satisfaction and goal setting are included as intrinsic rewards (York et al. 2015). Nilsen (2009) noted that self-efficacy and academic success are elevated by a person experiencing success. Personal success must be challenging to inspire self-efficacy and motivation (Nilsen 2009). York et al. (2015) conducted a grounded theory study on academic success examining K-12 educators, psychologists, and sociologists in the field of education. The study revealed that comprehension and grades were not always indicators of intellectual growth.

Theoretical Framework

The theoretical foundation for this study was influenced by Albert Bandura's self-efficacy theory, a social cognitive theory introduced by Albert Bandura, constructivism theory developed by Jean Piaget, and andragogy theory advanced by Malcolm Shepherd Knowles. This study proposed to capture self-efficacy and college education related to performance in the law enforcement community. The theories presented are learning theories regarding how students develop knowledge and problem-solving. Self-efficacy assessments tailored to domains of functioning and task demands identify patterns of strengths and limitations in perceived capability (Bandura 2006). Self-efficacy is concerned with perceived capability. According to Bandura (2006), this refined assessment increases predictability and provides guidelines for tailoring programs to individual needs. Bostrom (2005) noted that some social scientists believe a college education influences police officers' effectiveness. Individuals with high confidence in their capabilities approach complicated tasks as challenges requiring mastery rather than threats that need avoiding (Bandura 1994). According to Bandura (1994), the most successful way of creating a high sense of efficacy is through mastering experiences. According to Smith, Jayasuriya, and Hammer (2008), people with low self-efficacy have low expectations and aspirations. The theoretical framework presented incorporated the relationship between self-efficacy and education. The theories are similar because they promote learning through understanding and personal experiences.

Data and Methodology

This quantitative, quasi-experimental design aimed to examine the relationship between self-efficacy and education level for 162 patrol officers in southeastern Michigan by statistical analysis. The study was designed to employ two individual police departments to show whether there is a statistically significant difference in self-efficacy and educational level. The general problem is that although research findings concluded that self-efficacy significantly influences performance (Beattie et al. 2016; Emich 2012; Lunenburg 2011; Stajkovic & Luthans 1998), police departments continue to disregard this critical factor in establishing hiring criteria for recruits. The specific problem is that the effect on self-efficacy determined by hiring persons for local police departments near Detroit, Michigan, with lower educational levels versus college education, is still being determined. The survey instrument used in this study is the General Self-Efficacy Scale, designed by Ralf Schwarzer to measure self-efficacy. The General Self-Efficacy scale is a 10-question psychometric scale designed to assess optimistic self-beliefs. Researchers validated the GSE scale on adult populations in over 33 countries (Schwarzer & Jerusalem 1995). According to Schwarzer and Jerusalem (1995), the GSE scale measures the ability to cope with stressful life events.

Presentation of Descriptive Characteristics of Participants

Table 1 displays frequency counts for the number of officers in each group. There were 76 officers in the no-college group (49.4%) and 78 in the college group (50.6%). The population for this study included police officers from Police Department 1 and Police Department 2, both located in southeastern Michigan. One hundred sixty-two total participants consented to participate.

Most participants from both departments were male, at 92.5% and 96%, respectively. Though gender was skewed, it is not abnormal for the occupation. Therefore, the results of this study can be transposed to other police departments since gender skewing is expected. Ages ranged between 20 years old and 38 years old. Younger patrol officers came from Police Department 1. All participants in this study worked street patrol, with the majority having more than two years of street patrol experience. Their differing educational requirements explain the disparity in ages between departments. Participants' time in service and age was eliminated to secure the participants' identity in the study. Also removed from this study to ensure the total confidentiality of the participants was the coding of educational levels. The coding of educational levels would have increased a breach of confidentiality from participants in Police Department 2.

Table 1: Frequency Counts for Educational Group (N = 154)

Officer Group	n	%
No College Degree	76	49.4
College Degree	78	50.5

Data Analysis Procedures

Data were collected from two police departments located in southeastern Michigan. The target number of completed surveys was 160, with each police department completing 80 surveys based on obtaining a 95% confidence level and a 5% confidence interval. One hundred and sixty-two surveys were collected for the current study. Surveys were collected from three separate opportunities within each department at the end of the roll call. Once surveys were collected, each participant's mean score was calculated. A statistical analysis was completed to analyze if there was a relationship between educational attainment and the level of self-efficacy expressed on the survey for both police departments. The researchers numerically coded questionnaires, with 1 representing police officers with no college and 2 representing police officers with college.

Organization of Data Analysis

Initially, data were gathered for 162 patrol officers. Based on two sets of boxplots (Figure 1), eight self-efficacy scores were considered outliers and were, therefore, removed from the sample. This left the final sample size to be $N = 154$. The General Self-Efficacy Scale determined participants' self-efficacy scores on a 4-point Likert-type scale questionnaire. In the case of this study, the predictor variable is the fact of college education or no college education, termed education status, of each officer. The criterion variable is the GSE scores of the police officers. The outliers were participants who scored extremely high or exceptionally too low. There were eight univariate outliers in the study. The vertical axis on the boxplot represents participants' self-efficacy scores.
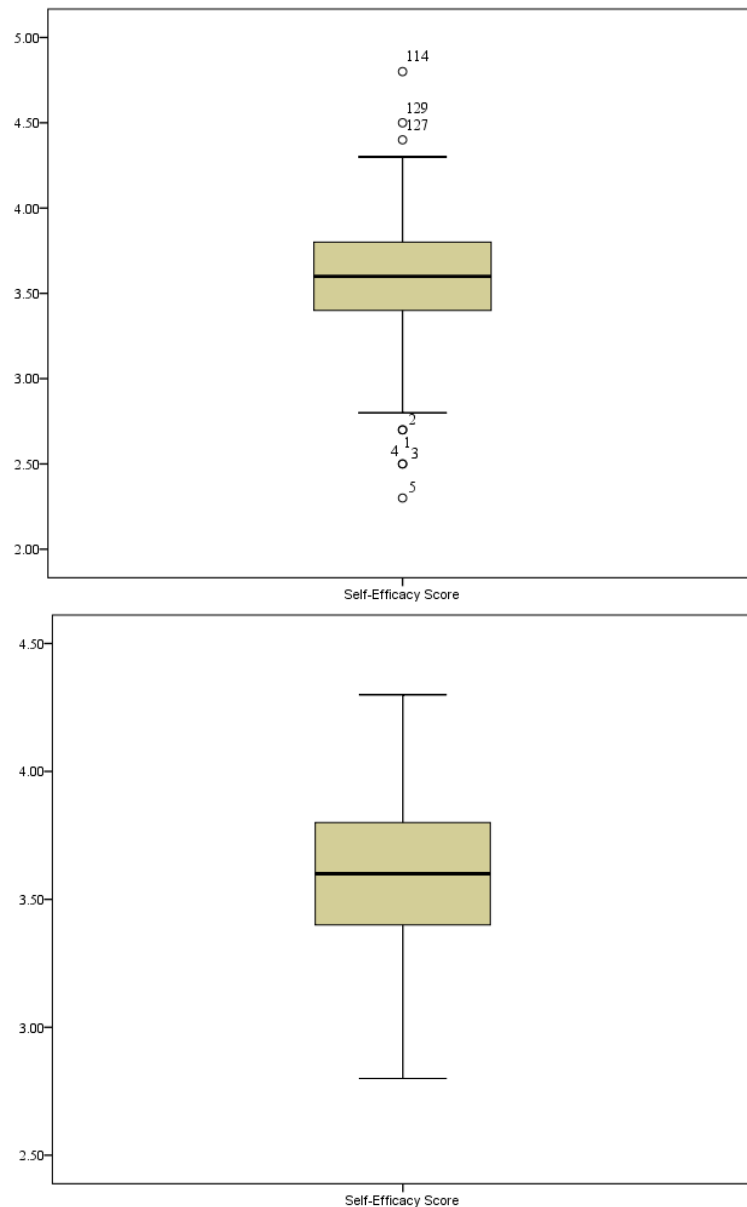
Figure 1: Boxplots of self-efficacy scores before and after removing univariate outliers

Research Question and Associated Hypotheses

This quantitative, quasi-experimental design aimed to examine by statistical analysis the relationship between self-efficacy and education level for 154 patrol officers in southeastern Michigan. The study was guided by one research question and two relevant hypotheses:

RQ1: Does a significant statistical relationship exist between a police officer's level of education and the officer's self-efficacy, as measured by the Generalized Self-Efficacy Survey?

H_01: There is no statistically significant relationship between police officers' level of education and police officers' self-efficacy.

H_A1: There is a statistically significant relationship between police officers' level of education and police officers' self-efficacy.

Analysis of Data

A *t-test* for independent means with an accompanying eta coefficient (Pearson correlation between a nominal variable and a continuous variable) was calculated and presented in Table 2 to answer this research question. The eta coefficient was included as a measure of the

strength of the relationship between the officer's level of education and his or her level of self-efficacy. Levene's test for equality of variances was insignificant ($F = 2.09$, $p = .15$), suggesting that the assumption was met. Inspection of the table found college-educated officers to have significantly higher levels of self-efficacy at the $p = .001$ level. In addition, the relationship between the two variables ($\eta = .42$, $p = .001$) was also significant. This combination of findings supported the alternative hypothesis (Table 2).

Table 2:
t-Test for Independent Means Comparing Self-Efficacy Scores Based on Education (N = 154)

SCORE	GROUP	n	M	SD	η	t	p
Self-Efficacy					.42	5.67	.001
	No College Degree	76	3.44	0.32			
	College Degree	78	3.71	0.27			

Note. Levene's Test for Equality of Variances: $F = 2.09$, $p = .15$

Since the overall analysis demonstrated positive support for the alternate hypothesis that education level and perceived self-efficacy are related, further analysis was performed. The histogram below compares the mean score of each question for each department. As depicted in Figure 2, per question, the two departments compared to each other after removing the outlier. However, questions 9 and 10 have more variance than any other. For those two, the non-college cohort scored considerably lower than the college group compared to the other questions. However, this comparison is simply an informal observational analysis. According to Schwarzer and Jerusalem (1995), the validity and reliability of the GSE scale were tested in over 25 countries. The reliability obtained in the samples from 23 nations yielded Cronbach's alphas ranged from .76 to .90, with the majority averaging .80.
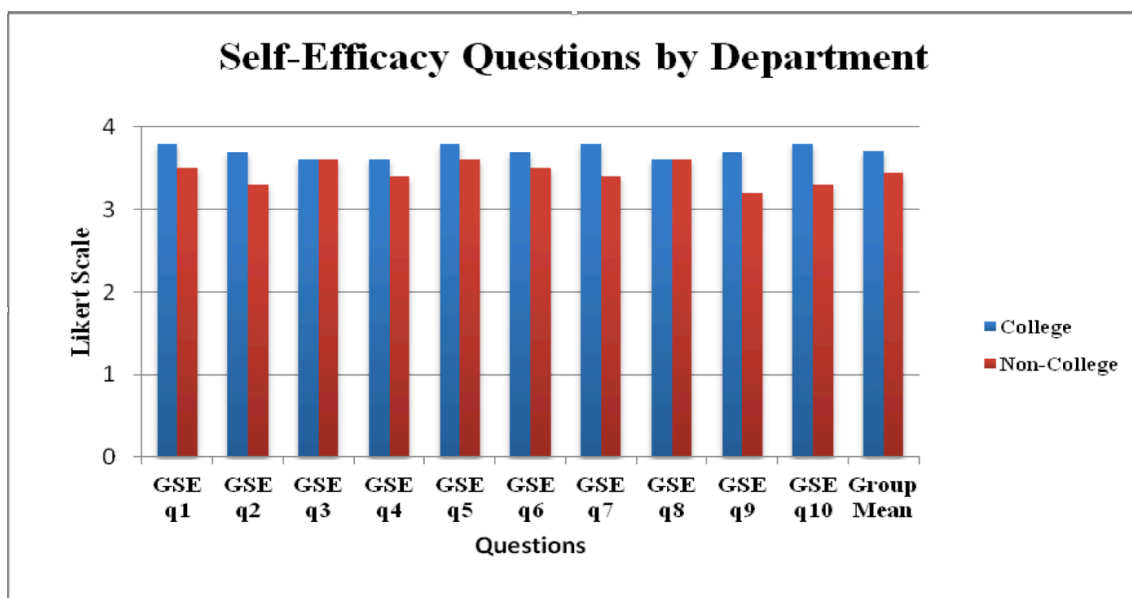
Figure 2. Self-efficacy questions by department

The GSE survey was normalized and tested for reliability and validity as one survey, not by each individual question. Consequently, the reliability and validity of each question are not assured with formal statistical analyses. Surveys are validated as a whole product, not each question. One cannot assume each question is also validated in and of itself. There may be confounding effects upon individual questions simply because of the order they are in or based upon subjects placing assumptions on questions. By separating questions out, that interaction is no longer present, which may influence the variability and reliability of the question and survey as a whole.

Summary

The findings of this study indicated that college-educated police officers have a higher level of self-efficacy than police officers with no college education. The analysis suggests that police officers with a college education demonstrate a high level of self-efficacy than a police officer who has no college. The study results do not imply that police officers without a college degree are incapable of performing the duties of a police officer. Although this study may suggest that police officers with a college education are well prepared to perform various tasks, having a college education may also be independent of specific dimensions of police performance. Police officers should exhibit a high standard of ethics, whether a college education is obtained or a high school diploma. Police officers' integrity and moral standards are questioned by the citizens and community they serve. Police departments nationwide will have to show more transparency and accountability to gain the community's trust. This study may also promote additional training for aspiring police officers. Continued research into the effects of higher education on the performance of police officers may lead to greater knowledge and understanding necessary to improve police service.

Conclusions

This quantitative, quasi-experimental design aimed to examine by statistical analysis the relationship between self-efficacy and education level for 154 patrol officers in southeastern Michigan. This study targeted two police departments located in southeastern Michigan. Previous research has provided mixed thoughts on the benefits of college education and police officers' job satisfaction and performance levels. The findings of this study indicated a positive level of significance from police officers with a college education having a higher level of self-efficacy than police officers without a college education. The alternative hypothesis for this study was supported. Additional research is recommended concerning examining police officers' perceived job satisfaction, views of top management, or role orientation. Study results suggest a need to examine race, age, gender, and time in service for police officers' level of self-efficacy. The average time in service of greater than two years reduces the threat to the relationship between self-efficacy and education.

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The Correlation between the Demographic Factors and Students' Moodle Logs and their Academic Achievements in a Pre-degree Course

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ABSTRACT: The study explores the correlation between the demographic factors, the Moodle logs, and the academic achievements of the LLFXX students. The demographic factors analyzed were students' age, gender, program of study, and their time at the University of the South Pacific (USP). A quantitative research method was employed to collect and analyze the data. A total of 80 Blended mode students filled out a questionnaire on the Moodle page and their results were analyzed using the Spearmen's Rank Correlation Coefficient Test in the SPSS software. It was found that there was no correlation between the demographic factors and students' Moodle logs on the LLFXX Moodle page. Moreover, there was no correlation between the LLFXX students' demographic factors (age, gender, and time at the USP) and their academic achievements. However, there was a correlation between students' study program and academic achievement.

KEYWORDS: correlation, demographic, eLearning, interaction, Moodle

Introduction

Moodle is a crucial component of the teaching and learning process. Schools and tertiary institutes in the Pacific countries use it due to its 'access-free feature' (Yuksel 2022, Cejudo 2007, Escobar-Rodriguez and Monge-Lozano 2012). It has benefitted the instructors and students in many ways and has become an integral part of the everyday life of the instructors and students. Moodle is increasingly being used as a platform for adaptive and collaborative learning and to improve online assessments (Gamage, Ayres and Behrend 2022). Moodle ensures that online learning activities can be carried out without any difficulties (Simanullang and Rajagukguk 2020).

It has been argued that there are many factors that affect students' Moodle Log (Essel and Apeanti 2017, Karishma and Raghuwaiya, Factors Affecting Interaction on Moodle: An Empirical Study Based on TAM 2023)and their perception of Moodle and its use (Mijatovic, Jovanovic and Jednal 2012, Ramadania 2021). These include demographic factors such as a student's age, sex, income, and education (Aristovnik, et al. 2017, Aliyu, Arasanmi and Ekundayo 2019).

Background

The University of the South Pacific (USP) is a regional university managed by 12 member countries (Cook Islands, Fiji Islands, Kiribati, Marshall Islands, Nauru, Niue, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu). All the campuses are connected on Moodle via satellite. Moodle was introduced at the USP in 2008 (Whelan and Bhartu 2007) and it has become a mandatory component of all courses offered via Blended, Online, Face-to-face, and Print modes.
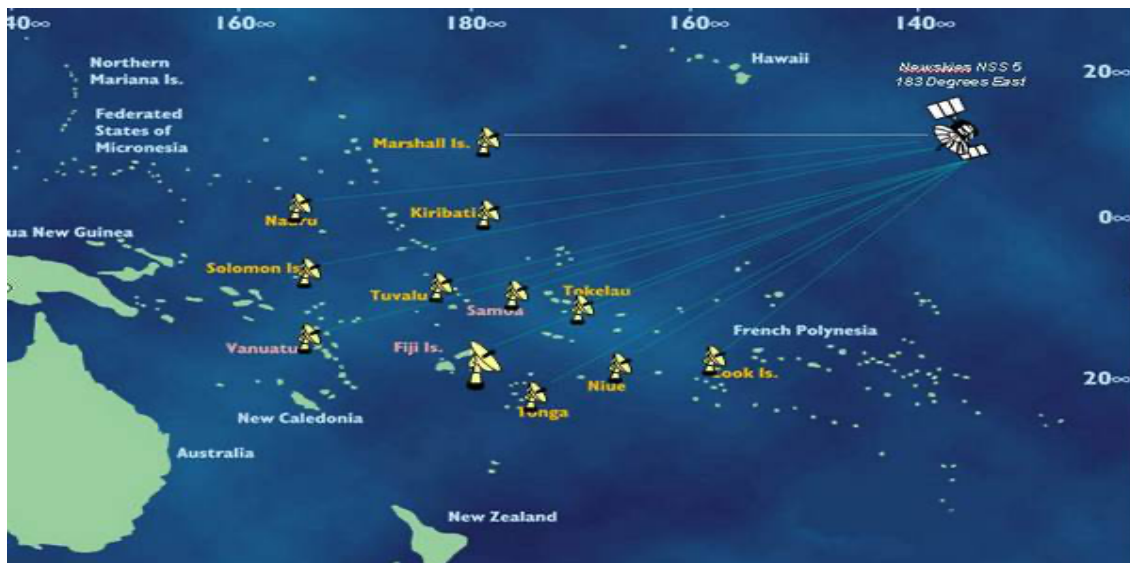
Figure 1. USP connectivity: Moodle (The University of the South Pacific 2015)

The Rationale of the Study

Research on students' demographic factors and their Moodle logs and academic achievements have been carried out at the degree and postgraduate levels. Such study has not been carried out in pre-degree programs (Year 13 equivalent) in the Pacific. It is crucial to know if students at this level have similar factors affecting their interaction on the Moodle page or their academic achievements. Therefore, the following research questions framed this study:

Q1: Do the demographic factors influence students' Moodle Logs on the LLFXX Moodle page?

Q2: Do the demographic factors influence students' academic achievements in LLFXX?

Literature Review

Moodle plays a crucial role in the education system in the 21st century. It facilitates both synchronous and asynchronous learning (Karishma, Raghuwaiya and Lingam, 2023) and ensures that activities on Moodle are carried out without difficulty (Simanullang and Rajagukguk 2020). Moodle also enables developers to accommodate for individual needs as it connects enormously with several web-based resources permitting developers creativity and flexibility (Kotzer and Elran 2012).

There are many factors that affect interaction on Moodle. While the gender of the students has no effect on their interaction with Moodle, it does affect their willingness to use computers; however, male learners are more accommodating to new technologies than females (Gunduz and Ozcan 2017). The age of the students may also influence Moodle acceptance (Saleem, Al-Saqri and Ahmad 2016, Aristovnik, et al. 2017). The experience of the teaching staff may be another factor that drives Moodle's acceptance and adoption (Saleem, Al-Saqri and Ahmad 2016). Lack of infrastructure (Singh, Pathak and Naz 2009), various learning styles of students (Gulden 2013), their social influence (Aliyu, Arasanmi and Ekundayo 2019), and knowledge of using computer-based teaching methods (Nisbet 2004) vastly contribute to interaction on Moodle.

In addition to this, Studies have been carried out to find the influence of demographic factors and students' performance. Students' IT self-efficacy should not be taken as a strong predictor of students' academic achievement (Abulibdeh and Hassan

2011). The results reveal that gender affiliation correlates with overall performance but does not affect the selection of training materials (Zhang, Ghandour and Shestak 2020). Learning analytics factors were not related to, nor could they predict student academic performance (Strang 2016). Studies have shown that students' demographic factors may or may not affect students' Moodle logs and their academic achievements.

Methodology

A quantitative research method has been employed to collect data for this study. The Blended mode students enrolled in LLFXX were given the information sheet and consent form to fill in. 80 Blended mode students gave consent to participate in the study. These 80 students were based at the Laucala campus (main campus) of the USP. They were enrolled in the researcher's sandbox page on Moodle. A questionnaire was uploaded on this Moodle page for the participants to fill out. The demographic details were extracted from here. The Moodle Logs on the LLFXX Moodle page were extracted from the LLFXX Moodle page and the result Excel sheet gave details of students' academic achievement (marks).

The Spearmen's Rank Correlation Coefficient Test in SPSS was used to analyze the data from the Moodle page to find a correlation between students' demographic factors and their academic achievements and Moodle Logs. The data from Excel was used to derive the non-verbal texts.

Results

The data collected from the questionnaire on LLFXX students' demographic factors have been analyzed below in the non-verbal texts.

Demographic Factors

The demographic factors that were studied were the age, gender, program of study, and time at the USP of the LLFXX students.

Age
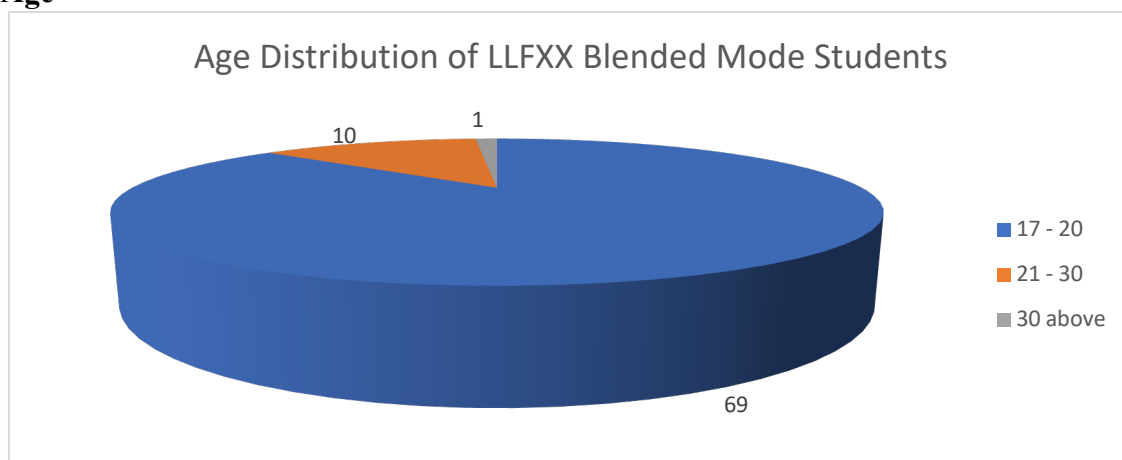
Figure 2. Age distribution of LLFXX Blended mode students

Figure 2 shows the age distribution of LLFXX Blended mode students. A total of 80 Blended mode students participated in the study. Most of the LLFXX Blended mode

students (69 students) were between the age of 17-20 years, and 10 students were between the age of 21-30 years. Only 1 Blended mode student was above 30 years old.

Gender
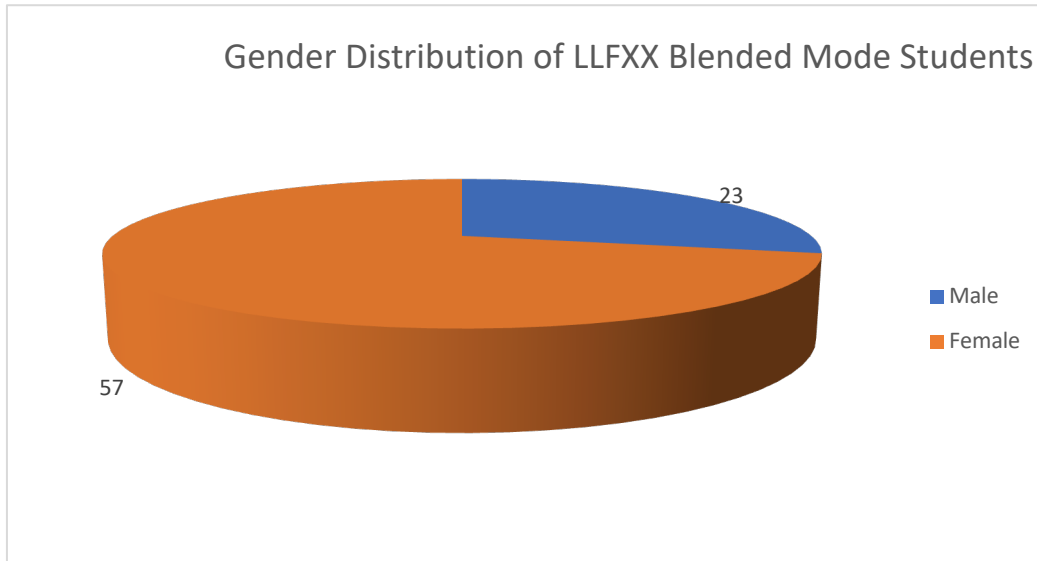
Figure 3. Gender distribution of LLFXX Blended mode students

Figure 3 shows the gender distribution of the LLFXX Blended mode students. Of the 80 students, more than half of the students (57 students) were females. Less than one-third of the total students; 23 students, were males.

Program of the Study
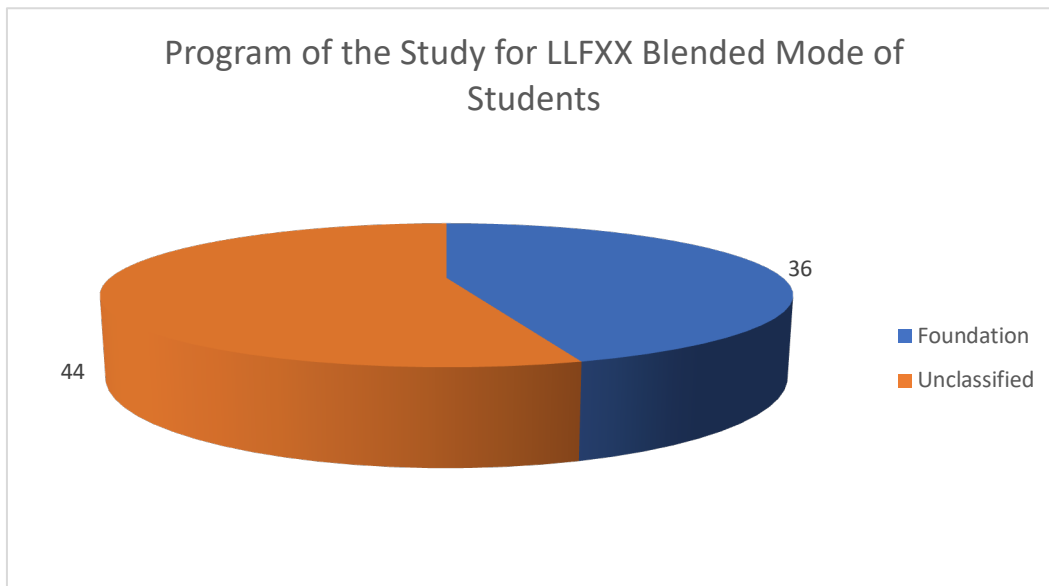
Figure 4. Program of study of LLFXX Blended mode students

Figure 4 shows LLFXX Blended mode students' choice of program. Full Foundation students take eight pre-degree courses. 36 of the LLFXX Blended mode students are enrolled in the Foundation program. The unclassified students are bridging students. They are enrolled in a few (either 1 or 2) pre-degree courses before they can be fully enrolled

in the degree program. 44 of the students who participated in the research are enrolled in the unclassified program.

Time Spent in the USP
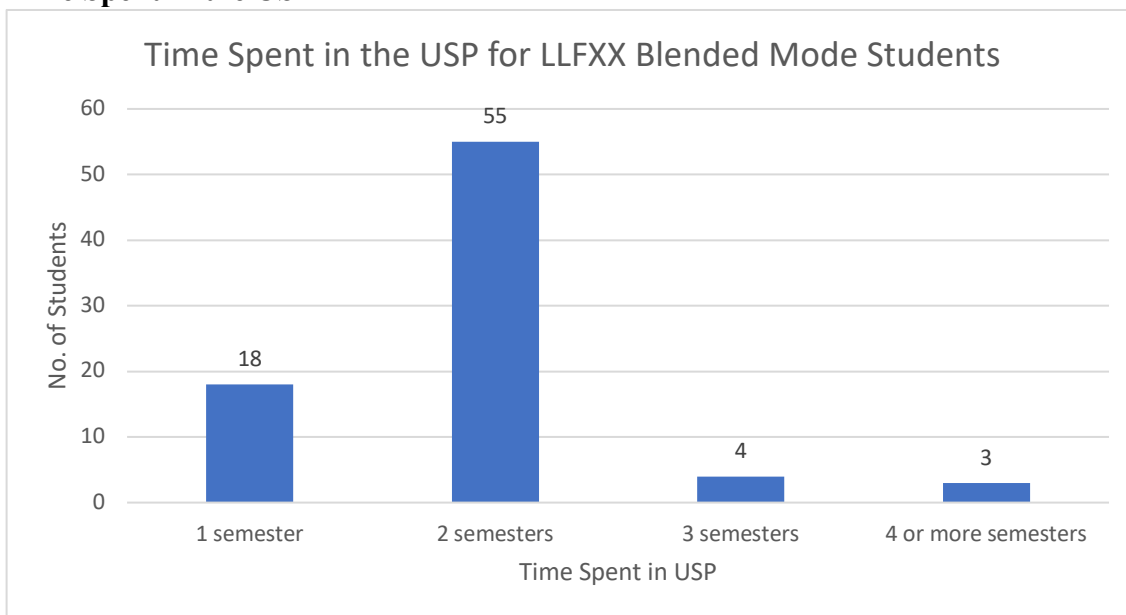
Figure 5. Time spent in USP for LLFXX Blended mode students

Figure 5 displays the time spent by the LLFXX Blended mode students in the USP. The greatest number of students (55 students) had spent 2 semesters in the USP. Additionally, 18 students had spent 1 semester in the USP. Three semesters were spent by 4 students and 4 or more semesters were spent by 3 students.

Spearmen's Rank Correlation Coefficient Test

The Spearmen's Rank Correlation Coefficient Test was used to analyze the correlation between the students' demographic factors and the Moodle logs and academic achievements. For this study, it was decided that $\alpha = 0.005$ (p-value). The hypothesis for this test was as follows:

Ho: There is a correlation between students' demographic factors and their Moodle logs and academic achievements.

Ha: There is no correlation between students' demographic factors and their Moodle logs and academic achievements.

Table 1. Results of Spearmen's Rank Correlation Coefficient Test of LLFXX students' demographic factors and their Moodle Logs

Factors influencing Moodle Logs	p-value
Age	0.093
Gender	0.413
Program of study	0.096
Time at the USP	0.793

Table 1 shows the results of the Spearmen's Rank Correlation Coefficient Test results for LLFXX students' demographic factors and Moodle logs. The p-value of all the demographic factors was > 0.05 and was statistically insignificant. α = 0.093 for LLFXX students' age distribution. The gender distribution of the LLFXX students had α = 0.413. α = 0.096 for the LLFXX students' program enrollment. The LLFXX students' time at the USP had α = 0.793. therefore, there was no correlation between students' demographic factors (age, gender, program, and time at USP) and their Moodle logs.

Table 2. Results of Spearmen's Rank Correlation Coefficient Test of LLFXX students' demographic factors and their academic achievements

Factors influencing Marks	p-value
Age	0.426
Gender	0.210
Program of study	<0.001
Time at the USP	0. 935

Table 2 shows the results of the Spearmen's Rank Correlation Coefficient Test results for LLFXX students' demographic factors and academic achievement. The p-value for the demographic factors (age, gender, and time at the USP) was > 0.05. α = 0.426 for the age distribution of the LLFXX students. The gender distribution of the LLFXX students α = 0.210. α = 0.935 for the LLFXX students' time at the USP. These students' Spearmen's Rank Correlation Coefficient result was statistically insignificant. However, α = <0.001 for the LLFXX students' program of study. The result is statistically significant for this factor (Program of study). There is a correlation between students' program of study and their academic achievement.

Discussion

The study looked at the LLFXX students' demographic factors, their Moodle logs, and academic achievements. The first research question looked at the demographic factors that influence students' Moodle Logs on the LLFXX Moodle page. The demographic factors that were studied were age, gender, program of study, and time at the USP. Spearmen's Rank Correlation Coefficient Test showed that the results are statistically insignificant (null hypothesis) as α > 0.05 for these demographic factors (Table 1). Age had α = 0.093, gender α = 0.413, the program of study α = 0.096, and α = 0.793 for the time at the USP. This shows that there was no correlation between these demographic factors and their Moodle logs.

This shows that the age, gender, program of study, and time at the USP do not determine how many times a student logs in to Moodle or interacts with their course Moodle page. A student will log on to their Moodle page for their study purposes or when the need arises for this.

The second research question studied the demographic factors that influence the LLFXX students' academic achievements. The result was statistically insignificant (null hypothesis) for three demographic factors (age α = 0.426, gender α = 0.210, and time at the USP α = 0.935) (Table 2). This shows that there was no correlation between age, gender, and time at the USP and students' academic achievement. However, the program choice had a statistically significant (alternative hypothesis) result as α = <0.001 (Table 2). Since the p-value is < 0.05, there is a correlation between LLFXX students' program of study and their academic achievement.

The academic achievements of LLFXX students are influenced by their program of study. This means that students' enrollment in the Foundation program or the Unclassified program influences their academic achievement (marks). The students who are enrolled in the Unclassified program need to successfully complete a few courses before they can enroll in the degree program. Therefore, they need to strive to attain good marks in the LLFXX.

Students enrolled in the Foundation program are usually competing for scholarships and healthy grades. Thus, their marks would also be good due to their hard work and focus on getting good grades.

In contrast, being a male or female or the amount of time one has spent at the USP does not guarantee their academic achievements (marks). Most of the students are 17-20 years old (Figure 2). Some of these students can get high, average, or low marks. Hence, what marks they score is not dependent on their age but more on their hard work and compatibility with their program of study (Table 2).

Conclusion

The study was conducted on the correlation between students' demographic factors (age, gender, program of study, and their time at the USP) and their Moodle logs on the LLFXX Moodle page, as well as their academic achievements. There was no correlation between the demographic factors and their Moodle logs on the LLFXX Moodle page. Furthermore, there was no correlation between three demographic factors (age, gender, and their time at the USP) and their academic achievements in LLFXX. However, there was a correlation between the LLFXX students' program of study and their academic achievements ($\alpha = <0.001$).

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Stabilization Function of Public Finances: Implementation of Instruments in Conditions of Socio-Economic Crises

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ABSTRACT: In the years 2020–2022, there was a significant slowdown in economic processes. The instability of macroeconomic factors necessitated efforts by public finance sector institutions to limit them. There were anti-crisis and stabilization measures that were supposed to lead to a return to the path of sustainable development. The aim of the paper is to identify the scope and possibilities of using stabilization instruments within the public finance sector and limiting the negative effects of crisis phenomena. As part of stabilization activities, targeted programs have already been launched, both on the scale of individual countries and internationally in the European Union, within the International Monetary Fund, and by other public entities. The scope of activities indicates an increased involvement of public resources in the social and economic spheres. Crisis phenomena indicate the advisability of using various stabilization instruments to reduce negative trends in the economy. The thematic scope of the study refers directly to current economic changes from a global perspective and also concerns selected national problems in Poland. It covers issues related to actions taken by public authorities to stabilize the economy in the face of changes caused by the above-mentioned crisis phenomena. Research indicates that the allocation of public resources to stabilize the economy may have other consequences, such as changing the structure of public expenditure to increase current expenditure, reducing the share of investment expenditure, and increasing the risk of excessive budget deficits and public debt, which may occur in the economy in the long term.

KEYWORDS: public finances, stabilizing the economy, public debt, budget deficit

Introduction

In market conditions, a typical phenomenon is the cyclical development of the economy, characterized by changes in the economic growth rate and, in some cases, a reduction in this growth rate, and in extreme cases, an absolute decline. It is commonly believed that the cyclical model of economic development is an inherent feature of economic changes taking place in the enterprise sector and is associated with changes in employment, weakening demand on wholesale and retail markets, price changes, a reduction in the quantity and value of loans, or a decline in sales. In a situation of deep recession, it is necessary for central banks to get involved and activate stabilizing mechanisms, including those from the public finance sector (NBER 2023).

It is important to distinguish the business cycle, which usually means short-term changes in economic activity lasting no longer than a few months, from the economic recession, which may be much more serious and prolonged in time. Therefore, business cycles are a commonly observed phenomenon, and depending on the stability of the broadly understood macroeconomic environment, they may occur with varying impacts. It is difficult to clearly indicate the causes of business cycle fluctuations in a market economy because they usually always have individual causes that ultimately lead to

revealing the typical course of the business cycle. A feature of the cycle is the observed significant decline in gross domestic product (GDP), enterprise and population income, and a decline in employment levels. Business cycles may have a diverse nature, and their duration may be short- or medium-term. In extreme conditions, the recession phase may lead to an absolute decline in gross domestic product, but this is not always the case. During the slow decline phase, we can only observe a decrease in the growth rate of gross domestic product as well as a slight deterioration of other indicators characterizing the situation in the economy. According to the definition of the National Bureau of Economic Research (NBER 2023), during the recession phase there may be a significant decline in economic activity, which may have an inter-sectoral dimension, and its duration may be significantly longer in relation to the course of the business cycle. Taking into account the recession phase in the business cycle, there are three main factors that determine the course of this phase. Therefore, it is necessary to indicate the depth of the changes taking place, the duration of the economic slowdown, as well as the causes and consequences of the recession.

Research has shown that in the past, we have had to deal with various factors causing economic deterioration. These include the oil shocks of the 1970s, the financial crisis of 2007–2009, the COVID-19 pandemic, the war in Ukraine, the energy crisis, the migration crisis, and the conflict in the Middle East. In the conditions of a global economy, the impact of crisis factors can easily be extended and transferred beyond the source of the conflict. In the conditions of an open world economy, we may experience not only the benefits of globalization but also the globalization of crisis phenomena, the primary sources of which may be local or regional. As a result, there were clear symptoms of recession: an increase in inflation, a slowdown and decline in the growth rate of GDP, and an increase in unemployment. The above-mentioned events Research conducted in 2022 showed that crisis phenomena caused recessions and disturbances in development processes around the world. The instability of macroeconomic factors resulted in the need to react in order to activate mechanisms limiting the effects of the recession. Many countries provided large-scale macroeconomic support to limit the economic impact, which contributed to the stabilization process in the economy and in financial markets (Jarosiński 2023, 241-55). Therefore, in times of crisis, stabilization policy should take the form of a strategy implemented by state governments and central banks, the aim of which would be to maintain the level of economic development, employment, and relatively small price changes (Jarosiński and Opałka 2021, 4136-42). Stabilization activities should therefore be understood as a set of instruments launched to limit the variability of macroeconomic factors that may have a negative impact on the economy and society.

In the short term, in order to stimulate the economy, governments should use one of the methods of increasing spending or reducing taxes, or reducing spending or raising taxes. Given the combination of events in 2020–2023, the first method of increasing expenditure and alleviating tax burdens was used more often. This provided a chance to stabilize the economy in the conditions of recession caused by crisis factors. Tightening monetary policy would be potentially harmful to the private sector because either interest rates could lead to reduced production, the liquidation of enterprises, or a reduction in employment in times of recession. Monetary policy should constitute the basis for further economic growth, leading to lower inflation, stabilizing consumption and investment, reducing the budget deficit, and, consequently, GDP growth. Public spending aimed at the short-term stabilization of enterprises, markets, and employment has become one of the instruments to influence the stabilization of the economy. The critical point of pushing public spending as part of increasing current budget spending is the risk of increasing the

budget deficit and then the risk of the occurrence or increase in public debt, which could have long-term negative budget consequences.

The aim of the study was to identify the effects of recession caused by crises and to identify the possibilities and scope of application of stabilization instruments within the public finance sector in terms of limiting the negative effects of crisis phenomena. While working on the text, research methods referring to scientific empiricism were used. During the research work, a query was made of various sources available in the form of databases developed by international organizations, statistical offices, central banks, and specialized non-governmental organizations. During the study, a critical analysis of the literature on the subject was made, which constituted the theoretical foundation of the research. This allowed us to prepare the final version of the paper in the form of a synthetic approach to the collected and grouped empirical material and to draw final conclusions.

Theoretical background of the study

The most important tasks of public administration in times of crisis are to pay attention to the development of basic measures and indicators illustrating economic changes. In particular, it is necessary to monitor changes in GDP, unemployment, the situation on financial markets, and monitor changes in the general level of consumer goods prices (CPI) and indirectly study the development of inflation rates in other markets. The scope of tasks is wide enough to require the activation of macroeconomic instruments, including the use of instruments of the public finance stabilization function (World Bank 2020, 2-6), which makes it possible to finance public tasks in the short term where there are difficulties in financing current tasks. This approach is a direct reference to the three defined functions of public finance (Musgrave and Musgrave 1989, 5-13). In cases of recession, the stabilization function was included in the package of measures alongside the allocation and redistribution functions. According to this approach, public authorities have the right to use public finance instruments to adjust the allocation of resources and shape economic policy goals (Machàček 2001, 285-88).

The proposed basic functions of public finances could be extended to include a fourth rescue function (Owsiak 2021, 15-29). This function could find wider application in violent crises, deep recessions, and situations where the functioning of the economy as a whole is threatened. The rescue function would apply where we were dealing with an emergency situation, when the self-regulatory mechanisms typical for stabilizing recession in the conditions of the business cycle could no longer be applied (Begg 2012, 1-4). Already in classical economics, the justified influence of administration on certain directions of activity was pointed out in order to eliminate potential problems related to the functioning of the state, the economy, and social problems (Smith 2007, 343-489). During the Great Depression, the search for remedies turned to public spending to mitigate the effects of crisis phenomena (Carabelli and Cedrini 2014, 107-30). Attention was drawn to the need to mobilize public spending, especially when it comes to generating effective demand, in order to reduce unemployment (Hayes 2005, 35-38) and improve the economic situation (Wright 1997, 31). In the following years, there was a further development of post-Keynesian economics, where the role of government spending in stabilizing the economy not only nationally but also in a broader international context was visible, for example, in relation to public aid offered as part of plans implemented in many places around the world. After World War II, neoliberal economic theories no longer definitively gave up taking into account the role of the government and public spending in stabilizing the economy in the face of business cycles and, in particular, deepening recessions (Tanzi 2008, 1-28).

Following the principle of stable development as one of the main goals of economic policy, it should be noted that the activation of stabilization mechanisms, including the stabilization function of public finances, should not raise any doubts. The primary goal of stabilizing the economy in market conditions is to improve the allocation of resources and, in times of recession, to protect the economy and society against negative effects. The COVID-19 crisis and other crisis phenomena have clearly demonstrated that taking stabilization measures within the public finance sector has become an important factor in protecting society and the economy, in particular against increasing unemployment, inflation, and a significant decline in the standard of living.

The use of instruments for the stabilization function of public finances requires the indication of sources of financing for unforeseen expenses and budget funds. A decline in production as well as sales restrictions always lead to a deterioration of budget revenues (Barrios and Rizza 2010, 6-8), which in times of crisis phenomena additionally deteriorates the possibilities of financing from budget funds, which in turn must lead to a verification of the official capabilities of public resources to stabilize the economy in times of crisis.

Although the functions of public finance are perceived on theoretical grounds as an important instrument of influence of the government or public administration on correcting socio-economic phenomena in times of crises, the application of the mechanisms of the stabilization function and the achievement of the expected results are strictly subordinated to the specific conditions and policies implemented in individual countries or regions (Adrian et al. 2023, 3-5). Usually, it is the governments of countries that face the dilemma of using monetary and fiscal policy instruments (Sacchi and Salotti 2015, 2-6), including initiating public spending. In the conditions of the COVID-19 crisis and its consequences, the most frequently observed use of monetary policy instruments consisted of searching for additional sources of financing the government's current tasks by incurring repayable liabilities in the form of external sources of financing (Jackson 2022, 3-8; Owsiak 2021, 15).

Results of empirical research and discussion

One of the goals of public administration is to strive to stabilize the economy by using available macroeconomic mechanisms. In conditions of acute crisis phenomena, such as the COVID-19 pandemic, the scope of influence of public administration at the government and local government levels turned out to be significant (Calderon and Kubota 2021, 1-26). The symptoms of the crisis occurred suddenly and involved the need to finance current tasks that had not previously been the subject of budget planning. This meant the need to increase short-term expenditure and financing for tasks related to counteracting the effects of the COVID-19 pandemic. The increase in current expenditure was associated with the occurrence of other unfavorable phenomena, such as a reduction in investment expenditure and a reduction in planned investment expenditure in the medium-term budget planning approach (Jarosiński 2022, 1209-13). The need to undertake public intervention in the face of the economic recession was associated with an increase in current budget expenditure, which could have resulted in an increase in the budget deficit and contributed to an increase in public debt (Jarosiński 2020, 100-03, Opałka 2020, 112). Therefore, there was a forced change in the structure of current budget expenditure, which had to trigger a number of further consequences. Table 1 presents research results illustrating ratio of budget deficits or surpluses to GDP in 2017–2024.

Table 1. Budget deficit/surplus in relation to GDP in selected
countries in 2017-2024 (in%)

Specification	2017	2018	2019	2020	2021	2022	2023	2024
Austria	-0.8	0.2	0.6	-8.0	-5.8	-3.2	-2.4	-1.3
Denmark	1.8	0.8	4.1	0.2	3.6	3.3	2.3	1.3
Finland	-0.7	-0.9	-0.9	-5.6	-2.8	-0.9	-2.6	-2.6
France	-3.0	-2.3	-3.1	-9.0	-6.5	-4.7	-4.7	-4.3
Germany	1.3	1.9	1.5	-4.3	-3.7	-2.6	-2.3	-1.2
Greece	0.6	0.9	0.9	-9.7	-7.1	-2.3	-1.3	-0.6
Hungary	-2.5	-2.1	-2.0	-7.5	-7.1	-6.2	-4.0	-4.4
Ireland	-0.3	0.1	0.5	-5.0	-1.6	1.6	1.7	2.2
Italy	-2.4	-2.2	-1.5	-9.7	-9.0	-8.0	-4.5	-3.7
Japan	-3.1	-2.5	-3.0	-9.1	-6.2	-8.0	-6.5	-4.4
Latvia	-0.8	-0.8	-0.6	-4.4	-7.1	-4.4	-3.8	-2.7
Lithuania	0.4	0.5	0.5	-6.5	-1.2	-0.6	-1.7	-1.4
Netherlands	1.4	1.5	1.8	-3.7	-2.4	0.0	-2.1	-1.7
Poland	-1.5	-0.2	-0.7	-6.9	-1.8	-3.7	-5.0	-3.7
Spain	-3.1	-2.6	-3.1	-10.1	-6.9	-4.8	-4.1	-3.3
Sweden	1.4	0.8	0.6	-2.8	0.0	0.7	-0.9	-0.5
United Kingdom	-2.4	-2.2	-2.2	-12.8	-8.1	-5.2	-3.2	-2.4
United States	-4.4	-6.1	-6.7	-14.9	-12.1	-4.0	-5.0	-5.5

Source: Own study based on AMECO data, https://dashboard.tech.ec.europa.eu/

The research showed that general government debt had already reached a significantly high level, but it varied across the countries surveyed. This had its reasons, taking into account the size of the examined country, economic potential, population, and employment, but the increase in public spending in all of these countries contributed to the increase in public debt, especially in 2022–2021. There was a slight improvement starting in 2022, but by 2023 and probably, according to the forecast for 2024, the values recorded in 2019, i.e., in the year preceding the recession caused by COVID 19, will not be achieved (Table 2).

Table 2. Public debt in relation to GDP in selected countries in 2017-2023,
projection for 2024 (in%)

Specification	2017	2018	2019	2020	2021	2022	2023	2024
European Union	83.6	81.5	79.3	91.7	89.5	85.3	83.4	82.6
Austria	78.5	74.1	70.6	82.9	82.3	78.4	75.4	72.7
Belgium	102.0	99.9	97.6	112.0	109.1	105.1	106.0	107.3
Denmark	35.9	34.0	33.7	42.2	36.7	30.1	30.1	28.8
Finland	66.0	64.8	64.9	74.7	72.6	73.0	73.9	76.2
France	98.1	97.8	97.4	114.6	112.9	111.6	109.6	109.5
Germany	65.2	61.9	59.6	68.7	69.3	66.3	65.2	64.1
Greece	179.5	186.4	180.6	206.3	194.6	171.3	160.2	154.4
Hungary	72.1	69.1	65.3	79.3	76.6	73.3	70.7	71.1
Ireland	67.6	63.0	57.0	58.4	55.4	44.7	40.4	38.3
Italy	134.2	134.4	134.1	154.9	149.9	144.4	140.4	140.3
Japan	231.3	232.4	236.4	258.7	255.4	258.9	255.1	252.3
Latvia	38.9	37.0	36.5	42.0	43.7	40.8	39.7	40.5
Lithuania	39.1	33.7	35.8	46.3	43.7	38.4	37.1	36.6
Netherlands	57.0	52.4	48.5	54.7	52.5	51.0	49.3	48.8
Poland	50.8	48.7	45.7	57.2	53.6	49.1	50.5	53.0
Spain	101.8	100.4	98.2	120.4	118.3	113.2	110.6	109.1
Sweden	41.4	39.5	35.5	39.8	36.5	33.0	31.4	30.7
United Kingdom	86.6	86.1	85.5	105.6	105.9	101.0	99.4	99.1
United States	105.2	107.0	108.5	131.8	127.0	123.4	121.8	122.8

Source: AMECO Online (2023)

The deterioration of the global macroeconomic situation was not only related to the pandemic but was also caused by the changing conditions of the global macroeconomic environment and regional crises. In the conditions of an open economy, the transfer of various factors influencing economic and social processes occurs relatively easily. Therefore, starting in 2019, the situation in the public finance sector deteriorated significantly, which was caused by indirect factors, the need to undertake various interventions, especially when it comes to current expenses, and, as a consequence, the need to obtain funds to finance tasks from sources outside the budget in the form of loans, credits, and bond issues.

Taking into account the Consumer Price Index, it should be noted that starting in 2020, a significant and sometimes even sudden increase in the value of this measure was observed. The situation in countries around the world was varied, and it is difficult to identify any general patterns. It was the significant increase in prices of goods constituting the basket of consumer goods that made it necessary to activate stabilization mechanisms that were supposed to alleviate the effects of the economic recession caused mainly by the COVID-19 pandemic. If we look at CPI from the point of view of various economies and regions of the world, we will notice that an increase in CPI was recorded in all European Union countries, which on average in 2021 compared to 2020 amounted to 2.9%, as well as in the United States, Asian countries, and others. The changes varied in individual European Union Member States. High short-term price increases were recorded in Lithuania, Hungary, Ireland, and Italy. In some countries, the price increase was not so significant, although from the point of view of sustainable development and the inflation target set by central banks, the CPI level was too high (Table 3).

Table 3. Consumer Price Index (CPI) in selected countries in 2017-2023 (September)

Specification	2017	2018	2019	2020	2021	2022	Jan-2023	Sep-2023
European Union	1.6	1.8	1.4	0.7	2.9	9.2	10.0	4.9
Austria	2.1	2.0	1.5	1.4	2.8	8.5	11.2	6.0
Canada	1.6	2.3	1.9	0.7	3.4	6.8	5.9	3.8
Denmark	1.1	0.8	0.8	0.4	1.9	7.7	7.7	0.9
Finland	0.8	1.1	1.0	0.3	2.2	7.1	8.4	5.5
France	1.0	1.9	1.1	0.5	1.6	5.2	6.0	4.9
Germany	1.5	1.7	1.4	0.1	3.1	6.9	8.7	4.5
Greece	1.1	0.6	0.3	-1.2	1.2	9.6	7.0	1.6
Hungary	2.3	2.9	3.3	3.3	5.1	14.6	25.7	12.2
Italy	1.2	1.1	0.6	-0.1	1.9	8.2	10.0	5.3
Japan	0.5	1.0	0.5	-0.0	-	-	-	-
Latvia	2.9	2.5	2.8	0.2	3.3	17.3	21.5	3.3
Lithuania	3.7	2.7	2.3	1.2	4.7	19.7	20.0	3.7
Netherlands	1.4	1.7	2.6	1.3	2.7	10.0	7.6	0.2
Poland	2.0	1.7	2.3	3.4	5.1	14.3	16.6	8.2
Spain	2.0	1.7	0.7	-0.3	3.1	8.4	5.9	3.5
Sweden	1.8	2.0	1.8	0.5	2.2	8.4	11.7	6.5
Türkiye	11.1	16.3	15.2	12.3	19.6	72.3	57.7	61.5
United Kingdom	2.6	2.3	1.7	1.0	2.5	7.9	8.8	6.3
United States	2.1	2.4	1.8	1.2	4.7	8.0	6.4	3.7

Source: OECD (2023) data.oecd.org

It should be emphasized that the CPI only reflects changes in the prices of consumer goods, i.e., those goods that directly affect the standard of living of residents, so it is not an indicator illustrating the general level of inflation in the economy. This is not an indicator

characterizing the situation in the enterprise sector; however, taking into account the changes taking place, it should be emphasized that stabilization actions by state governments, including as part of the stabilization function of public finances, have become a necessity. It is worth mentioning here. In Turkey, where the CPI reached a particularly high level, this situation continued in 2023, and, according to the data presented, until January 2023, the decline was insignificant. We were therefore dealing with a still-high CPI index. The situation improved in the following months of 2023, and by September 2023, many European Union Member States and beyond saw a clear decline in the value index. These changes were probably the result of earlier intervention and economy-stabilizing actions, as well as protective actions that were intended to protect enterprises and the population against a decline in the standard of living.

When it comes to the interest rate policy of central banks in 2019-2023, there was a diversified approach to the use of the interest rate instrument. In highly developed countries, they were relatively low. Attention should be paid to the European Central Bank, which kept interest rates at 0.00 until mid-2020. Interest rates in the United States were kept low and until January 31, 2022, they were at a low level close to zero. Both in the EU euro zone and in the United States, interest rate increases were recorded from mid-2022, which was due to the need to take stabilization measures. The data included in Table 4 indicate that central banks used diversified interest rate policies when it comes to actively engaging in stabilizing the economy. The delay in the introduction of interest rate increases in the United States was probably related to the desire to postpone the risk of an increase in inflation, which was already showing an upward trend.

Table 4. Central bank policy rates in selected countries in the years 2019-2023

Specification	Canada	Switzer-land	China	United Kingdom	Hungary	Japan	Poland	Türkiye	United States	Euro area
31.12.2019	1.75	-0.75	4.15	0.75	0.90	-0.10	1.50	12.00	1.63	0.00
31.10.2020	0.25	-0.75	3.85	0.10	0.60	-0.10	0.10	10.25	0.13	0.00
31.01.2021	0.25	-0.75	3.85	0.10	0.60	-0.10	0.10	17.00	0.13	0.00
31.12.2021	0.25	-0.75	3.80	0.25	2.40	-0.10	1.75	14.00	0.13	0.00
31.01.2022	0.25	-0.75	3.70	0.25	2.90	-0.10	2.25	14.00	0.13	0.00
31.05.2022	1.00	-0.75	3.70	1.00	5.40	-0.10	5.25	14.00	0.88	0.00
30.06.2022	1.50	-0.25	3.70	1.25	7.75	-0.10	6.00	14.00	1.63	0.00
31.08.2022	2.50	-0.25	3.65	1.75	11.75	-0.10	6.50	13.00	2.38	0.50
31.10.2022	3.75	0.50	3.65	2.25	13.00	-0.10	6.75	10.50	3.13	1.25
28.02.2023	4.50	1.00	3.65	4.00	13.00	-0.10	6.75	8.50	4.63	3.00
30.04.2023	4.50	1.50	3.65	4.25	13.00	-0.10	6.75	8.50	4.88	3.50
30.06.2023	4.75	1.75	3.55	5.00	13.00	-0.10	6.75	15.00	5.13	4.00
31.07.2023	5.00	1.75	3.55	5.00	13.00	-0.10	6.75	17.50	5.38	4.00
31.08.2023	5.00	1.75	3.45	5.25	13.00	-0.10	6.75	25.00	5.38	4.25
30.09.2023	5.00	1.75	3.45	5.25	13.00	-0.10	6.00	30.00	5.38	4.50

Source: Bank for International Settlements (BIS 2023)

A similar situation was observed in the United Kingdom, Switzerland, Canada, and Japan, where interest rates have been negative since 2019. Some countries decided to raise interest rates relatively early in order to stabilize unfavorable phenomena in the economy. This was related to an attempt to limit inflation and the active involvement of central banks in stabilization activities.

In Poland, in the years 2017–2020, there was a quite rapid increase in the prices of consumer goods and services (CPI). Despite the crisis phenomenon, GDP per capita remained at a fairly stable level, and even starting in 2021, an increase in the value of the measure was recorded. The inflation premium was also important here, as due to price increases, the nominal value of GDP was also characterized by increases. It can be

assumed that part of the GDP growth had real economic reasons, while part of it resulted from inflationary price increases.

During the crisis, Poland managed to keep unemployment at a relatively low level. In the period in question, there was an absolute decrease in registered unemployment. However, it was not possible to maintain the budget deficit of general government institutions at a stable level. In 2020, it increased significantly, but in subsequent years, a reduction in the budget deficit in relation to GDP was observed (Table 5).

Table 5. Selected macroeconomic indicators in Poland in 2017-2022

Specification	2017	2018	2019	2020	2021	2022
Price growth rate of consumer goods and services, %	2,0	1.6	2.3	3,.4	5.1	14.4
GDP per 1 mk thou. euro	12.1	13.0	13.9	13.7	15.1	17.4
Unemployment in %	6,6	5,8	5,2	6,8	5,8	5,2
Debt of the general government sector, in % of GDP	50,8	48,7	45,7	57,2	53,6	49,3
General government deficit/surplus, in % of GDP	-3.8	-4.2	-0.7	-6.9	-1.8	-3,7
Share of private investments in total investments, in %	69.7	64.4	66.3	63.8	65.0	-

Source: Own study based on: Macroeconomic Data Bank (BDM 2022);
and https://dashboard.tech.ec.europa.eu

When it comes to changes in interest rates in Poland, it is worth noting that until 2020, the basic interest rates were stable with a decreasing trend, but starting in 2020, there was an increase in the value of the basic interest rates, which reached its maximum in 2022 and partially in 2023. Starting in September 2023, a gradual reduction in base interest rates was recorded in Poland, which is good market information when it comes to further interest rate policy and monetary policy (Figure 1).

Figure 1. Basic interest rates in Poland in 2015-2023
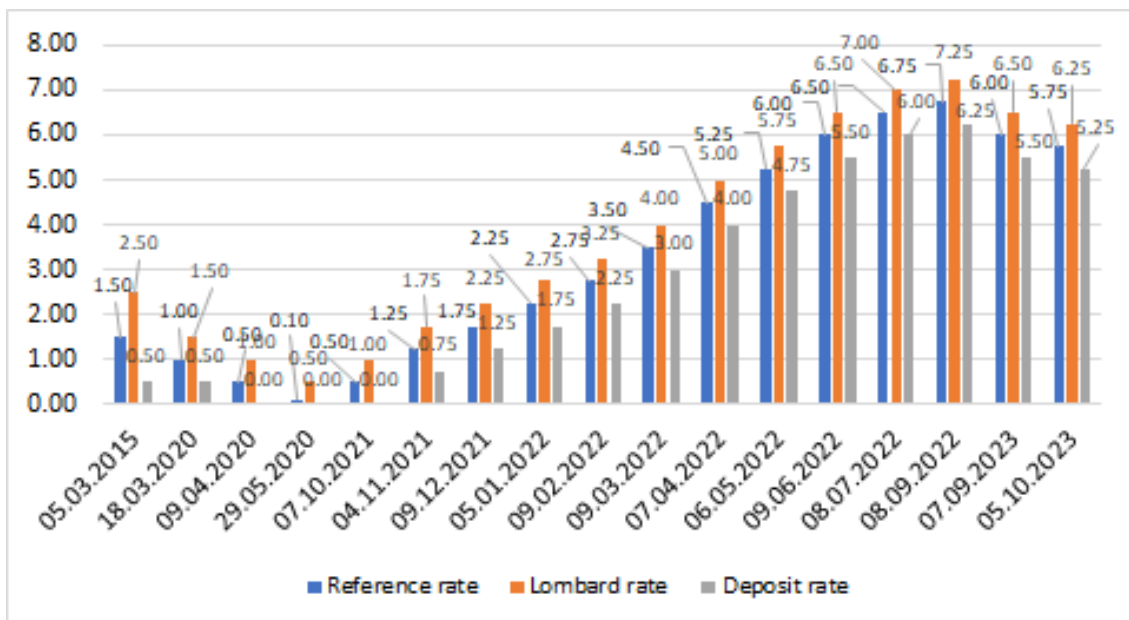
The presentation indicates that the crisis phenomenon in Poland necessitated multiple increases in base interest rates, mainly due to rapidly developing inflation, but interest rates have stabilized since mid-2022. In the following months of 2023, a gradual decrease in their value was recorded. This was in line with the central bank's interest rate policy and monetary

policy, according to which public authorities sought to stabilize the economy, in particular to limit excessive inflation.

Stabilization activities of the public finance sector

In 2020, it became clear that the scale of the crisis and the economic recession caused by the COVID-19 pandemic took on significant dimensions that no one could have predicted. In 2020, GDP decreased by 6.7% compared to the forecast values, but this concerned the global economy. In many countries, the situation was much more difficult, with significantly greater declines in GDP. Stabilization activities took place in various ways. On the one hand, European Union member states took individual adjustment actions in line with the current needs of the economy and society, and at the same time, coordinated actions emerged within the European Union institutions. As far as the scope of stabilization interventions by the European Union for the benefit of the Member States is concerned, we were dealing here with large-scale activities. The actions were legally supported in the European Commission document "Temporary Framework for State Aid Measures to Support the Economy in the Current COVID-19 Outbreak" (European Commission 2020). The document contains information on directions for action in the field of public health and rules of conduct in economic matters. A proposal of various stabilization programs was prepared, which included loan moratoriums, public guarantees, public loans and direct subsidies, tax deferrals, tax reliefs, and support for loan insurance. Table 6 presents the characteristics of activities in this area in 2020. The stabilization programs covered a total amount of over EUR 1.5 billion, which improved the situation of enterprises and the population. The most important and largest part were moratoriums, public guarantees, as well as direct subsidies and tax deferrals. This had an impact on the situation in terms of the value of support in relation to GDP (Table 6).

Table 6. Size and uptake of stabilization programs (September 2020)

Specification	Total uptake, in bn EUR	Total size announced in bn EUR	Total uptake (percentage of 2019 GDP)	Total size announced (percentage of 2019 GDP)	Total uptake (percentage of total loans)	Total size announced (percentage of total loans)
Moratoria	838.0		5.0		5.4	
Public guarantees	435.0	1580.0	2.6	9.5	2.8	10.2
Public loans	66.0	57.0	0.4	0.3	0.4	0.4
Direct grants	112.0	327.0	0.7	2.0	-	-
Tax deferrals	77.0	170.0	0.5	1.0	-	-
Tax relief	13.0	75.0	0.1	0.4	-	-
Public support for credit insurance	n. a.	227.0	n. a.	1.4	-	-
Total	1541.0		9.2		-	-

Source: European Systemic Risk Board (ESRB 2021)

Currently, there is a need to continue anti-crisis measures and conduct stabilization activities that could lead to a return to the path of sustainable development. As part of stabilization activities, various targeted programs continue to be launched and financed, both on the scale of individual countries and internationally, such as in the European Union under the "National Recovery and Resilience Plans" and under the International Monetary Fund, the World Bank, and other international entities. The scope of activities clearly indicates the increased involvement of public resources in the economic and social spheres.

The use of instruments of the stabilization function of public finances is visible and has become a necessity in view of the set economic goals. An important issue is the assessment and stabilization of the situation in developing countries, where the possibilities of financing stabilization policies are limited. In many emerging markets and developing economies (EMDEs), the scope of changes introduced, despite the efforts of public authorities, is insufficient. Many developing countries have seen an increase in food prices due to the interruption of the supply chain, such as in Colombia, Ecuador, the Philippines, or Vietnam. Therefore, the global situation and the effects of the impact of crisis phenomena caused not only by the COVID-19 pandemic cannot be treated without taking into account the specificity of local conditions and the level of economic development. This dimension is particularly important when it comes to the possibilities of the application of stabilization mechanisms.

Also in Poland, a number of activities have been undertaken as part of the "Anti-Crisis Shield", which is a comprehensive package of government activities intended to counteract the effects of the COVID-19 pandemic and other phenomena, such as the growing immigration crisis. Therefore, it applies to activities in the following areas: entrepreneurs, employees, SMEs, health, financial institutions, and investments. Comprehensive activities are aimed at stabilizing socio-economic processes and activities for the benefit of the population, as well as activities aimed at supporting enterprises.

Conclusions

Crisis phenomena may have effects on the economy of varying scale and strength. In the years 2020–2023, a number of events were recorded that directly and indirectly influenced the course of socio-economic processes on a global scale in countries and regions. Due to the rapid changes in the economy, there is a need to look for effective methods that would mitigate the negative effects of crisis phenomena. It became necessary to draw attention to the possibilities of stabilizing the economy through the use of different instruments, including those in the public finance sector. Practice proves that over the years 2020–2023, in a period that included a number of negative social, economic, and political phenomena, it was necessary to activate mechanisms that allowed for the mitigation of the effects of this type of event. The scope of interventions, as well as the timing of their launch, varied significantly on a global scale. It is necessary to point out the individual policies of state governments and international organizations. The stabilization policy of central banks began to play an important role. In Europe, the European Central Bank, which shaped the financial policy in the euro zone, and the Federal Reserve System (FED) in the United States, as well as the policies implemented by other countries in the world, including Asian countries, chose their own path of reacting to the changes taking place, depending on their assessment of the situation. The difficulties have not ended yet, it is expected that the stabilization of the economy within the public finance sector will continue in the future.

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Context of Police Use of Deadly Force: Statistical Case Study on Officer and Civilian Demographics in Texas

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ABSTRACT: The Fourth Amendment authorizes the police to use force or deadly force. This statistical case study examined police officers' demographics and their use of deadly force in Texas. This case study aimed to investigate the number of incidents in Texas between 2020-2023 and compile police-civilian deadly force encounters. The data was collected from the Texas Attorney General's Office. The researchers provided data on the demographics of the deceased and the officers' demographics, including age, race, sex, and years of service in the department. The purpose of the study is two-fold: (1) to determine if there is a link between officers' demographic factors and their use of deadly force and (2) to ascertain the statistical odds of civilians' demographics killed by police during a consensual, investigatory, or arrest encounter. The officer and civilian statistics were compiled in four tables utilizing the odds ratio statistics and the confidence interval percentage. The sampling method employed for this study was convenience sampling. The sample size of the officers' statistics was 1,129 data points, and 727 data points for the civilians involved. The researchers are 95% confident that using deadly force encounters in Texas supports the Odds Ratio between peace officers and civilian demographics as presented in this study. The study's summation recommends that, if needed, police departments in Texas review and objectively evaluate their practices, policies, and procedures regarding police-civilian shooting incidents and their use of deadly force.

KEYWORDS: deadly force, officer shooting demographics, excessive force, violence, police use of force, order maintenance policing, police violence, police killings, use of force policy, police shooting, police-civilian shooting

Introduction

Police use of deadly force has been a topic of importance to social justice academics even before the recent influx of national attention on this subject. The statistical data obtained from the Texas Attorney General's Office provided substantial confidence to help generate this case study. The police use of deadly force is the highest level of force used and receives the greatest attention from the media, legislators, and, in some instances, civil and criminal courts. Moreover, high-profile police shootings nationwide have raised questions about racial disparities in officers' use of deadly force, generating public concern.

This study aims to go beyond surface-level demographics such as race, gender, and age to determine the psychological factors that influence deadly force decision-making at the hand of police officers. Officers' use of deadly force on suspects depends upon the suspects' use or attempt to use deadly force. This research will add more depth to current quantitative studies on the link between officer demographics and suspect demographics by underlining the need for policy and training for police officers to

better equip them for their public duties. In addition, this research aspires to act as the foundation for training modules for police officers to objectively make decisions that will ensure their safety while bringing suspects to justice through the judicial system.

Literature Review

Race and Lethal Force

A 2021 meta-regressive study analyzed police use of deadly force deaths from 1980 until 2019. The study included: (1) both firearm and non-firearm-related deaths with suspects, (2) state and ethnicity demographics, and (3) cross-referencing of three statistical databases. The study found that the mortality rate due to police violence in non-Hispanic black people from 1980 to 2019 was projected to be 3-5 times higher compared to non-Hispanic white people (Fatal Police 2021). While the nature of this study is strictly predictive, it does expose a disproportionate amount of police use of deadly force against blacks, further propagating systemic racism in America. Also, the continuation of the use of deadly force at the hand of police officers is further highlighted by the 1% conviction rate in 2017 for officers who had committed such crimes. In addition, the study determined over the same period that the mortality rate of non-Hispanic white people was 1-8 times higher (Fatal Police 2021).

The study does have some limitations that include the further breakdown of the Hispanic race demographic. A Menifield, Shin, and Strother study determined that the proportion of Hispanics killed in relation to the population share was just over a 1:1 ratio (2018). This study contrasted the 2021 study in formulating a regression model to include variables such as population share if the victim was armed, violent crime rate, and median income by zip code. The findings of this study suggest that white officers do not kill black and Hispanic suspects at higher rates. However, the predominance of white officers is due to the overrepresentation in the police force. The findings of this in-depth study do diverge from previous literature, which indicates that black suspects were more likely to be armed than whites or Hispanics and less likely to have evidence posing an immediate public threat (DeGue, Fowler, and Calkins 2016).

More recent studies have shifted the focus of analysis to predictors of police use of deadly force during police-suspect interactions. The study determined that the most prevalent predictor of police use of deadly force is race/ethnicity. Furthermore, Mesic et al. (2018, as cited in Oramas, Terrill, and Foster 2022) found that a 10-point increase in the overall state racism index (i.e., segregation, economic disparity, employment disparity, incarceration gap, and educational attainment gap) increased the black-white disparity ratio of police shootings of unarmed civilians by 24%, with racial segregation alone increasing it by 67%. These findings dive deeper and shed light on the perpetuation of long-standing practices of systemic racism within the police force of racially segregated areas of America. Further research should explore the correlation between economic disenfranchisement, employment disparity, and educational attainment devoid of race to determine the possible economic effects on police use of deadly force.

Moreover, the study also found other predictors in police use of deadly force, which included: whether a suspect is armed or not, the number of shots fired by the officer, the lethality of the officer-involved shooting, police officers with a prior history of police misconduct, suspect history of mental illness, level of household gun ownership, and western states (Oramas et al. 2022). This study exhibits findings like a 2019 study that suggests that deadly encounters between the police and suspects increase when the suspect is armed in the encounter (Fridel, Sheppard, Zimmerman). Also, police lethal victimization is increased when the suspect is armed in the

encounter (Fridel, Sheppard, Zimmerman 2019). This study sheds light on the lack of research on police victimization in suspect encounters and whether this correlation influences the police use of deadly force.

Emotional/Psychological Responsiveness

A 2016 Finnish study sought to determine how a succinct training module would affect police officer use of deadly force decision-making. The study included 80 officers from the Federal Special Response Police Teams, with decision-making testing occurring pre-module and post-module. The officers all had previous police experience and were placed into two groups of scenarios: a drug house and a warehouse (Andersen and Gustafsberg 2016). Mann-Whitney U tests determined that officers in the training group scored statistically better than officers in the control group in both scenarios on a scale from 1 to 10. In addition, the confidence level was statistically significant between the control and the trained groups, with the trained group vocalizing that they felt more confident in their decision to shoot or not before entering the scenarios (Andersen and Gustafsberg 2016). This study exhibits the effectiveness of physiological training modules in police individual decision-making to shoot a suspect.

Furthermore, this study highlights the need for resources to be allocated to police training, focusing on prevention rather than the volatile post-interactive effects of police-suspect situational diffusion. Conversely, a British psychological study determined statistical significance between compromise between the suspect and the officer, maintaining officer safety, and knowing when to walk away between groups of officers employing these de-escalation methods and those not (Bennell et al. 2021). In addition, force mitigation and experience/education were statistically significant (Mangels, Suss, and Lande 2020). This study further emphasizes the role that experience and education play in the case-specific determination of when to use deadly force or call for backup. These findings were consistent with a Ta, Lande, and Suss study which determined that expert officers were more dominant during their experience and less emotionally aroused when compared to novice officers (2021). This displays expert officers' level of control in their interactions with suspects because they can pull from their previous situational experience. In addition, the expert officers could dominate their interaction with suspects because they were able to exude confidence from a plethora of experiential knowledge.

Police Stereotypes and Trust

Little research exists on the association between self-perception of officer stereotypes and public distrust. A (Trinkner, Kerrison, and Goff) study details the role that officers' perception of public-imposed stereotypes has on their decision to employ deadly force (2019). The study found that racial stereotypes were not as crucial a determining factor as one might think in the decision to use excessive force. On the other hand, self-legitimacy was determined to be the greatest predictor for officer justification of excessive force (Trinkner, Kerrison, and Goff 2019). This study shows that police officers sometimes usurp the authority of the force due to their self-belief in the importance of their role in society. This also shows that the need for deadly force is more subjective than one might think, and constant, consistent training can ensure less deviation from law and order.

Data and Methodology

Sampling/Characteristics of Participants

The sampling method employed for this study was convenience sampling. The sample size of the peace officer statistics was 1,129 data points and 727 data points for the suspects involved. The data was collected from the Texas Attorney General officer-involved statistics from 2020-2023 (Paxton). The officer-involved statistics included age, race/ethnicity, gender, and what the police-suspect encounter ended in (Paxton).

Presentation of Statistics

The four tables below display the odds ratio for civilian encounters with peace officers in Texas, resulting in injury or death based on officer race and civilian gender, civilian age, civilian race, and whether the civilian was armed or not. An odds ratio analysis was used for this data set to determine the outcome of a civilian encounter ending in injury or death based on civilian demographics and when they are exposed to a certain officer demographic (Ranganathan, Aggarwal, and Pramesh 2015). Table 1. displays the civilian gender odds ratio of a peace officer interaction resulting in injury or death for five race groups: Hispanic or Latino, Anglo or White, Black or African American, Asian or Pacific Islander, and Other. The confidence interval of 95% calculation is also displayed to confirm calculations. Table 2. displays the civilian age odds ratio calculations for four groups: 0-17, 18-29, 30-44, and 45-65. Table 3. displays the civilian race odds ratio calculations for the five race groups and 95% confidence interval calculations. Table 4. shows the odds of a civilian-peace officer interaction resulting in injury or death based on whether the civilian was armed or not along with a 95% confidence interval calculation.

Table 1: Civilian Gender Odds Ratio Statistics, a TAGO, 2020-2023

Civilian Gender Odds Ratio Statistics			
Variable	Officer Race	Odds Ratio of Civilian Interaction Resulting in Injury or Death	95% Confidence Interval
Civilian Gender: Male	Hispanic or Latino	0.85	(0.47, 1.54)
Civilian Gender: Male	Anglo or White	1.78	(0.97, 3.25)
Civilian Gender: Male	Black or African American	0.33	(0.15, 0.70)
Civilian Gender: Male	Asian or Pacific Islander	Undefined	N/A
Civilian Gender: Male	Other	Undefined	N/A
Civilian Gender: Female	Hispanic or Latino	1.18	(0.65, 2.15)
Civilian Gender: Female	Anglo or White	0.56	(0.31, 1.03)
Civilian Gender: Female	Black or African American	3.04	(1.42, 6.51)
Civilian Gender: Female	Asian or Pacific Islander	0	N/A
Civilian Gender: Female	Other	0	N/A

Table 2: Civilian Age Odds Ratio Statistics, a TAGO, 2020-2023

Civilian Age Odds Ratio Statistics			
Variable	**Officer Race**	**Odds Ratio of Civilian Interaction Resulting in Injury or Death**	**95% Confidence Interval**
Civilian Age: 0-17	Hispanic or Latino	2.19	(1.16, 4.10)
Civilian Age: 0-17	Anglo or White	0.56	(0.30, 1.06)
Civilian Age: 0-17	Black or African American	0.59	(0.14, 2.49)
Civilian Age: 0-17	Asian or Pacific Islander	0	N/A
Civilian Age: 0-17	Other	0	N/A
Civilian Age: 18-29	Hispanic or Latino	1.89	(1.49, 2.39)
Civilian Age: 18-29	Anglo or White	0.45	(0.36, 0.57)
Civilian Age: 18-29	Black or African American	1.78	(1.16, 2.73)
Civilian Age: 18-29	Asian or Pacific Islander	2.00	(0.74, 5.46)
Civilian Age: 18-29	Other	0.27	(0.03, 2.42)
Civilian Age: 30-44	Hispanic or Latino	0.82	(0.64, 1.04)
Civilian Age: 30-44	Anglo or White	0.89	(0.70, 1.12)
Civilian Age: 30-44	Black or African American	2.22	(1.34, 3.70)
Civilian Age: 30-44	Asian or Pacific Islander	Undefined	N/A
Civilian Age: 30-44	Other	2.25	(0.25, 20.22)
Civilian Age: 45-65	Hispanic or Latino	0.99	(0.76, 1.29)
Civilian Age: 45-65	Anglo or White	0.95	(0.74, 1.22)
Civilian Age: 45-65	Black or African American	1.41	(0.91, 2.20)
Civilian Age: 45-65	Asian or Pacific Islander	0.34	(0.08, 1.50)
Civilian Age: 45-65	Other	0.64	(0.07, 5.79)

Table 3: Civilian Race Odds Ratio Statistics, a TAGO, 2020-2023

Civilian Race Odds Ratio Statistics			
Variable	**Officer Race**	**Odds Ratio of Civilian Interaction Resulting in Injury or Death**	**95% Confidence Interval**
Civilian Race: Hispanic or Latino	Hispanic or Latino	2.74	(2.16, 3.49)
Civilian Race: Hispanic or Latino	Anglo or White	0.44	(0.35, 0.55)
Civilian Race: Hispanic or Latino	Black or African American	0.71	(0.46, 1.11)
Civilian Race: Hispanic or Latino	Asian or Pacific Islander	0.92	(0.35, 2.44)
Civilian Race: Hispanic or Latino	Other	0	N/A
Civilian Race: Anglo or White	Hispanic or Latino	0.50	(0.40, 0.64)

Civilian Race: Anglo or White	Anglo or White	1.92	(0.40, 0.64)
Civilian Race: Anglo or White	Black or African American	0.95	(0.62, 1.46)
Civilian Race: Anglo or White	Asian or Pacific Islander	0.96	(0.37, 2.54)
Civilian Race: Anglo or White	Other	0.91	(0.15, 5.49)
Civilian Race: Black or African American	Hispanic or Latino	0.67	(0.52, 0.87)
Civilian Race: Black or African American	Anglo or White	1.03	(0.81, 1.32)
Civilian Race: Black or African American	Black or African American	2.34	(1.53, 3.57)
Civilian Race: Black or African American	Asian or Pacific Islander	3.23	(1.22, 8.55)
Civilian Race: Black or African American	Other	0.55	(0.06, 4.97)
Civilian Race: Asian or Pacific Islander	Hispanic or Latino	0.41	(0.12, 1.47)
Civilian Race: Asian or Pacific Islander	Anglo or White	1.35	(0.48, 3.81)
Civilian Race: Asian or Pacific Islander	Black or African American	2.99	(0.83, 10.78)
Civilian Race: Asian or Pacific Islander	Asian or Pacific Islander	0	N/A
Civilian Race: Asian or Pacific Islander	Other	0	N/A
Civilian Race: Other	Hispanic or Latino	3.34	(0.30, 36.93)
Civilian Race: Other	Anglo or White	0.45	(0.04, 4.94)
Civilian Race: Other	Black or African American	0	N/A
Civilian Race: Other	Asian or Pacific Islander	0	N/A
Civilian Race: Other	Other	0	N/A

Table 4: Civilian Armed Odds Ratio Statistics, a TAOG, 2020-2023

Civilian Armed Odds Ratio Statistics			
Variable	**Officer Race**	**Odds Ratio of Civilian Interaction Resulting in Injury or Death**	**95% Confidence Interval**
Civilian Armed	Hispanic or Latino	1.23	(0.83, 1.82)
Civilian Armed	Anglo or White	1.24	(0.85, 1.80)
Civilian Armed	Black or African American	0.36	(0.21, 0.60)
Civilian Armed	Asian or Pacific Islander	0.85	(0.19, 3.76)
Civilian Armed	Other	Undefined	N/A

Note. **Texas Attorney General's Office (2020-2033; TAGO)**

Results/Discussion

Table 1 provides odds ratios (OR) and 95% confidence intervals from odds ratio logistic calculations. In terms of gender statistics, there were 704 males and 23 females. The highest odds ratio calculated based on civilian gender was a female civilian who encountered a Black or African American officer with an odds ratio of 3.04. On the other hand, the lowest odds ratio calculated was a male civilian who encountered a Black or African American officer with an odds ratio of 0.33. The encounter between the male civilian and the Asian and Other officer was undefined because the unexposed group (female gender) had zero encounters with these two race groups. Furthermore, the odds ratio of 0 was calculated for the odds of a female civilian encountering Asian or Other race officers because there were no encounters recorded for this gender/race combination between 2020-2023 in the State of Texas. Other significant gender-race encounters were between male civilians and Anglo or White officers (OR: 1.78) and female civilians and Hispanic or Latino officers (OR: 1.18).

Table 2 provides OR and 95% confidence intervals from odd ratio logistic calculations. ORs greater than one represents the positive association, while ORs less than one represent the negative association. The most positive association occurred between civilians aged 30-44 and other race peace officers, with an OR of 2.25. Conversely, the lowest OR calculated was for civilians aged 18-29 and other race peace officers, with an OR of 0.27. ORs of 0 were calculated for the interaction between civilians aged 0-17 and Asian and Other race peace officers. The OR was undefined for civilians aged 30-44 because of the absence of incidences between the unexposed civilian groups and the peace officers. Other significant age-race encounters were between ages 0-17 civilians and Hispanic or Latino officers with an OR of 2.19. Also significant were the encounter between civilians aged 18-29 and officers of Hispanic or Latino (OR:1.89), Black or African American (OR: 1.78, and Asian or Pacific Islander race (OR:2.00). Additionally, significant groups were civilians aged 30-44 and Black or African American officers (OR: 2.22). The last significant group was the encounter between civilians aged 45-65 and peace officers of Black or African American descent (1.41).

Table 3 lists OR and 95% confidence intervals from odds ratio logistic calculations for both civilian gender and peace officer gender. The highest odds ratio calculated was 3.34 for other race civilians encountering Hispanic or Latino officers. The lowest OR calculation was calculated to be 0.41 for the encounter between the Asian or Pacific Islander civilian and the Hispanic or Latino peace officer. Six race-race combinations were calculated at 0 OR: Hispanic or Latino-Other, Asian or Pacific Islander-Asian or Pacific Islander, Asian or Pacific Islander-Other, Other-Black or African American, Other-Asian or Pacific Islander, Other-Other. The Hispanic or Latino civilian group was also calculated to have a significant relationship with the Hispanic or Latino peace officer group, with an OR of 2.74. The Anglo or White civilian group was calculated to have a significant relationship between the Anglo or White peace officer group with an OR of 1.92. The Black or African American civilian group was calculated to have a significant relationship between three officer race groups: Black or Anglo or White (OR: 1.03), African American (OR: 2.34), and Asian or Pacific Islander (OR: 3.23). Lastly, the Asian or Pacific Islander civilian demographic was determined to have a strong relationship between the Anglo or White (OR: 1.35) and Black or African American (OR: 2.99) peace officer race groups.

Table 4 lists OR and 95% confidence intervals from odds ratio logistic calculations for armed civilians and peace officer race demographics. A civilian armed in a peace officer encounter they have the highest odds (1.24) of the encounter resulting in injury or death when encountering an Anglo or White peace officer. While on the

other hand, they have the lowest odds (0.36) of the encounter resulting in injury or death when encountering a Black or African American peace officer. The encounter between an armed civilian and a Hispanic or Latino peace officer was also significant, with an OR of 1.23.

Conclusion and Future Scope

The researchers are 95% confident that using deadly force encounters in Texas supports the Odds Ratio between peace officers and civilian demographics as presented in this research. This research offers an analysis of the role of officer race in civilian interactions that result in death or injury to the officer or the civilian. The results show that race categorization is a signifier that adds another component to the environment in which peace officers in Texas must make split-second decisions. This analysis underlines the intersection between civilian gender, age, race, and armed statistics and the effect peace officer race has on the social construct of possible racism presented by the left-wing media (Shrikant and Sambaraju 2021). On the other hand, this research provides a thorough empirical-based analysis using the facts. This study's findings fill the research gap, focusing on officer gender and training level statistics, but not the intersection between officer race and key civilian demographics (Mangels, Suss, and Lande 2020).

In Table 1 the researcher exhibits the odds of a male or female civilian encounter with police resulting in injury or death. Male civilians were determined to have the highest odds of injury or death when encountering a white officer. These findings call for further research in the field of thought to determine what psychological impact civilian gender has on the officers' reactions. In addition, a greater sample size of civilians and peace officers should be used in the research to clarify odds ratio statistics. On the other hand, male civilians were determined to have lower odds of a police encounter ending in injury or death when encountering a Black or African American peace officer. These interesting findings show that Anglo or White officers may see male civilians as more of a threat than Black or African American officers. This may be due to the social climate of today in which Black or African American officers are more hesitant to engage in excessive force due to police brutality incidents against their race—table 3. It also presents interesting findings that show higher odds of injury or death for a civilian with officers from their racial background except for Black or African American and Asian or Pacific Islander. Future research should focus on psychology's role in officers' minds and how they view race as a determining factor in using deadly force.

Table 4 shows that Anglo or White officers were determined to have to highest odds of injuring or killing an armed suspect, which may tell the signs of a hypersensitive reaction by Anglo or White peace officers or, on the other hand, better training. These statistics may offer a preliminary racial explanation as to civilian encounters resulting in injury or death; whether institutional or unconnected to racism, future research must explore the role race and gender have in police use of deadly force. Research on the effect of training on police use of deadly force in Texas with the component of officer demographics is a study that future researchers should explore. A Northwestern University study showed that training reduces complaints against police and negative sentiments toward them (Wood, Tyler, and Papachristos 2020). In addition, this research was also limited because the researcher did not explore the correlation or causation between officer experience and the police use of deadly force. Based on previous research, experience in the police force has allowed expert officers to employ de-escalation techniques, while novices do not do so (Mangels, Suss, and Lande

2020). The findings in Table 3 were supported by a Trinker, Kerrison, and Goff study on police officer self-legitimacy which determined that officers within their communities face the most racial stereotypes compared to other racial groups outside their communities (2019).

In Table 3, the odds for three racial groups were the highest within their racial community, suggesting negative racial perception or possible self-hatred within a specific racial community. Table 3 also shows the highest odds of civilian injury or death with all officer races amongst the Black or African American civilian group. These findings are consistent with a 2019 study that chronicled police use of deadly force from 1980-2019. The study found that Blacks were 3-5 times more likely to experience death at the hands of police when compared to White, Hispanic, and Indigenous peoples (Fatal Police 2021). Future research must explore the limitations of this study as to the psychological reason police officers choose to target Black or African American civilians. Interesting findings from a Menifield, Shin, and Strother study found that disproportionate use of police use of deadly force is a police officer problem and not a "White" police officer problem (2018). These findings suggest that improper police use of deadly force against Blacks or African Americans results from a fractured institution. These findings align with our findings from Table 3 because Blacks or African Americans did experience police use of deadly force at a higher rate than any other civilian race group.

This study presents an odd ratio analysis of police use of deadly force amongst civilians in Texas from 2020 to 2023. Still, the limitations of this study must be further discussed. Firstly, this study did not extrapolate data that reveals the rate at which specific civilian groups commit the crime. The findings of the disproportionate use of deadly force against Blacks or African Americans are one-sided in that this study did not use data that would reveal the rate at which Blacks or African Americans committed crimes compared to other civilian race groups. In addition, this study used a relatively small sample size for both the peace officer and civilian analysis. Furthermore, the results of the odds ratio calculations would be bolstered by a larger sample size. In summation, this research does advance the literature on–police use of deadly force by adding the officer demographic component to the research to challenge normative policies and biases in the policing of civilians in Texas.

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Determinants of Public Investment Effectiveness Evaluation in Unstable Macroeconomic Environment

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ABSTRACT: Investments in the public sector may be characterized by a lower sensitivity to macroeconomic changes since their implementation is linked to the need to achieve certain social goals, so these investments are undertaken and implemented even in deteriorating economic conditions. However, this does not mean that the course of investment processes in the public sector is stable in a changing macroeconomic environment. The constrained investment financing capacity in public sector units is increasingly problematic. The purpose of the presented paper is to identify the changing conditions affecting the scope and approaches to measuring the effectiveness of investment projects in the public sector, not only in monetary terms, but also in social aspects. The research findings presented in the paper point to the role of current socio-economic factors in shaping decision-making processes, as well as to the principles and criteria for evaluating the impact of public spending in a situation of unstable economic development. The study presents an analysis of available methodologies and performance evaluation indicators, along with the potential for adapting or expanding the range of possible analytical and organizational solutions. The study also includes examples of changes in investment activity in the public sector at different levels of competence.

KEYWORDS: public investment, effectiveness, macroeconomic factors

Introduction

The increased instability of the macroeconomic environment observed in recent years, including the need to respond to political, social and financial phenomena affecting the economy that are difficult to predict, may change the scope of the criteria for evaluating public investment projects in the direction of reducing the emphasis on maintaining a high level of efficiency. Among the important factors in this instability, one can point to changes in the level of public debt, inflation and interest rates, which have negative effects on the spending side of public investors. One of the already visible consequences is the increase in the prices of materials, resources and construction works and, as a result, the need to revise the original project assumptions. At the same time, unfavorable changes in the economy, resulting in the weakening of budget income streams of public sector entities, induce the search for effective methods and instruments for analyzing the efficiency of the use of public resources.

The paper aims to identify the changing conditions and principles of measuring the effectiveness of investment projects in the public sector. The research objective also entails analyzing the methodology and indicators used for assessing efficiency, as well as the conditions and applicability of selected analytical and organizational solutions.

Investments in the public sector may be characterized by lower sensitivity to macroeconomic changes, since their implementation is associated with the obligation to achieve certain social goals, and therefore even despite deteriorating economic conditions, such investments continue to be planned and implemented. However, this does not mean that

in a changing macroeconomic environment the course of investment processes and the scope of tasks undertaken in the public sector will maintain stability. Bearing in mind the changing conditions of the economic environment and the need to implement investment projects, from which public entities often cannot deviate, the paper refers to the need to increase knowledge in the area of performance evaluation, considered as an important element of the investment planning and evaluation process, which can be significantly affected by the aforementioned macroeconomic changes. Special attention was given to the formula of cooperation between the public and private sectors in the implementation of investment projects, which contributes to the utilization of the specific experience of these two sectors for increasing the efficiency of the use of public resources and improving the achievement of public goals.

Theoretical background

The role of the public sector in the market economy refers to the induction of factors that stimulate socio-economic development due to the nature of the public functions performed and the tasks assigned to it for the benefit of specific social groups (Kleer 2005, 9-12). Without going into a detailed consideration of the model of public sector functioning in the economies of different countries, it can be assumed that a common feature of public sector units is their involvement in many areas of investment activity, which largely affects changes in the conditions for the development of the economy in the short and long term (McCartney 2015, 62-74). Undertaking research on the financial dimension of public investment, on the one hand, prompts a focus on identifying appropriate sources of financing to secure the implementation of these investments. On the other hand, it should address the role of capital expenditures, considered as a development impulse on the scale of the national economy, or the regional dimensions of a country (Ocolisanu et al. 2022, 22-25). Furthermore, it should explore the efficiency of public spending from a macro perspective, relating this issue to methods of improving infrastructure management, to the correlation between the size of capital expenditures and obtaining economies of scale, and to the possibility of reducing the efficiency gap in public investment (Kapsoli et al. 2023, 13-14; Baum 2020, 37-42).

Crisis phenomena with varying causes and backgrounds can result in changes of a macroeconomic nature. The decline of the economy due to the occurrence of crisis phenomena can lead to changes in the income situation of public sector entities, but also to significant changes in the volume and structure of the sector's expenditures, and consequently to the abandonment of some planned investment scenarios (OECD 2019, 12-21). This means that under conditions of macroeconomic instability, there are impediments and limitations to the possibility of using the previously well-known assessment instruments of evaluation tools that would provide a basis for assessing the course of the entire life cycle of an investment project. Due to these very limitations of a macroeconomic nature, as well as relatively long investment cycles in the public sector, it may become difficult or even impossible to evaluate investment projects properly. It is also important to be aware of the difficulties, characteristic of public investment, concerning the direct measurement of investment effects in terms of social utility (Miłaszewicz 2014, 163-73; Satoła 2017, 292-93), and sometimes the problems of their immeasurability in monetary terms (Opałka and Jarosiński 2021, 4143-45). Therefore, it is highly important to select the appropriate evaluation tools and properly interpret the results obtained (Afonso et al. 2005, 326-35).

As Kasiewicz (2009, 53-62) and others point out (Manescu 2022, 11-21; Volkery and Ribeiro 2009, 1204-06), the range of available research methods shows considerable variation in terms of the proposals and solutions developed up to now. Generally, these procedures require creating the possibility of evaluating a given project formulated in variants, that is, differentiated in terms of certain specific features of its performance. In the conditions of a changing macroeconomic environment, both in the short term and in view of

the prolonged impact of negative crisis factors, carrying out a scenario analysis is a key element in reducing the risk of a failure in achieving the planned objectives of an investment project, just by expanding the range of boundary conditions that are taken into account *a priori*, already at the preparatory stage of such projects. This means that it is only under unstable macroeconomic conditions that scenario analysis leading to the formation of several variants for the same investment project can be a facilitating tool for the assessment of the project's effectiveness, as well as be an element that increases the feasibility of the planned project. A decrease in budget revenues does not automatically lead to a reduction in the volume of investment expenditures. Regarding the identified significant development needs, it may become necessary to search for additional sources of financing, e.g., from the private sector, in order to implement public investments and achieve the planned quantitative and qualitative effects (Quak 2018, 2-8).

In practice, it is proposed to compare variants of particular investment projects and select the project with the lowest possible cost of servicing of the inhabitant. In such a case, it is possible to use cost comparison methods, such as cost-effectiveness analysis (CEA) or related methods, where the cost of obtaining a unit of result in several different variants of projects is compared (Jarosiński 2021, 769-86; Lipkan et al. 2018, 258-59). Therefore, it is recommended to prepare instruments and tools for carrying out a scenario analysis of the planned investment project, which could be differentiated in this analysis in terms of the basic factors that are of significance to the public investor and the consumers of public services, such as health care or other types of services (Shepard et al. 2015, 3-13).

Differentiations as to the assessment of the effectiveness of investment results can also be analyzed with regard to their correlation with sources of financing for public investment. However, it is worth emphasizing that examples of research conducted in public sector units, using the methods of data envelopment analysis (DEA) and multiple regression, indicate the possibility of obtaining a wide range of information referring not only to the measure of the effectiveness of the results of investment activity itself, but also to the issue of financial autonomy and diversity in the types of territorial units and the availability of investment capital from individual sources of budget revenues as the factors significantly determining the level of effectiveness of public investment (Wojcik et al. 2019, 589-92; Zioło 2012, 253-310; Sekuła and Julkowski 2017, 220-31).

In the above context, the observation can be drawn that efficiency as a research issue and as a factor included in the decision-making process in practical terms, emerges very clearly in projects undertaken using the public-private partnership (PPP) formula. Therefore, it relates to the specific organizational form and the specific allocation of financial inputs and project risks. In the case of projects planned and implemented under the PPP formula, the issue of effectiveness takes a slightly different form. It should be noted that public-private partnerships involve both public entities, which, as a rule, are the initiators of projects, as well as private entities, which are entering such projects with a market-based attitude regarding profitability.

The profitability of investment projects undertaken in the form of PPP is evaluated in terms of providing a positive net benefit to the society, exceeding the benefit that would be achieved by using another form of implementation of the task (EPEC 2011, 12). Thus, it becomes necessary to perform profitability analyses of an investment project already at its preparatory stage. The methods of assessing profitability may be varied, in most cases they are based on the principles derived from the method of cost-benefit analysis (CBA), that is, the comparison of investment outlays with material effects, which often cannot be expressed in monetary units. This type of situation also provides an opportunity to conduct simulations between different solutions of an organizational and technical nature, which involve varied levels of capital expenditures and, as a result, also varied levels of costs and benefits of the services provided (European Commission 2014, 41-66, Svensson and Hultkrantz 2017, 49-

51). The setting up of a public-private partnership agreement and the subsequent preparation of an investment project under such a formula, assumes the achievement of a certain level of efficiency, and therefore a financial surplus in relation to the costs incurred. In this type of project, the private sector will be interested in a specified rate of return on financed investments in partnership with a public entity, which imposes some limitations on the material scope of the investment, and also determines the organizational process of preparing such investments.

Examples of systemic solutions, also proven in practical terms, can be indicated in the public sector in the UK, often referenced as a pattern for planning and implementation of investment programs using the PPP formula (UK government 2022, 11-32). The general principle applied there is that a project under the PPP formula can be evaluated as profitable provided that the cost of its implementation is lower than the best realistic project carried out individually by a public sector entity, the result of which will cover an identical or maximally similar scope of public utility. This methodology also includes the optional construction of a hypothetical investment project, reflecting a public project alternative to the PPP formula and considered as a public sector comparator (PSC) benchmark (EPEC 2021, 165-66). The general evaluation criterion is that the PPP project variant should outperform the PSC benchmark in terms of efficiency, taking into account the amount of capital expenditure, as well as operation and maintenance costs. However, it should be noted that the implementation of a project under the PPP formula, as a rule, involves the emergence of additional factors that affect its total cost (Asian Development Bank 2022, 20-26).

Analyses conducted as part of the PPP formula include various scenarios for the course of future economic conditions, but in view of instability of macroeconomic factors, the implementation of public investment projects may be carried out in extremely difficult conditions. Even if one assumes that for private entities such conditions would be the reason to abandon the investment process, however, with investments in the public sector, the possibilities for withdrawal or significant rescheduling of such investments are limited. What should be borne in mind is that investments in the public sector, due to their social and economic nature, should be implemented in advance of all other activities aimed at improving economic and social conditions. Therefore, in an unstable macroeconomic environment, it turns out that the use of project analysis and evaluation instruments becomes difficult and can cause problems of a decision-making nature, due to the low reliability of scenarios for the course of investment processes, as well as due to the increased risk of a funding shortage.

Results of empirical research and discussion

For the purposes of the study, the desk research method of statistical resources, the comparative analysis method and the critical literature analysis method were used. A search of the resources of the databases of Eurostat and AMECO (*Annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs*) was carried out, as well as studies and compilations of data available in the resources of Polish central government institutions. During the empirical part of the research, extensive statistical material was collected, but due to the adopted concept of the research, the time horizon presented in the text was reduced to the years 2010-2022, with the use of available forecasts until 2024. The applied timeframe made it possible to highlight the changes taking place in the economic environment, especially the deterioration of the situation of finances in the public sector due to the economic consequences of the crisis phenomena.

In a changing macroeconomic environment, new conditions are emerging and opportunities to evaluate the effectiveness of investments carried out in the public sector are changing. Considering the above phenomena, the study took into account the current socio-economic factors that can influence decision-making processes, as well as the principles and

criteria for evaluating the effects obtained through public expenditures, differently than would be the case in a situation of stable economic development. Based on the results of the study, it was possible to identify changes in investment activity in the public sector, as well as in the face of ongoing crisis phenomena, the need for further observation of factors affecting the effectiveness of the use of public funds in public sector units at different levels of competence was identified.

Capital expenditures in the public sector are characterized by an ever-increasing demand for certain components of technical and social infrastructure. Public entities, apart from tasks carried out under the PPP formula, are the only entities that, as a rule, should be engaged in undertaking these types of investments. The results of the research in Table 1 show that in the countries of the world selected for analysis, public investment expenditures are characterized by a relatively high rate of growth in statistical year-on-year terms. It is evident that investment outlays, despite the already high level of infrastructure provision in highly developed European and non-European countries, are still being incurred and are related to meeting specific public needs. Referring to the research results in Table 1, high growth rates were recorded in the Czech Republic, Germany, Austria and Poland. It is also characteristic that a high level of growth rate in capital expenditures was recorded in the European Union as a total. According to calculations based on the volumes of outlays projected by AMECO, capital expenditures in the public sector are also expected to continue to grow in the following years, 2023 and 2024.

Table 1. Rate of change in expenditures on public investment projects (gross fixed capital formation) to the previous year, in selected countries, in %

Specification	2017	2018	2019	2020	2021	2022	2023	2024
Czechia	13.1	34.8	12.6	6.3	7.1	14.3	18.0	-0.6
Germany	6.1	9.4	5.1	9.3	2.3	8.3	8.9	10.2
Greece	28.7	-27.6	-21.2	12.4	28.5	10.3	19.3	22.5
France	1.8	5.2	10.7	-4.5	6.0	9.5	6.5	4.6
Austria	7.9	3.0	5.0	1.8	14.2	1.7	10.1	3.5
Poland	26.1	31.2	-1.2	2.4	1.2	11.3	16.5	10.4
European Union	5.0	8.4	6.6	4.6	6.4	7.1	13.0	7.0
United Kingdom	-1.4	2.5	8.9	5.4	11.0	11.7	3.6	4.0
United States	2.3	1.9	11.3	3.1	-1.4	19.3	2.7	3.4
Japan	-3.2	-0.4	12.0	5.3	-5.6	20.7	-4.4	-1.9

Source: Own compilation based on data: AMECO online (2023)

It should be noted that the indicators in Table 1 were calculated on the basis of nominal values of capital expenditures, which means that the actual effects achieved in individual years may be slightly different, considering the inflationary increase in the prices of construction works, resources, materials, which may diminish the real effect achieved. Considering the socio-economic circumstances and macroeconomic instability due to the variation of crisis phenomena, also in the period 2020-2023 in most of the countries studied, the growth rate of public sector investment expenditures can be characterized as high. In some of them, there was a decline in the growth rate of public investment, but it was of a temporary character.

An important factor affecting the ability to finance public investments is the budgetary situation of the state and local government units, which determines their internal capacity to finance investments. As already mentioned, it is not always possible to finance public investments exclusively from own resources. A common issue, including in the framework of public-private partnerships, is the investment financing with the use of external funding sources. This may result in an increase in public debt, as one of the most common phenomena within the public sector of individual countries around the world, and excessive levels of indebtedness lead to a limitation of the public sector's investment capacity.

Table 2. Rate of change in the volume of gross public debt, to the previous year, in selected countries, in %

Specification	2017	2018	2019	2020	2021	2022	2023	2024
Czechia	5.5	-1.6	1.6	19.6	26.1	20.3	11.2	9.1
Germany	-1.4	-2.2	-0.7	13.1	6.6	2.7	4.7	1.9
Greece	0.8	5.4	-1.1	3.1	3.6	0.8	0.3	1.1
France	3.0	2.5	2.8	11.9	6.3	4.5	4.2	4.0
Austria	-2.1	-1.6	-1.7	12.7	5.8	4.9	3.5	2.0
Poland	5.3	-0.1	2.0	19.3	4.7	5.3	16.5	14.6
European Union	1.2	0.9	0.8	11.0	5.4	3.7	4.6	3.7
United Kingdom	-0.4	2.1	8.3	10.2	15.5	-0.9	3.8	2.5
United States	-9.8	12.3	7.6	9.5	15.6	12.7	1.4	3.7
Japan	-7.6	8.5	5.2	1.9	-2.4	-4.8	-0.6	1.4

Source: Own compilation based on data: AMECO online (2023)

According to the results of the analysis in Table 2, it can be noted that in highly developed countries with market economies in 2020-2023, the level of public debt has just significantly increased, which was associated with the financing of public tasks of a different character, often having its basis in crisis phenomena and instability of macroeconomic factors. Particularly in 2020-2022, there appeared factors stimulating changes in the level of public debt, hence the clear positive changes in the rate of debt growth during the considered period. Figure 1 shows the results of a comparative analysis of the rate of change of public capital expenditures and the rate of change of public debt for the European Union and the USA. In the case of the USA, the negative public debt dynamics recorded in 2017 was followed in subsequent years by high growth rates reaching above the 10% level by year. On the other hand, changes in capital expenditures fluctuated widely, falling in 2019-2021 and in 2022 recording the highest growth rate in the examined period, at more than 19%. The situation in the EU was characterized by significantly greater stability in terms of both indicators studied. The rate of change in the volume of public debt, after a very stable period until 2019, experienced a sharp increase in 2020 reaching more than 10% by year, but in the following years the increase slowed down substantially. The rate of change in the volume of capital expenditures during the reviewed period remained between 5% and 10%, although for 2023, the rate of growth in public investment is forecast to accelerate to 13% in relation to the preceding year.
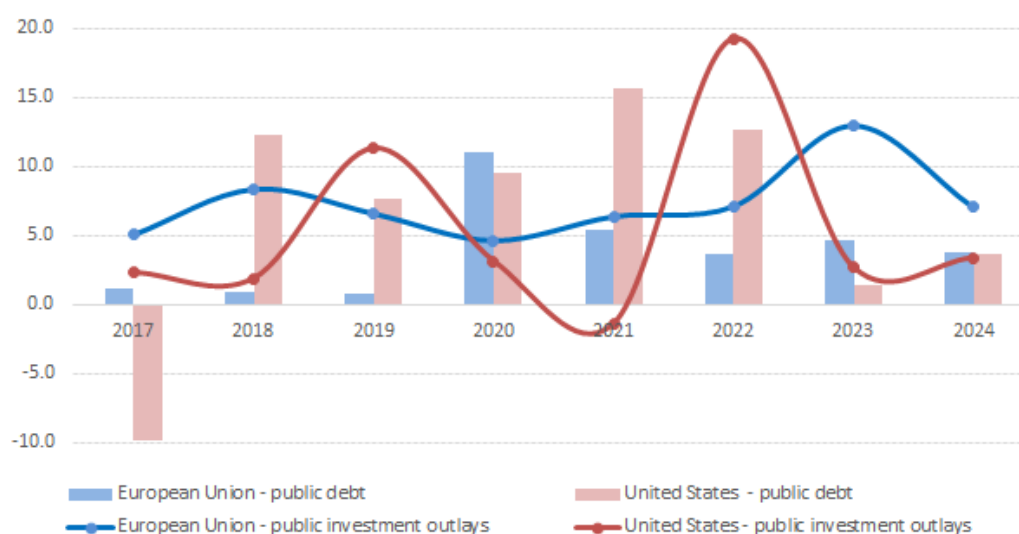

Figure 1. Comparison of the rate of change in the level of public capital expenditures and public debt in the EU and USA, in selected years, in %

The results of the analysis presented above show noticeable fluctuations in the needs and possibilities of financing public investments. The situation varied in the case of the European Union, individual member states, or other countries of the world, such as the USA, but the reasons for the observed variability of selected indicators characterizing public finances are related to global economic instability caused by the necessity to respond to unexpected phenomena, such as a pandemic or large-scale military conflicts.

In the crisis conditions observed since 2020, turbulence in commodity markets and difficulties in maintaining the uninterrupted supply chains between regions of the world have played a significant role, which has contributed to the acceleration of inflation and, consequently, to a significant increase in base interest rates set by central banks. As a result, it will be reflected in the interest rates on loans offered by commercial banks. This is confirmed by observations of interest rate changes in the Eurozone, other European countries and many countries around the world, particularly dynamic from the second half of 2022 (Bank for International Settlements. n.d.). Under such conditions, public sector entities faced the additional difficulty of incurring liabilities that generate higher burdens for servicing loans and credits, which at the same time limited the ability to further use external repayable funds for investment purposes.

Macroeconomic instability requires an individualized approach to the issue of investment financing in public sector entities, taking into account the existing diversity of the income situation and economic potential, as well as the structure of public spending at the scale of the state, as well as at the scale of local government. In more turbulent periods for public finances, characterized by economic slowdown and increasing levels of public debt, it is the legislative and organizational strengthening of the possibility of using the PPP formula that may be crucial for maintaining or even increasing the investment capacity of public sector entities. The currently observed changes in the level of interest rates, determining the cost of external capital, also cause the necessity of precise verification of the level of profitability of investment projects and the criteria for assessing the economic effects obtained. The implementation of public investment under the PPP formula appears to be quite common in many countries of the world. In particular, it is applied where limited possibilities of financing investments are noticeable within the budgetary economy of public entities, while at the same time urgent needs for the realization of certain components of social or technical infrastructure are recognized. Thus, social aspects argue for the need to undertake investments, while on the other hand, difficulties in finding funds for their financing are revealed. In such a situation, it is the PPP formula that gives a chance to complete the investment and obtain material effects much earlier than it would be the case if the investment was financed from the budget's own resources. Therefore, an important element of the study of conditions in terms of the effectiveness of public investments, are the results of empirical analyses presented in this paper, concerning the material and financial scope of projects implemented in the PPP formula within the selected countries.

Table 3. Public-private partnership (PPP) investment volume, in mln of constant 2017 international dollars

Specification	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	290	10	10	40	60	50	70	80	80	80
Czechia	60	60	80	80	80	30	30	-	-	-
France	2 640	5 190	5 460	5 120	5 120	4 930	2 610	2 260	2 820	3 160
Germany	1 330	1 590	1 390	1 110	1 060	1 030	970	1 070	1 140	1 060
Greece	2 440	2 050	130	140	150	170	170	340	340	380
Italy	890	840	240	1 520	1 740	1 670	1 690	2 500	1 210	1 020
Poland	1 280	1 210	1 220	860	120	130	140	280	180	150
Spain	4 300	2 810	2 680	2 130	2 060	780	610	670	390	300
United Kingdom	12 430	9 040	6 750	6 790	6 460	5 370	6 150	5 460	3 820	2 830

Source: Own compilation based on data IMF (2023)

The results of the research in Table 3 show that PPP investment outlays have remained relatively stable over the 2012-2019 period, although the volume of investment has increased in some countries, while others have experienced a decline in investment outlays. There were occasionally increases in PPP capital expenditures when it comes to the necessity of implementing important significant investments, for which it is impossible to find funds within the framework of the state or regional local budgets. Total capital expenditures under the PPP formula prove that there is a constant surplus of investment needs over the ability to finance them within the public resources, hence new projects have been undertaken. Projects carried out as part of PPP provide the guarantee that the participation of private entities determines the analysis and evaluation of efficiency in terms of selecting the most advantageous options.

The case of Poland, subjected to a more detailed study, indicates that in the period after 2009, when national legal regulations were introduced to improve planning procedures for implementing projects in the PPP formula, public entities became more active in such forms of investment. The results of the research presented in Table 4 show the diversity in the number and value of projects undertaken by the main segments of the public economy. The reported aggregate values of projects were calculated by converting the amounts presented in PLN into USD, according to the average exchange rate of the National Bank of Poland from the second decade of October 2023.

Table 4. Implementation of projects in the PPP formula in Poland between 2010 and 2023

Sector	Number of projects	Gross value of capital expenditures/services, in USD mln
Culture	7	31.8
Education	5	21.2
Energy	3	8.0
Energy Efficiency	29	110.0
Health Care	4	50.9
Housing	2	4.1
Public-utility Buildings	4	36.8
Revitalization	4	224.4
Sports and Tourism	24	127.1
Telecommunications	10	394.4
Transportation Infrastructure	26	474.5
Transportation Services	10	25.0
Waste Management	11	578.0
Water and Sewage Management	25	99.3
Other	15	15.8
Total	**179**	**2 201.4**

Source: Own compilation based on data: Public-Private Partnership (PPP 2023)

The largest number of PPP projects were undertaken in Energy Efficiency, Transportation Infrastructure and Water and Sewage Management. In comparison, the highest total value of carried-out projects can be observed in the Waste Management, Transportation Infrastructure and Telecommunications segments. This diversity reflects investment needs in the public sphere, as well as segments of the economy that may be particularly attractive in terms of obtaining financial results for private partners.

The above-characterized factors influencing the conditions and methods of assessing the effectiveness of projects implemented in the PPP formula on the background of the general conditions and solutions adopted in different countries lead to the conclusion that the involvement of private entities in investment cooperation with public sector entities contributes to a stricter verification of the effectiveness of undertaken investment projects. This is significantly due not only to the tendency of private entities

to maximize financial benefits from the capital, organizational resources and their own know-how involved. The equal significance is due to the noticeable level of formalization of the procedures defining the permissible forms, the scope of allocation of project functions and the obligation to examine the planned and achieved financial effects in projects organized under the PPP formula. This formalization means that in PPP projects it is necessary to provide evidence of a high level of effectiveness that would both fulfill criteria of economic attractiveness to private entities and criteria of a social nature, based on adequate accessibility and public utility.

Conclusions

The problems of financing and efficiency of public tasks require consideration of various forms of planning and evaluation of investment projects in the organizational, technical, legal and financial dimensions, often adopted from the practice of private enterprises management. The paper points out that the ability to effectively implement public investment projects is due, on the one hand, to the legal and organizational conditions of the functioning of public sector units, while on the other hand, to the degree of their financial independence and capability to acquire investment capital from non-budgetary sources.

In an unstable environment, it turns out that the implementation of public investment projects can take place under much more difficult conditions than for enterprises in the private sector. Private entities are able to undertake adjustment procedures sufficiently in advance to avoid possible losses associated with the implementation of investment projects in a deteriorating macroeconomic environment. Hence, they can easily postpone certain projects or even abandon them totally. In the case of public investment projects, the activities of public authorities are limited, since the implementation of such projects generally involves the need to meet specific needs that cannot be postponed. This is determined by the social nature of public investments, which, as a rule, are implemented in a slightly different formula, so in conditions of macroeconomic instability, the indicators used in the evaluation of such projects also deteriorate.

In this context, projects implemented in public-private partnerships can play an important role. The implementation of organizational solutions and evaluation methods, developed on the basis of good practices of project financing under the public-private partnership formula, provides real opportunities to maintain a high level of efficiency of public spending despite unfavorable economic conditions.

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Ethics and Judicial Integrity
under the Bangalore Principles

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ABSTRACT: Magistrates must demonstrate judicial seriousness and professional rectitude because they do not exercise their profession in an erratic environment devoid of moral valences, but on the contrary, the judicial field is one that must highlight the existence of independent, impartial, efficient and integral justice, representing a basic parameter of a democratic state of law. It is unanimously recognized that the magistracy represents, above all, an ethical duty, which can only have positive results if the magistrate exercises this function by providing proof of integrity. However, this perception is not sufficient to ensure the independence and integrity of the judiciary and, implicitly, society's trust in it. Moreover, it is necessary for magistrates to carry out their daily work based on the ethical responsibility of the important office they hold.

KEYWORDS: Ethics, justice, magistrate, integrity, impartiality, judicial equality

General Considerations on the Bangalore Principles

The Bangalore Principles were drafted to serve as a guideline for magistrates worldwide, to guide judges and to provide the judiciary with a framework for regulating judicial conduct. These Principles of Judicial Conduct represent international instruments adopted worldwide regarding the conduct of judges. Of course, they have a recommendation character, thus supplementing the existing legal and deontological norms at the national level. Since in the continental legal system, judges and prosecutors have a close professional status, it was found that the present guidelines should apply to both categories of magistrates (Dănileț 2010, VII).

The Bangalore Principles envisage the independence, impartiality, integrity, etiquette, equality, competence and diligence of magistrates in carrying out the act of justice. Their development was based on national codes of conduct for judges, such as, among others: The Code of Judicial Conduct adopted by the House of Delegates within the American Bar Association, The Ethical Principles for Judges, developed with the cooperation of the Conference of Canadian Judges and approved by the *Canadian Judicial Council*, Idaho Code of Judicial Conduct, Iowa Code of Judicial Conduct, Rules Governing Judicial Conduct, New York State, USA, Code of Judicial Conduct adopted by the Washington Supreme Court, USA, etc. as well as regional and international instruments, among which we mention: the Draft Principles on the Independence of the Judiciary (the "Siracusa Principles"), developed by a committee of experts convened by the International Association of Criminal Law, The International Commission of Jurists and the Center for Independence of Judges and Lawyers, 1981 (Draft Principles on the Independence of the Judiciary), Minimum Standards of Judicial Independence adopted by the International Bar Association, 1982 (Minimum Standards of Judicial Independence), UN Basic Principles on the Independence of the Judiciary, adopted by the UN General Assembly, 1985 (United Nations Basic Principles on the Independence of the Judiciary), Draft Universal Declaration on the Independence of the Judiciary

("Singhvi Declaration") developed by L.V. Singhvi, UN Special Rapporteur on the Study of the Independence of the Judiciary, 1989 (Draft Universal Declaration on the Independence of Justice), Beijing Declaration on the Principles of the Independence of the Judiciary in the Lawasia Region, adopted at the Sixth Conference of Chief Justices, August 1997 (The Beijing Statement of Principles of the Independence of the Judiciary in the Lawasia Region) and many others. Also, this set of Principles was developed with the participation of chief justices and senior judges from 75 countries with common law and civil law systems.

Although we have listed only a few of the official instruments that govern the conduct of magistrates in different countries, we can see that when developing the Bangalore Principles, prestigious legal instruments were consulted and judicious work took place that resulted in a set of principles based on generally recognized judicial valences and with recommendation value for the conduct of magistrates in the exercise of judicial powers. Attributes such as independence, impartiality, integrity, etiquette, equality, competence and effort have acquired the value of mandatory rules of conduct that magistrates must demonstrate in order for litigants and, in general, citizens to trust the act of justice carried out by magistrates.

We reveal a well-known adage by Francisco de Quevedo, which stated that: *"where justice does not work, it is dangerous to be right".* Through all of their professional but also social conduct, magistrates must always assure citizens that whenever they call or assist in the execution of an act of justice, it will be carried out with speed, equality and a fair judgment without ever leaving any shadow of suspicion on any inequity, impartiality or lack of independence in the pronouncement of a legal and thorough decision, a decision taken without the interference of any other state powers or intelligence services of whatever nature they may be.

The Legal Substance of the Bangalore Principles

The authors of the Bangalore Principles, as a Code of Judicial Conduct, ruled that, in fulfillment of the act of justice, magistrates must ensure the beneficiaries of seven supreme legal valences: independence, impartiality, integrity, etiquette, equality, competence and diligence.

Regarding **independence**, the starting principle is the following*: judicial independence is the premise of the rule of law and a fundamental guarantee of a fair trial. Consequently, the judge will defend and serve as an example of judicial independence, both individually and institutionally.* Thus, the judge must exercise his judicial function independently, based on his own assessment of the facts and in accordance with the spirit of the law, without external influences, suggestions, pressures, threats and without any direct or indirect interference, regardless of who it may come from and for what reason. Also, the judge must be independent from his fellow magistrates in relation to his decisions, which he is obliged to make independently. Equally, this Code of Judicial Ethics stipulates that by independence it is understood that the judge will encourage and support the necessary guarantees to fulfill his judicial duties in order to maintain and strengthen the institutional and functional independence of the judiciary and that the judge must demonstrate and promote high standards of judicial conduct in order to strengthen public trust in the judiciary, fundamental trust to maintain the independence of the judiciary (Dănileț 2010, 3).

Of course, all these attitudes and ways of judicial conduct are elements of an ideal state of law, if they were fulfilled by the entire judicial body of a state, but we believe that they are useful and necessary recommendations that must be reiterated endemically

in the continuing education courses at which magistrates participate throughout their judicial career.

Relative to **impartiality**, the emanating principle is: *impartiality is essential to the proper performance of the judicial function. It concerns not only the decision itself, but also the whole process by which it is reached.* It has been said (Scripcaru and Ciucă 2009, 15) that the role of the ethics of legal professions is that of "forming the professional conscience, serving the truth without serving it and, thus, avoiding on a subjective level any dissonance between performance and aspirations professional and the concrete reality it serves". More precisely, in the view of the same authors (Scripcaru and Ciucă 2009, 42), the justification of legal deontology, in relation to impartiality, consists in the fact that it helps the professional to: the formation (contribution) of the professional personality; the achievement of good (legal value) through the profession; satisfying self-transcendence aspirations; mediator between morality and law; the humanization of the legal norm through the knowledge of man; reports and resolves human rights abuses; resolve conflicts of professional duties, in the sense that the natural ones precede the positive ones, the prohibitive ones precede the affirmative ones, the certain ones precede the uncertain ones, the equity ones precede those of justice.

According to this principle, judges must exercise their judicial duties without favors, subjectivity and prejudice, they will strive to adopt a conduct, both in court and outside it, and to maintain and strengthen the confidence of the public, and of litigants in the impartiality of the judge and the judiciary.

Also, in accordance with the principle of impartiality, the judge will have to refrain from any comment in connection with which he could reasonably believe would affect the solution or damage the appearance of the fairness of the trial. Thus, the judge will refrain from making comments in public or otherwise, which could affect the fairness of the process towards any person or issue (Dănileț 2010, 4).

Relative to **integrity**, it has been held that it is *essential to the proper performance of the judicial function.* The judge must perform the act of justice through legal values, by satisfying the sense of justice and avoiding (contributes to avoiding) judicial errors. At the same time, the judge offers the profession vocational motivations and satisfies the need for social appreciation of himself and, through him, of the profession.

Regarding **etiquette**, the Code of Judicial Conduct recommends that *good manners and their visible observance are essential in the performance of all activities carried out by the judge.* Referring to this valence, the magistrate must be aware that with the choice and exercise of this profession, his conduct in society will be indirectly monitored by citizens, the latter having higher expectations than ordinary citizens and, we allow ourselves to affirm, that it is natural to be so. Being in the public eye, the judge must accept, freely and willingly, certain personal restrictions that would seem a burden to the ordinary citizen. In particular, the judge must have a conduct that is consistent with the dignity of the position of magistrate. The judge, in his personal relations with other legal professionals who regularly work in his court, will avoid situations that could reasonably give rise to suspicions that could create an appearance of favoritism or bias (Dănileț 2010, 5).

Relative to **equality**, it has been ruled that *ensuring equal treatment for all before the courts is essential for the correct exercise of judicial powers.*

In fulfilling this recommendation, any judge must depart *ab initio* from art. 16, paragraph (2) of the Romanian Constitution, according to which: *"no one is above the law".* Certainly, this provision in our Constitution is also found in most other international constitutions and it is natural for it to be so.

The judge, in the exercise of his judicial powers, will not be allowed to show, by words or attitude, bias or prejudice towards a person or a group of persons, for irrelevant reasons, and will exercise his judicial powers with due respect towards all persons, such

as the parties, witnesses, lawyers, court staff and colleagues, without making any distinction between them on irrelevant grounds that have no importance for the proper performance of his duties (Dănileț 2010, 7).

The concept of "equality" represents a principle according to which all people are recognized with the same rights and are subject to the same duties provided by the rule of law. This principle is expressed both legally and doctrinally and jurisprudentially. Over time, equality crystallized as a legal principle and as a fundamental right and a specific legal category. The law must provide equal opportunities to all citizens. This is the meaning of the constitutional provision according to which citizens are equal before the law and public authorities, without privileges. The complexity of this principle led in the jurisprudence of the Constitutional Court of Romania to the proclamation of a right to difference as an expression of the equality of citizens before the law (http://abcjuridic.ro/principiul-egalitatii-in-drepturi-in-jurisprudenta-ccr).

In the doctrine (see: CCR Decision no. 601/2018, CCR Decision no. 633/2018, CCR Decision no. 72/2019, CCR Decision no. 220/2019, CCR Decision no. 243/2019) the existence is admitted of positive discrimination, even regulated by some constitutional texts, which impose social protection measures. The jurisprudence of the Constitutional Court regarding the limits of the constitutional principle of equality varies between a strict equality, sometimes assimilated with the principle of non-discrimination, and a relative equality of treatment, which accepts the differentiation of the legal regime, depending on the objective particularities of the concrete situations.

Regarding **competence** and striving, the Code of Judicial Conduct makes the recommendation that they must represent premises for the correct exercise of judicial powers. Thus, the judge will dedicate his professional activity to the performance of judicial duties, which include not only the exercise of the judicial function, the responsibilities towards the court and the making of decisions, but also the performance of other tasks relevant to the judicial activity and the operation of the court, and will also take the reasonable measures required to maintain and improve the knowledge, skills and personal qualities necessary for the adequate performance of judicial duties, using for this purpose the training programs and any other facilities available, under judicial control, to judges (Dănileț 2010, 8).

There are essential things, to which the judge must pay attention: both during the hearing and when pronouncing the sentence, the judge must find a way to integrate his independence, thereby understanding the fact that the judge must be endemically careful to what is happening around him/her and to the developments and legal changes that are taking place. Moreover, he must try to consult and exchange knowledge and contacts with other judges; also, the professional sense of the judge must motivate him to update his knowledge and put it into practice, the decisions of a judge having a smaller or larger impact on the whole society (Olah 2012).

During the initial professional training within the National Institute of Magistracy, as well as during continuous training, it was mentioned (Popescu 2015) that they will be considered aspects that ensure a wide range of qualities that a magistrate is supposed to have: moral qualities, scientific knowledge of law, experience, psychological skills suitable for the position, social and life concepts compatible with the position, ensuring a trust of citizens in the capacities of the person appointed to the position of magistrate.

Conclusions

It is natural for society to demand from a judge judicial valences and virtues such as: independence, this not being a privilege granted for the benefit of the judge, this representing the right of every citizen in a democratic society to benefit from a justice

that is perceived as being independent from by the legislative and executive power and which protects the freedoms and rights of citizens in a state of law; integrity, as an attribute of the judicial function in which the judge fulfills his duties with integrity, in the interest of justice and society, having the same obligation of integrity both in his public and private life; impartiality, which implies the absence of any prejudice or preconceived ideas in the exercise of judgment, as well as in the judicial procedure prior to the act of justice; balance and discretion, which implies the obligation to show reserve and discretion by the judge, the existence of a balance between the rights of the judge as a citizen and the obligations related to the exercise of his office; diligence, which implies that the judge must be diligent in resolving cases; respect and the ability to listen, respect being the ability of the judge to treat with due consideration the place/position and dignity of persons. Listening is the ability of the judge to pay attention to the presentation of the facts and the deductions/technical-logical reasoning presented by the parties and their defenders; equality of treatment, which requires the judge to grant all rights, both in the course of, but also as regards the outcome of a process, recognizing the unique character of each individual; the competence resulting from the obligation of the judge to have a high professional capacity; transparency is a judicial attribute by virtue of which information on the functioning of justice and the presence of the public at judicial proceedings (Compendium of the European Networks of Councils for the Judiciary on judicial councils – ENCJ 2021).

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The Role of ICT in Engaging with the Institution: A Learners Perspective

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ABSTRACT: This study explores students' perception of the role of Information and Communication Technology (ICT) and Moodle in the teaching and learning process at the pre-degree level at the University of the South Pacific (USP). A total of 80 Blended mode students from the pre-degree level were given a Likert scale questionnaire to express their perceptions of ICT and Moodle at the university. Cron Bach Alpha Test in SPSS was used to find the reliability of the data from the Likert scale. These perceptions were then correlated with students' Moodle Logs and academic achievements (marks). The association of these perceptions with the Moodle Logs and academic achievements was calculated using Spearmen's Rank Correlation Coefficient Test in SPSS. It was found that few perceptions correlated with students' Moodle Logs, academic achievements, and with each other. The Cron Bach Alpha Test showed that the data from the Likert scale was reliable. It was found that students at pre-degree have positive perceptions about ICT and Moodle at USP and some of these have correlations with students' Moodle Logs, academic achievements, and with each other.

KEYWORDS: Engagement, Institution, Learner Perspective, Moodle, Moodle Logs

Introduction

A learner's engagement with the learning resources and the learning environment is crucial whether it is a physical or a virtual classroom. For virtual classrooms, the students' engagement with the learning platform is of utmost importance. These engagements are mostly derived from or are a result of students' perceptions. What a learner perceives is how he or she engages with the learning resources and environment. If a learner feels that the learning resource or engagement will not give the satisfaction that he or she desires to achieve then they may refrain from engaging with it. This can affect their performance in classrooms and in exams. ICT and Moodle (a learning and teaching platform) act as a medium to ensure students receive the learning resources they need. Students use the ICT services and engage on Moodle to access the learning resources and enhance their productivity in the learning tasks to excel academically.

Background

The University of the South Pacific (USP) is a regional university located in the Fiji Islands. Its member countries are the Cook Islands, Fiji Islands, Kiribati, Marshal Islands, Nauru, Niue, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu (12 countries). However, it has students also from outside the region. USP's Prospectus (published annually), its Handbook and Calendar (published annually) and its Strategic Plan (published every 3 years) are some of the documents that act as guidelines for USP staff and students to ensure that the teaching and learning process is holistic and successful.

At the USP, students' engagement with the resources and the environment are given priority despite their various learning modes (Face-to-face, Blended, Online, Print). The Flexible Learning Policy defines the students' engagement under 'Dimensions of Flexibility'. Amongst engagements like learner to content, learner to other learners, learner to instructor, learner to learning environment, learner to assessments, and learner to feedback, there is a learner engagement with the institution. This is about the choices learners have in relation to their engagement with the services of the educational institution (The University of the South Pacific, The Flexible Learning Policy 2017).

These services are not only physical services like a library, book center, and medical center but virtual services that are provided by the ICT department, like the Learning Management System (LMS: Moodle). Priority Area 1: Education in the Strategic Plan 2022-2024 focuses on 'enhancing the student experience and engagement (USP Strategic Plan 2022-2024, 2022). The 2013-2018 Strategic Plan had ICT as Priority Area 4 (USP Strategic Plan 2013-2018, 2013). A lot of emphasis has always been given to ICT development and to teaching and learning in the USP's Strategic Plans.

Based on the extensive usage of ICTs in education, the need appeared to unravel the myth that surrounds the use of ICT as an aid to teaching and learning, and the impact it has on students' academic performance (Noor-Ul-Amin 2013).

The Rationale of the Study

Since so much emphasis is placed on ICT and Moodle in the USP, it is mandatory to explore if the learners have the same perception of these two components as the other stakeholders. Also, it is crucial to investigate if the students' perceptions impact their Moodle usage or the total marks in the course at the end of the semester. These areas have never been investigated in the Pacific and thus would be a pioneer study, especially at the pre-degree level.
Therefore, the two research questions that framed this study were:
Q1: Is there a correlation between students' Perceptions of Moodle and ICT at the USP and their Moodle log on the LLFXX Moodle page?
Q2: Is there a correlation between students' Perceptions of Moodle and ICT at the USP and their academic achievement (total mark) in LLFXX?

Literature Review

ICT is the use of technology to inform and communicate with each other. It includes computers, the Internet, and electronic delivery systems such as radios, televisions, and projectors among others, and is widely used in today's education field (Fu 2013). ICT's role in education and its importance will develop in the 21st century (Noor-Ul-Amin 2013). With the utilization of ICT, learning can be flexible as it can occur anytime and anywhere (Fu 2013). In many countries (like Flanders), ICT has a clear impact on the development of educational curricula (Tondeur, Braak, & Valcke 2006). The education government has identified and defined a framework of ICT competencies for expected outcomes, related to knowledge, skills, and attitudes that pupils are expected to achieve at the end of primary school (Tondeur, Braak, & Valcke 2006). Many concepts like digitally supportive school, digitally confident and supportive teacher, and digitally confident and supportive student have been introduced with ICT in the education system (Wastiau, et al. 2013)

With ICT, LMS was also introduced. Moodle (a form of LMS) is used in schools and at tertiary levels. It effectively improves student performance, satisfaction, and engagement (Gamage, Ayres, & Behrend 2022). Moodle is increasingly being used as a platform for adaptive and collaborative learning and improves online assessments (Gamage, Ayres, & Behrend 2022). The use of Moodle is developing rapidly to address

academic integrity, ethics, and security issues to enhance speed and navigation and incorporate artificial intelligence (a dominant influencer amongst students) (Gamage, Ayres, & Behrend 2022)

Despite the importance ICT and Moodle may play in the education system, it is crucial for the students to identify and accept this importance. Their perception of ICT and Moodle will decide on their usage of them. Students need to experience them to make decisions on the role ICT and Moodle can play for them. For example, after experiencing the grammar teaching-learning instruction, most students respond positively towards the implementation of Moodle in the grammar teaching-learning process (Thamrin, Suriaman, & Maghfirah 2019). There were positive responses from the students dealing with Moodle-based online learning (Apoko 2022). It is believed that satisfaction has the highest significant effect on the behavior intention of Moodle (Damnjanovic, Jednak, & Mijatovic 2015). Another study proved that male and female students are equally satisfied with Moodle (Horvat, Dobrota, Krsmanovic, & Cudanov 2015).

However, there is a gap between expectations (perceptions) and satisfaction (experience). ICT should be used to fulfill the aims and goals of the institute to enhance students' satisfaction with the teaching-learning process (Goyal & Purohit 2011). Having a technologically advanced education system does not guarantee or reflect student satisfaction. The usage has to be in accordance with the requirements of the students to make it successful (Goyal & Purohit 2011). When the students get what they want, their acceptance for the same would be higher and hence, the efficiency with which it is being used; thus improving the performance and productivity of the students (Goyal & Purohit 2011).

Methodology

A quantitative research method was used to carry out this study. A questionnaire was designed using a 5-point Likert scale. Four questions enquired about students' perceptions of the role of ICT in engaging with the institution. These questions were based on ICT and Moodle in the USP. The questionnaire was uploaded on the researcher's sandbox page on Moodle. 80 Blended mode LLFXX (pre-degree) Laucala campus students, who had signed the research consent form, were enrolled on this Moodle page. Their response was extracted from the Moodle page and analysed using Excel and SPSS.

The mean (μ) and standard deviation (σ) of students' perceptions were calculated in Excel. Cron Bach Alpha Test was used on SPSS to find data reliability (internal consistency). Spearmen's Rank Correlation Coefficient Test was used to find the correlation between students' perceptions and the Moodle logs on the LLFXX Moodle page and their academic achievements (total marks).

Results

The results discuss students' responses to their perceptions of Moodle and the role of ICT in engaging with the institute (USP). It also shows the results of the Cron Bach Alpha Test and Spearmen's Rank Correlation Coefficient Test.
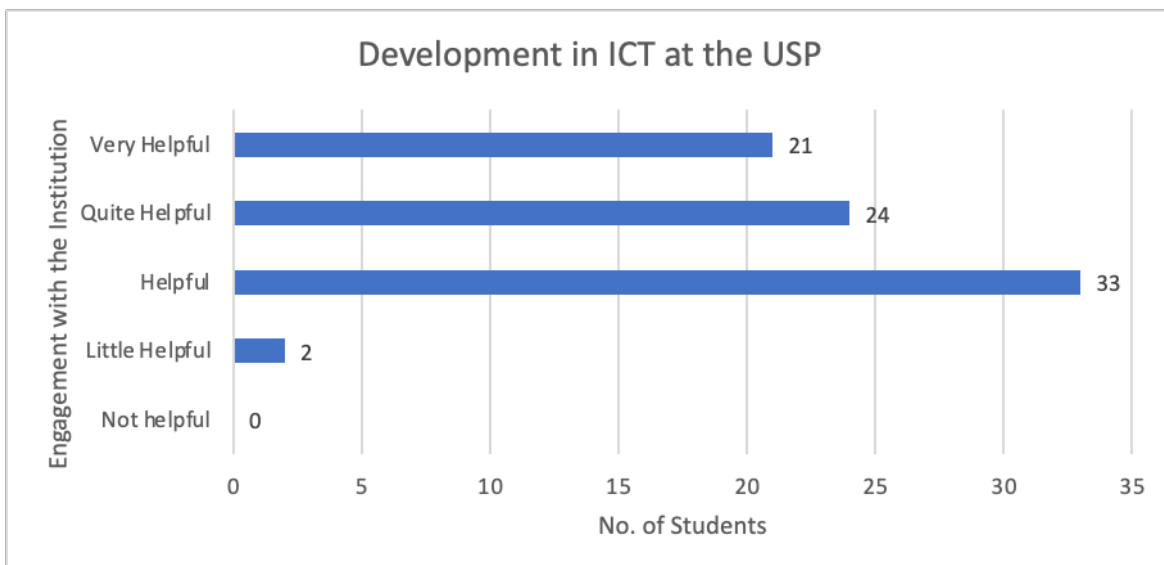
Figure 1. Development in ICT at the USP

Students' perceptions of development in ICT at the USP are shown in Figure 1. Among the 80 respondents, 33 students found the development in ICT at the USP helpful for them, while 24 students found it quite helpful. An additional 21 students thought that the development of ICT at the USP was very helpful for them. In contrast, only 2 students believed that it was a little helpful. Therefore, most students (78 out of 80) expressed a positive perception of the development of ICT at the USP.
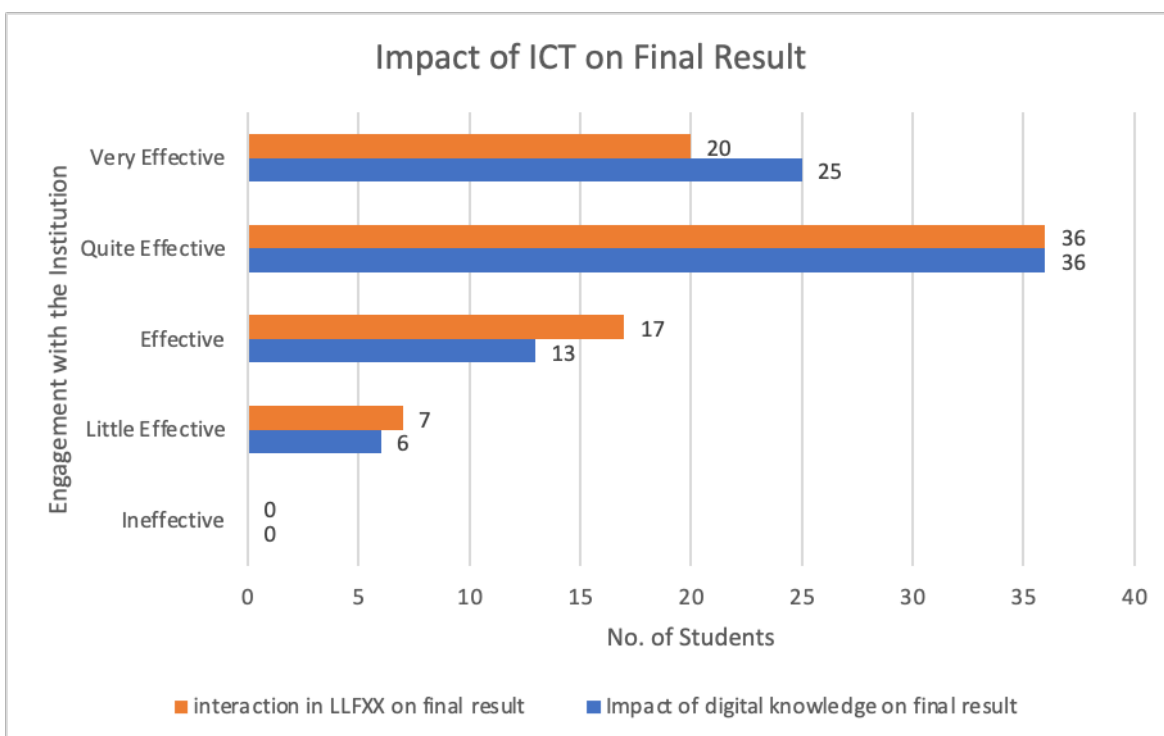

Figure 2. Impact of ICT on Final Result

Figure 2 shows students' perception of the impact of ICT on the results (academic achievement) of students. The perceptions of the impact were measured through two descriptors: interaction in LLFXX and impact of digital knowledge. 20 students thought that the interaction on the LLFXX Moodle page impacted their results very effectively, while 36

students found the interaction on the LLFXX Moodle page impacted their results quite effectively. An additional 17 students found that their interaction on the LLFXX Moodle page had an effective impact on their results. In contrast, 7 students perceived that the interaction on the LLFXX Moodle page had little effect on their results. Regarding the impact of digital knowledge, 25 students perceived it as highly effective, while 36 students considered it quite effective. Another 13 students found the impact of digital knowledge on their results was effective, but 6 students thought that the impact of digital knowledge on their results was little effective.
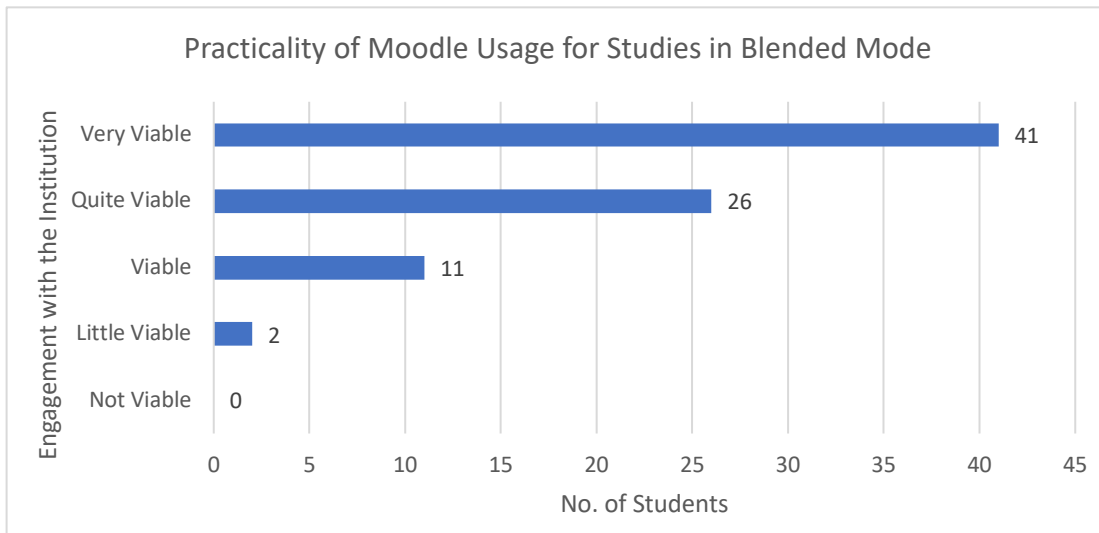
Figure 3. Practicality of Moodle Usage for Studies in Blended Mode

Figure 3 shows students' perception of the practicality of Moodle usage for their studies in the Blended mode. 41 students thought that Moodle usage was very viable for their studies, 26 students found it to be quite viable, while 11 students found it to be viable. Only 2 students believed that Moodle usage was little viable for their studies. In total, 78 students had a positive perception of the practicality of Moodle usage for their studies in Blended mode. Only 2 students had a negative perception of the practicality of Moodle usage for their studies in Blended mode.
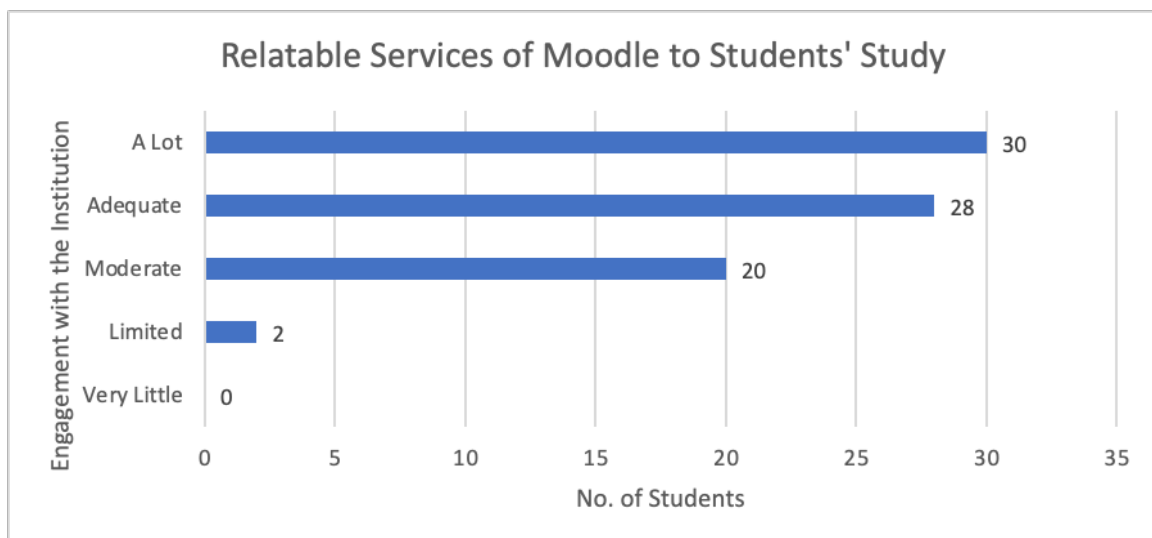

Figure 4. Relatable services of Moodle to students' study

Figure 4 shows how relatable the services of Moodle were to their study. 30 students perceived Moodle services were a lot related to their studies, 28 students thought Moodle services were adequately related to their studies. Another 20 students found Moodle services were moderately related to their studies, while 2 students found the services of Moodle to be related to their studies in a limited quantity. Most of the students (78 students) found the services of Moodle to be related to their studies.

Table 1. Mean and Standard Deviation of Students' Perceptions

Perceptions	μ	Σ
Practicality	4.31	0.805
Relatable	4.08	0.808
ICT in USP	3.8	0.848
ICT- Digital Knowledge	3.85	0.887
ICT – Interaction	4.01	0.879

Table 1 shows the μ (σ) of the perceptions of students. The practicality of Moodle usage for studies in Blended mode had a μ of 4.31 and σ of 0.805. The relatable services of Moodle to students' study μ = 4.08 (0.808). The impact of ICT at USP on the results μ = 3.8 (0.848). The impact of digital knowledge on the results μ = 3.85 (0.887). The interaction on the LLFXX Moodle page and its effect on the results μ = 4.01 (0.879).

Cron Bach Alpha Test

Cron Bach Alpha Test shows the internal consistency (reliability) of the data. The table below shows how the result from the Cron Bach Alpha test will be interpreted.

Table 2. Analysis of Cron Bach Alpha Result

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

If α is more than 0.9 then the internal consistency (reliability) is excellent. If α is more than 0.8 and less than 0.9 then the internal consistency is good. If α is more than 0.7 and less than 0.8 then the internal consistency is acceptable. If α is more than 0.6 and less than 0.7 then the internal consistency is questionable. If α is more than 0.5 and less than 0.6 then the internal consistency is poor. If α is less than 0.5 then the internal consistency is unacceptable.

Table 3. Cron Bach Alpha Test Result

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.867	.868	5

Table 3 shows the result of Cron Bach Alpha Test to verify the reliability (internal consistency) of the Likert Scale data. The test shows $\alpha = 0.867$. The reliability (internal consistency) of this data is good. Therefore, the data from this test is reliable (consistent internally).

Spearman's Rank Correlation Coefficient Test

Spearman's rank correlation coefficient test from the SPSS software shows the correlation between two ordinal variables (quantitative data). This was used to analyse if there was a correlation between students' perceptions and Moodle logs on the LLFXX Moodle page or their academic achievement (total marks).

It looks at two things. Firstly, it shows Spearman's rank correlation coefficient, which shows the association the two variables have with each other. If the variable on the y axis increases, so should the variable on the x axis. This correlation is signified by the use of r.

The r in linear relationship shows the following:

If r is:

+ value   then there is a positive relation,

0   then there is no relation, and

- value   then there is a negative relation

+/- 0.5 - +/- 1   then there is a strong correlation (High degree),

+/- 0.3 - +/- 0.49   then there is a medium correlation (Moderate degree),

+/- 0.29   then there is a weak correlation (Low degree)

Secondly, it looks at the alpha value. The alpha value used for this research was 0.05. Before using SPSS to carry out the test, it was formulated that:

Ho: there is no correlation between students' perception and their Moodle logs or their academic achievement (total marks).
H1: there is a correlation between students' perception and their Moodle logs or their academic achievement (total marks).

Using a two-tailed test, the test variable (p) was calculated.
If
p < alpha – result is statistically significant, shows there is a correlation (alternative hypothesis);
However, if
p > alpha – result is statistically insignificant, showing there is no correlation (null hypothesis).

Students' Perceptions Analysed with Spearman's Rank Correlation Coefficient

Table 4. Students' Perception and Moodle Logs

Students' Perceptions and their Moodle Logs

Perceptions	p value (α)	Correlation coefficient (r)
Practicality	0.046	0.224
Relatable	0.065	0.208
ICT in USP	0.264	0.126
ICT- Digital Knowledge	0.021	0.259
ICT – Interaction	0.121	0.287

Table 4 shows the students' perceptions and their Moodle logs. The practicality of Moodle usage for studies in Blended mode and their Moodle logs had a weak positive statistically significant correlation ($α = 0.046$ and $r = 0.224$). The relatable services of Moodle to students' study and their Moodle logs had a statistically insignificant correlation ($α = 0.065$ and $r = 0.208$). The impact of ICT at USP on the results and students' Moodle logs had a statistically insignificant correlation ($α = 0.264$ and $r = 0.126$). The impact of digital knowledge on the results and students' Moodle logs had a weak positive statistically significant correlation ($α = 0.021$ and $r = 0.259$). The interaction on the LLFXX Moodle page and its effect on the results had a statistically insignificant correlation ($α = 0.121$ and $r = 0.287$).

Table 5. Students' Perception and Marks

Students' Perception and their Marks

Perceptions	p value (α)	Correlation coefficient (r)
Practicality	0.069	0.205
Relatable	0.303	0.117
ICT in USP	0.428	0.09
ICT- Digital Knowledge	0.012	0.279
ICT – Interaction	0.014	0.273

Table 5 shows students' perceptions and their marks (academic achievement). The practicality of Moodle usage for studies in Blended mode and their marks had a statistically insignificant correlation ($α = 0.069$ and $r = 0.205$). The relatable services of Moodle to students' study and their marks had a statistically insignificant correlation ($α = 0.303$ and $r = 0.117$). The impact of ICT at USP on the results and students' Moodle logs had a statistically insignificant correlation ($α = 0.428$ and $r = 0.09$). The impact of digital knowledge on the results and their marks had a weak positive statistically significant correlation ($α = 0.012$ and $r = 0.279$). The interaction on the LLFXX Moodle page and its effect on their marks had a weak positive statistically significant correlation ($α = 0.014$ and $r = 0.273$).

Table 6. Correlations between Students' Perceptions

Perceptions	p-value (α)	Correlation coefficient (r)
Correlation between Practicality and Relatable	<0.001	0.647
Correlation between ICT in USP and ICT- Digital Knowledge	<0.001	0.387
Correlation between ICT- Digital Knowledge and ICT – Interaction	<0.001	0.786

Table 6 shows the correlation between the students' perceptions. The perceptions of students' practicality of Moodle usage for studies in Blended mode and the relatable services of Moodle to students' studies had a strong positive statistically significant correlation (α = <0.001 and r = 0.647). The impact of ICT at USP on the results and the impact of digital knowledge on the results had a medium positive statistically significant correlation (α = <0.001 and r = 0.387). The impact of digital knowledge on the results and the interaction on the LLFXX Moodle page had a strong positive statistically significant correlation (α = <0.001 and r = 0.786).
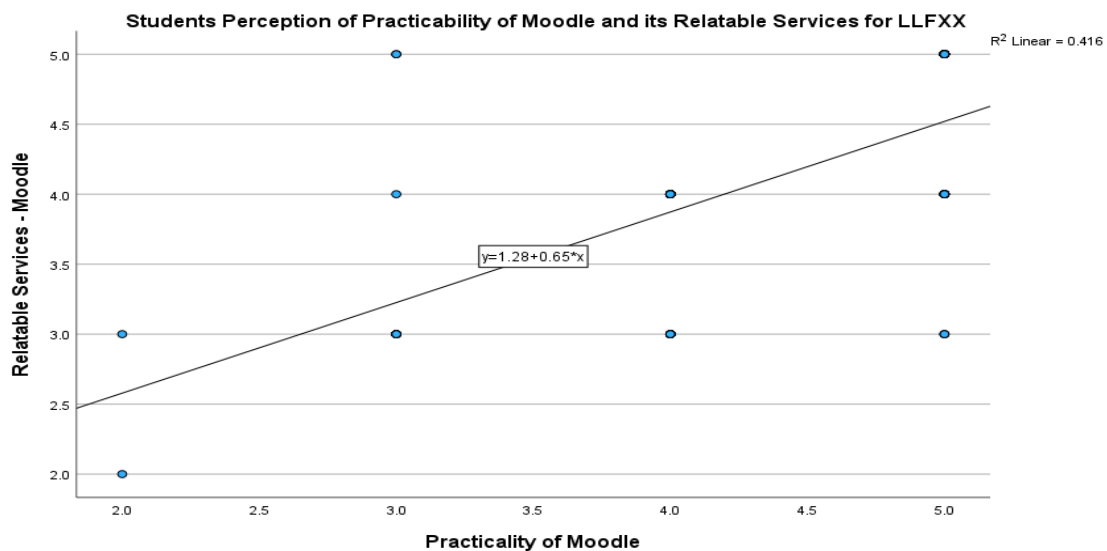
Figure 5. Students' Perception of the Practicability of Moodle and its Relatable Services

Figure 5 shows a scatter graph with a correlation between students' perception of the practicality of Moodle and its relatable services for LLFXX. The graph shows a strong positive correlation between students' perception of the practicality of Moodle and its relatable services for LLFXX.
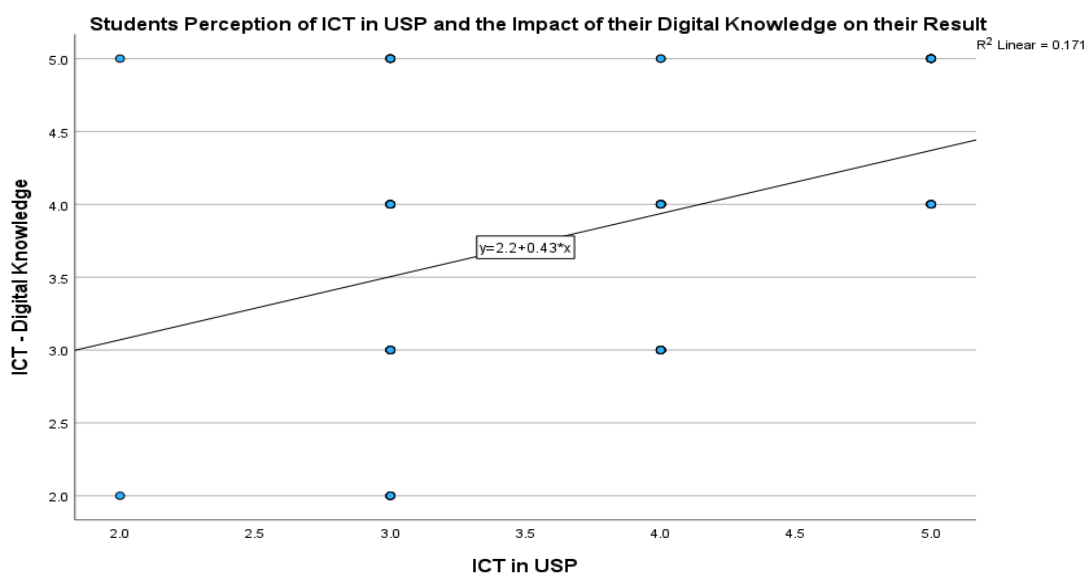

Figure 6. Students' Perception of ICT in USP and the Impact of their Digital Knowledge

Figure 6 shows a scatter graph with a correlation between students' perception of ICT in USP and the impact of their digital knowledge on their results (academic achievement). The graph shows a medium positive correlation between students' perception of ICT in USP and the impact of their digital knowledge on their results (academic achievement).
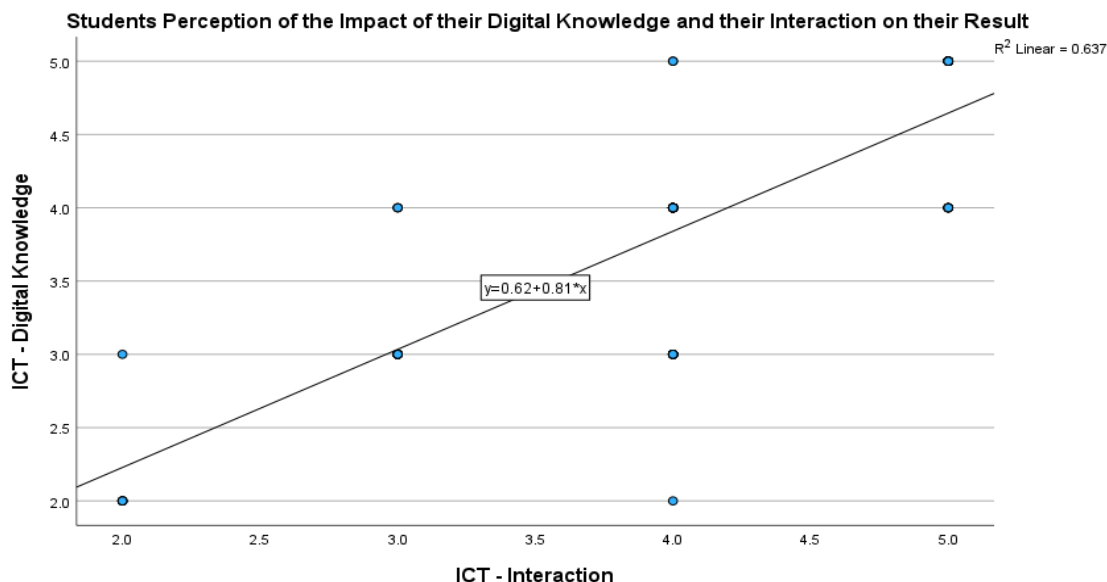

Figure 7. Students' Perception of the Impact of their Digital Knowledge and their Interaction/ Engagement with their Result

Figure 7 shows a scatter graph with a correlation between students' perception of the impact of their digital knowledge and their interaction on their results (academic achievement). The graph shows a strong positive correlation between students' perception of the impact of their digital knowledge and their interaction on their results (academic achievement).

Discussion

This study explored students' perceptions about ICT's role in their engagement with the institution (USP). A Cron Bach Alpha Test value of 0.867 shows that the data is good and reliable (internal consistency). Spearmen's Rank Correlation Coefficient Test shows how closely the students' perceptions are related to the Moodle logs and marks (academic achievement).

The first question explored if there is a correlation between students' perception of Moodle and ICT at the USP and their Moodle log on the LLFXX Moodle page. Two (Moodle Practicality and ICT-Digital knowledge) of the five perceptions had a statistically significant correlation (Table 4). Both perceptions had a weak positive association with the Moodle Logs. Moodle Practicality had a r value of 0.224 and ICT-Digital knowledge had a r value of 0.259. This shows that learners perceive Moodle to be practical in their studies. Therefore, they log onto it. Learners also perceive their digital knowledge to be useful in their studies and due to it they log onto Moodle. The remaining three (Relatable Moodle, ICT in USP, and ICT – Interaction) perceptions (Table 4) had a statistically insignificant correlation.

The second question investigated if there is a correlation between students' Perceptions of Moodle and ICT at the USP and their academic achievement (total marks) in LLFXX (Goyal & Purohit 2011; Noor-Ul-Amin 2013). Two (ICT-Digital Knowledge and Interaction) of the five perceptions had a statistically significant correlation (Table 5) (Goyal & Purohit 2011; Noor-Ul-Amin 2013). ICT plays a crucial role in students'

perception of their digital knowledge and interaction and their academic achievements (total marks). Both perceptions showed a weak positive association with the student's academic achievements (total marks). Though the association is weak, most importantly it has an impact on students' academic achievements (Goyal & Purohit 2011; Noor-Ul-Amin 2013). Students' digital knowledge had a r value of 0.279 and ICT interaction had a r value of 0.273. The other three perceptions (Moodle practicability, Moodle relatability, and ICT in USP) had a statistically insignificant correlation (Table 5).

Students' perception of their digital knowledge has a statistically significant correlation with the Moodle Logs (Table 4) and their academic achievements; that is their marks (Table 5). Therefore, since students' perception of their digital knowledge has a statistically significant correlation with their Moodle Logs and marks, it can be implied that learners gain confidence and use Moodle a lot and thus excel academically. Even though their association is weak, it is positive. So, students' perception of their digital knowledge is positively associated with their Moodle Logs and marks (Table 4 and Table 5). Table 6 shows that students' perceptions of Moodle Practicality and Relatability are statistically significant (α = <0.001) and show a strong positive association with each other (Figure 5). This shows that students' perceptions surrounding Moodle are very reliable. Similarly, there is a strong positive statistical correlation between students' perception of ICT–digital knowledge and ICT interaction (Figure 7). Therefore, students' perceptions of their digital knowledge and interaction with ICT are very reliable. A medium positive statistically significant correlation between students' perception of ICT in USP and their digital knowledge also is reliable. These results show that students have a very healthy positive view of USP's ICT and Moodle presence.

Such reflections are a reflection for the institution on their investments in ICT and Moodle. These assist in future planning and implementation of upgrades and new technologies. These show that even at the pre-degree level, the learners have positive perceptions of ICT and Moodle at the USP. These positive perceptions are also influencing their Moodle Logs and academic achievements (marks). This is the most desirable attitude of students for any institution for their prosperity and success.

Conclusions

This study has shown that some perceptions of students about ICT and Moodle at the USP have a correlation with their Moodle Logs and academic achievements (marks). These perceptions have a weak positive association with the Moodle Logs and academic achievements (marks). This suggests that a positive perception of ICT and Moodle at the pre-degree level promises more impactful perceptions at degree levels.

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Gender-Based Violence and Educational Development of Children in Northern Nigeria

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ABSTRACT: Despite the overarching significance of education in the world today, numerous children in Northern Nigeria have been denied education due to socio-cultural practices. There is a reasonable need to emphasize the importance of educating children for societal development. This study explores the culturally influenced gender-based violence practices and their effects on the educational development of children in Northern Nigeria. The study employed qualitative method and conducted 62 semi-structured interviews, comprising of twenty-eight (28) teachers and thirty-four (34) parents of primary and secondary school children in gathering data. The study discovered that there are high practices of early child marriage on the girlchild and child labor on the boychild as two forms of gender-based violence perpetuated on children, which affects the children's educational development in the region. The study suggests the need for more societal sensitization about child marriage and child labor. Also, more efforts should be directed toward educating people about the importance of education and placing a high value on it.

KEYWORDS: Education, Gender-based violence, Socio-cultural practices, Development, Nigeria

Introduction

In today's contemporary world, education stands as the determinant for the growth and development of any country. It is a significant aspect of human resource development. There is a reasonable need to emphasize the importance of educating children who are to become the leadership of the future. Education is designed to improve the social life and other institutions that comprise society. As rightly asserted by Uba and Ngozi (2017), education today must have the effect of providing a country with a consistent supply of highly creative citizens who can help enhance the general citizenry's living conditions and solve the existential problems that arise. Despite this, it also serves the interests of other sectors of the economy, making it a powerful tool for change and growth as well as a powerful tool for resolving societal issues. This is due to the fact that education, in all of its forms, attempts to instil consciousness in the minds of those who receive it, as well as to provide them with the tools necessary to solve problems (Carpenter et al. 2020). Carpenter and other co-authors (2020) argued in this regard that people and nations are what they are as a result of the nature and forms of education they have received. The level of growth of any nation is heavily influenced by the quality and level of education it has obtained. It is an undeniable reality that serenity is an antidote to successful teaching and learning in any educational system.

There is a reasonable need to emphasize the importance of child education especially educating a girl-child. In many religions of the world, education has been denied to children, especially girls, due to cultural and social norms and practices that cause harmful stereotypes of suitable women's roles and emphasize the idea that education is a waste on girls. Gender-related violence and other types of discrimination

within schools have contributed to children's high rate of school abandonment. Aside from the socio-cultural factors that give rights to the violation of human rights, other political, legal, and economic factors obstruct the full implementation of rights to education for children especially female children. One of the countries where access to education among children is hindered is Nigeria.

The online database shows the demographic of Nigeria according to Populationof.Net indicates that Nigeria has a current population of over 222 million people, making it the most populous countries in Africa and among the top ten most populous country in the world. The United Nations Children's Fund (UNICEF 2018) asserts that 40 percent of Nigerian children aged 6 to 11 do not attend primary school, with the North having the lowest school attendance, notably for girls. Also, young individuals under the age of 15 make up 40% of the population. If the Nigerian population is 173 million and 45 percent are under the age of 15, it means that approximately 77.9 million Nigerians are under the age of 15; and if approximately 40 percent of that number are not attending primary schools, it means that approximately 31 million Nigerian children may end up illiterate. This is a disturbing fact to educational development in Nigeria. The main goal of this study is to explore the problem of gender-based violence in relation to children educational development in northern Nigeria. The study will examine the influence of traditional beliefs on children's educational development in Northern Nigeria.

Importance of Education for Societal Development

Education can be seen as a process that starts at birth and continues until death. The first few years of life are extremely important since they have an impact on subsequent events. Emil Durkheim argued that education is the influence exercised by adult generations on those who are not yet ready for social life. The goal of education is to shape the social being and this goal and major function of education is to prepare students for their duties as workers and members of a broader society (as cited in Davies 1994, 5). In other words, the main goal of education is to support children's intellectual growth and physical development. Education is society's commitment to producing the right kind of people and upholding the right values. According to Russell (1926), education should give children a roadmap so they can develop their talents and capacities. A child should have access to the best education possible through an educational system, regardless of whether they are male or female. In addition, the growth and development of every society sit on the level of how intellectually equipped the younger generation is. No society should have a huge population of uneducated children to ensure nation building and development.

Historical Background and Contemporary Situation of Education in Nigeria

In Nigeria, several communities participated in informal educational processes prior to the arrival of Western education. In the northern part of the country, Islam was the religion and the people's traditional educational orientation. Each ethnic group had its own unique educational system based on its own culture and tradition in the Southern regions. In the early half of the sixteenth century, Christian missionaries established the Western Educational system in Nigeria. Western education was brought by Christian missionaries in order to open up trade and teach the populace how to read the Bible in both the native tongue and English. The missionaries' efforts included teaching local schoolteachers, catechumens, and clergymen as well as gardening and agriculture. The primary goal of spreading Western education through the construction of missionary schools was essentially to propagate Christianity (Fafunwa 1974). This goal was successfully achieved as many children were

converted into Christianity through the school system. The propagation of Christianity alongside Western education serves as an antagonist to the already established educational system of the northern region and the religion of Islam, which is practiced by the majority of people in the region. Although the Nigerian system has separated Western education from Christianity over the years, the perception of Western education as Christianity is still rooted in the mind of people in northern Nigeria. In other words, an average northern Muslim sees Western education as Christianity and rather prefers to take their children to the traditional/Quranic schools, which has now become the Almajiri system due to the lack of propagation of the traditional system of education by the government.

Functionalism Approach to Gender and Education

The functionalism theory views society as a collection of interconnected parts that make up the whole. As a result, gender is positioned in this approach in a very functional manner that was formed at the beginning of history. In ancient times, men and women had a very efficient division of labor in hunter-gatherer societies, men were hunters and outsiders, and women were mothers, nurses, and housekeepers (Lindsey 2011). This division of labor, according to functionalists, stems from biological differences between men and women; however, sexual division of labor exists in every culture and is not a result of biological "programming," but rather a logical basis for organizing society (Giddens 2009). In summary, according to functionalist theorists, certain roles for men and women in preindustrial societies are derived from biological differences; however, in contemporary societies, those distinct roles will be less distinct. Gender is a useful tool for moving society forward in the right direction by assigning male and female roles. Gender also contributes to social unity by bringing men and women together to form a family (Macionis 2010).

The theory of functionalism also views society as a collection of social institutions such as the family, culture, religion, education, economy, politics, health, and law. Everyone has a responsibility or part to play in keeping society alive and well. This active participation results in vivid contributions to the system's long-term growth and development. It also promotes division of labor, allowing each social institution to make a meaningful contribution to the advancement and upkeep of the entire society. This will help to alleviate societal issues including poverty, unemployment, insecurity, and inequality (Okeke 2002). This theory is applicable and important for this study because education is one of the structures that comprise society.

Culture, Gender Inequality and the Religion of Islam

Gender, in general, is perceived as psychological, social, and cultural differences between males and females; it is primarily about masculinity and femininity, rather than biological sex. While some studies have concentrated on the role of economic power in achieving gender equality (Blumberg; 1987; Boserup; 1970; Nash et al. 1983), others have emphasized the role of culture (Rosaldo 1974). For the sake of this study, culture is defined as "religious, political, or other highly valued commitments that distinguish one group of ethnic from another, most notably through the determination of appropriate gender-role behaviour" (Clark, Ramsbey, and Adler 1991). Women's lesser position, or, conversely, women's equality with males, can be justified ideologically through culture. This study is interested in two overlapping aspects of culture: religion, and ethnicity/region. The hierarchical aspect of religion makes it more difficult to recognize the patriarchal system as unjust. Patriarchy in politics, the family, and gender relations are all influenced by hierarchical religion. Thus, patriarchy and Gender inequality are developed and nurtured through the cultural belief system of a society. In the case of most Muslim societies, religion is upheld in society as

guidance and the total way of life. In other words, the misinterpretation of the principle of Islam by most Muslim societies encourages inequality and male dominance over the female gender in both public and private sphere, which is perceived as the norm in such societies. Thus, the relationship between cultural beliefs and gender inequality is prevalent in Northern Nigeria. Northern Nigeria is a Muslim-dominated region in Nigeria that mostly strictly adheres themselves to the religion of Islam.

Gender-based Violence in Nigeria

Gender-based violence is a central human rights problem involving all school ages and sexes (Oladepo et al. 2011). Gender-based violence (GBV) is any harmful act targeted at any individual or group based on their gender (Strachan & Haider 2015). Gender-based violence includes sexual harassment, domestic violence, forced prostitution and early forced marriages, human trafficking, female genital mutilation and cutting, honor killing, rape, and many more (Almugahed, Pertek; & Fida 2017). Gender-based violence (GBV) is a heinous violation of human rights that has negative consequences for victims, survivors, families, communities, and civilizations. Sexual violence, physical violence, emotional and psychological abuse, child marriage, femicide, trafficking, female genital mutilation (FGM), domestic violence, and rape are all examples of Gender-based violence. According to Nedegaard et al. (2014), Gender-Based Violence (GBV) against women and girls is a global phenomenon and a problem that unfortunately plagues all societies. There is different Gender-based violence across cultures, and GBV is perceived and addressed by various communities.

According to the United Nation Report (2020) 30% of girls and women aged between 15 to 49 years old said they had sexually been abused in Nigeria. According to the report, harmful practices like child marriage are common, with 43% of girls marrying before the age of 18, and 20% of women aged 15 to 49 having female genital mutilation.

Methods

The research employed a qualitative method analytical approach. For a comprehensive grasp of the issues under investigation, this study employed an exploratory approach in gathering its data. The review of the past literature examined the antecedents of gender-based violence; however, this failed to fully explore the various forms of gender-based violence affecting the educational development of children in Northern Nigeria. Given the concept's obscurity, qualitative methods are well suited to eliciting deeper insights. The study employed semi-structured interviews in collecting data. The rationale for using semi-structured interviews is that they allow for detailed answers and clarifications about a topic, as opposed to respondents answering predefined questions as in surveys.

Sixty-two (62) participants were interviewed for the research comprising of twenty-eight (28) teachers and thirty-four (34) parents of primary and secondary school children. The age of the respondents ranged from 30 to 64 years. The bulk of the participants were married and having children, while the rest were single. Most significantly, the respondents came from a variety of ethnic backgrounds to ensure that the sample mirrored the diversity of the population.

Due to the sensitivity of the research topic and for security measures, the researchers employed snowball technique in obtaining their sample. The participants are asked to suggest other participants who might be interested in participating in the study. The researchers chose parents and teachers as the primary source of data due to ethical reasons and the sensitivity of the topic of gender-based violence on children. The researchers believe that the data needed for the discussion on gender-based violence and

the educational development of children will be sourced from the parents and teachers of the children in northern Nigeria in achieving the study. The respondents identified themselves as either Muslims or Christians.

The interviews yielded interpretations of the meanings linked with society's attitudes toward education, which were coupled with perspectives from the literature to develop significant themes (i.e., connecting emergent themes and ideas with the theoretical concepts from the literature). This study used Braun and Clarke (2006)'s suggested systematic methodology to analyze the interviews. The methodology Braun and Clarke suggested is popularly known as the thematic analysis. Thematic analysis is a qualitative data analysis technique that entails reading over a data collection (such transcripts from in-depth interviews or focus groups) and looking for patterns in meaning to extract themes.

Findings and Discussions

Table 1: Socio-demographic Characteristics of Respondents

Socio-demographic data	Frequency	Percentage %
Role		
Teachers	28	45.1%
Parents	34	54.8%
Gender		
Male	23	37.0%
Female	39	62.9%
Age		
30-40	41	66.1%
41-50	12	19.3%
51-60	9	14.5%
Marital status		
Single	10	16.1%
Married	43	69.3%
Divorce	9	14.5%
Ethnic group		
Hausa	22	35.4%
Gbayi	4	6.4%
Adara	8	12.9%
Ham	7	11.2%
Bajjuu	6	9.6%
Yoruba	11	17.7%
Igbo	4	6.4%
Religion		
Islam	43	69.3%
Christianity	19	30.6%

From Table 1, it is visible that the majority of the respondents (54.8%) are parents while the remaining (45.1%) are teachers. The majority of the respondents (62.9%) are female, while the remaining (37.0%) are male. Also, the highest number of respondents (66.1%) are

between ages 30-40 years, while (19.3%) are between ages 41-50 years, and the remaining (14.5%) are between ages 51-60 years respectively. Most of the respondents are married (69.3%) while (16.1%) are single and the remaining (14.5%) are divorced. With regards to the ethnic group, most of the respondents (35.4%) are from the Hausa ethnic groups, while (17.7%) Yoruba, (12.9%) Adara, (6.4%) Gbayi, (11.2%) Ham, (9.6%) Bajju and (6.4%) are the Igbo ethnic group. Finally, the religion of the majority of respondents is Islam (69.3%) and (30.6%) Christians.

Societal Attitude towards Western Education

The findings present two different societal attitudes toward Western education. The first group, which can be regarded as a group of Western education apologists who uphold the belief that education, is one of the essential variables that can ascertain prosperity-filled future for their children. It can be argued that this perspective emerges from the colonialist-impacted ideologies which attach prosperity to their form of education. Boyd (1997), explains that some of the problem militating against education, especially female education has been negative due to its bore relevance of religious, cultural, traditional, political and gender issues. He explained that the brand of education during the colonial era was against the opinion of the Emirs, District head, Village age and the people. Furthermore, James (1998) in his study on parental attitudes towards education in Northern Nigeria, addressed issues with the education of both boys and girls. He made an effort to gauge several aspects of Kano parents' attitudes. There seems to be a preference among some parents for their kids to read and write Arabic due to their religious leaning towards Western education. Dahiru (1991) explained along economic lines that parents prefer to train their children towards experts in their occupation over Western education. In other words, farmers didn't want to give up their children to go to school because they wanted them to be successful farmers like themselves. (Ngwandang 2001). On the other hand, the Western educational antagonistic school of thought argues that there should be nothing as important as God and the religious knowledge. The upholders of such belief system fall under the spectrum of the traditional and religious education grouping.

When the respondents were asked about their perception towards Western education, the majority of the parent respondents believed sending their children to school was the best way of securing a better future for their children. A 43-year-old respondent who is a parent to three children from the Hausa ethnic group narrated that:

> *Western education is good for the future of the children so that they can have something to hold on to in future.*

Another 52-year-old parent respondent with 5 children from the Adara ethnic group also explained:

> *It is very important to send children to acquire Western education. A certificate is important to become something in our society.*

However, some of the respondents went ahead to explain that many people in their communities prefer their children to attend the traditional religious schools (Almajiri schools) and are yet to embrace the Western form of education. A 38-year-old parent respondent with two children from the Hausa ethnic groups stated that:

> *It is a common practice here, most of them don't like this Western education, they prefer going to the religious schools. I mean the Almajiri schools. They will go the Mallams (teacher) place to learn the Quran.*

Another 38-year-old parent respondent of 2 children from the Yoruba ethnic group explained that people are gradually giving value and know the importance of Western education in the society she stated that:

> *It was before they looked down at Western education as not important, but now even in rural area, some of them now know it is important to send their children to school because they see political office holders and they want to be like them.*

In addition, when the respondents who were teachers were asked about the attitude of parents towards educating their children, some of the respondents explained that most of the parents of children who attended public schools show nonchalant attitudes towards the education of their children. A 50-year-old teacher from the Hausa ethnic group explains:

> *Most of the parents are not learned, so they don't place value on education like that. You will find out that a child will be coming to school late at 9:30am while we have gone through with the first and second period already. They come to school so late and in this community, we have this market that they usually have a market day like every Tuesday. So, on the day of the market, you find out that children will not be coming to school on the day of the market because they will send them to the market to go and hawk for them to make money than sending them to school. The attendance on Tuesday in my school is very poor. And during farming period, they are not punctual in school. They come to school anytime they like especially in harvest period.*

Furthermore, the respondent further explained that the number of children in schools has increased in recent times as a result of some measures implemented by the state government, such as the feeding programs introduce in schools. However, this full attendance is for a limited time. A 39-year-old teacher respondent from Ham ethnic group narrated:

> *The state government introduced feeding. They are giving them free food. Maybe it is because of the feeding. They have timetable for the food. So, because of that, it makes them come to school because they know that they will have what to eat in the school, so when the feeding is going on, you find out that the number of the pupils in class will be high than when food is not shared. So anytime there is no feeding, when the federal govt does not release funds, the presence of the children will be low at that period.*

Also, the government employs the use of the Joint Task Force (JTF) to pick up any children found on the street during school hours. A 34-year-old teacher of the Adara ethnic group explains:

> *What the government does now is that they have this local police, Joint Task Force (JTF), that they use to pick up any children found on the street during school hours and keep them somewhere. So, their parents will have to use money to bail their children. This is a way of preventing children from hawking and forcing the parent to take their children to school.*

It can be deducted from the individual stances of these two groups that education is important as it immensely contributes to prosperity-filled future. However, their point of divergence is grounded in the style of education. Historically, the northern region of Nigeria had a single defined style of education, which was mainly the traditional and religious education now resulting into the Almajiri system before the Western incursion in the country which spurred the emergence of Western education in the country. However, the incursion saw the degradation of the former style of education and prioritization of the later. The degradation of the former has affected the development of the traditional and religious style of education and denied it the resources to meet up with the contemporary society.

The respondents' responses provided the researchers the lens to read the attitudes towards the two pronounced educational styles in the region. The strong adherence to the cultural values of traditional and religious education makes it almost impossible for this concentrated ambience of study to shift and accept Western education. Despite the resources such as free feeding for the school children put in place by the government of the state to entice the general public and draw them towards Western education, the

society is seen to prefer to enrol their wards in the Almajiri system of education (traditional and religious school) which has turned the children into street beggars rather than impacting knowledge. It can, as well, be deducted that it is only a few sets of people in the society that genuinely desire Western education for their children, while others use their children for hawking and farming.

Gender-based Violence Affecting Children Educational Development

The study examines the societal attitudes towards male and female education. The respondents who were parents were asked if the society allows both male and female children to seek Western education. The majority of the respondents who were parents narrated that people in their locality do allow their children to get Western education. However, there is a difference between the male and female advancement in education. Most of the respondent are of the opinion that parents do allow their boy child to attend school, but the female children are prevented from furthering their education beyond secondary school level. The respondent further explain that it is a common practice within the northern region to give their female child out in marriage once she attains puberty. A 44-year-old teacher from the Hausa tribe explained that:

> *Some of the natives send their children to school but they are few of them. And some of them that send their female children to school, once they are done with secondary school, they send them to their husband's house. They believe that once a female child has started her first menstruation, she is supposed to be in her husband's house. The moment a female child start menses, they must get her married.*

Also, most of the teacher respondents also attest to the above claim that parents allow their sons to complete their education while their daughters are more likely to drop out of school once they reach ages 13 and above. The respondents further explains that it is a Hausa cultural practice to marry off their female children once they reach puberty.

Furthermore, some respondents explained that parents support their male children more than their female children to further their education because they believe the male child will end up becoming the family breadwinner in the future, whereas the female child will leave the family to join her husband in another family, and thus the female child is perceived as not adding any value to her family. This is in accordance with Majasan (1975) explained that the traditional man believes that the goal of Western education is to create "Goodmen". Although different parents have different motivations for sending their children to school, the ultimate goal is for each person to become self-sufficient and able to play their part in the development of the country. However, Hammajam, and other co-authors (2015) in their findings on attitude of parents towards Western education in Borno state highlighted some of the reasons why parents refuse their girl-children to school. Some of the major reasons are; Parents believe that education interferes with females getting married at the appropriate age; they believed that after receiving a Western education, girls started acting lethargic. They also hold that girls should remain at home and that once they have an education, they become disinterested in household administration.

On the contrary, according to some other respondents, some female children are allowed to continue their education after marriage if their husband allows it. And these cases are more likely to occur when the girl's husband is educated. A primary school 31-year-old teacher respondent from Hausa tribe explained:

> *..In my class, I have a girl that got married last month in primary 6, the girl is 14 years. What they belief in that community where I teach is that any child from the ages 13, 14 should not be in the parents' house again. They will just do bikin aure (wedding). But there are some after getting married they go to secondary school*

> *if the husband is educated. So, they usually use hijab to differentiate them. The students with very long hijab are the once's that are married.*

Also, a 37-year-old secondary school teacher narrated that:

> *..they care more for the boys than the girlchild, they shown concern because they feel that one day they will settle down as a man to be the head of a family. So, they will prefer them going to school so that they will have education and have a better job doing while the female once they feel that they will get married to another family, so they don't care about educating them. They send them to hawk so that they can gather money that will be used to buy their 'aure' wedding properties.*

In addition, the teacher respondents were asked if there is a difference between the male and female student attendance in their school. In response to the question, some of the participants claim that there are more male students than the female students in their schools. They further explained that the female children are usually seen on the street hawking during school hours. Also, some of the respondents explained that there is reduction in the attendance of male students during farming season.

On the contrary, some of the respondents reported that there are more female students than male students in their schools. However, within the focus group interviewed for this research, the researchers observe that those respondents who reported more female population in their schools are teachers of primary schools while those teachers who reported more male students in their school are teachers of secondary schools. Interpretation of data can suggest that there are more male than female students in secondary schools because of the cultural practice of early marriage of female children.

A 31-year-old primary school teacher from the Hausa community narrated that:

> *The male population are more than the female population because their parents normally send their female children to go for hawking to get money for them. But during farming season, they go along with their male children to farm.*

In the same vein, another 40-years-old secondary school teacher from Adara tribe stated:

> *There is a difference. There are more male children because when the female children are in school, most especially secondary schools, you will find out that they are unable to finish their secondary school to get their certificate because their parents got them married.*

Furthermore, it was discovered that the majority of the children enrolled at the traditional educational school system now known as the Almajiri are usually male children. The parents of the male children hold the perspective in sending their male children to the traditional school system so that they can in future become religious preachers and clerics. However, this traditional school institutions in the past before the introduction of Western education by the colonial masters used to get funding from traditional rulers and the wealthy of the community. While the traditional schools still maintain its tuition free system as it was in the past, they do not get support from the government of the day to run the institutions. This has caused the teachers' knowns as mallams to send the children out to the street to beg for funds to take care of the students and the institutions. Thus, creating the Almajiri system of children begging for alms on the streets. Some of the respondents reported some of the events surrounding the Almajiri children. A 57-year-old parent narrated the attitude of many parents in her community:

> *The parents take their boys to the Mallams (teacher) place to learn with no provision and the Mallam will then send the students out to the street to seek for food and funds…*
>
> *…there was a time the governor packed the children of the Almajiri schools begging on the street.*

Another 48-years-old parent respondent further explained:

..any time from 9am to 12;30pm, the local police are on the street patrolling to make arrest of any child found rooming about. So even if a parent does not want their children to be in school, the children will hide them at home.

The afore-given excerpts of the interview foreground that gender-based violence is a product of every patriarchal culture which produces gender spectrum and gender orientation and these in turn, propagates gender inequality and gender-based violence. Thus, this assertion explains that gender-based violence is grounded in cultural beliefs and values that give importance to masculinity above femininity.

The adherence to the traditional ways of life is evidential in the way gender is being seen in the area of study. It can be deduced from the respondents' responses that the occupants of the state often permit male and female gender the access to Western education. Although, this accessibility to Western education is not proportionate equal amidst the two genders as the respondents' responses illuminate on the fact that the male children are more permitted by their parents to benefit from the Western education than the other gender.

It is pivotal to mention that the gender-based violence in the concentrated ambience is often seen in the aspect of the proliferated culture of child marriage. The embedded cultural belief system often propagates the ideology that a female child's value is tied to their early marriage while a male child's value is tied to the acquisition of proper education. As mentioned by the respondents, the culture is to marry them off at any sign of puberty which often denies them the opportunity to complete their secondary school education or further their studies to tertiary education. Majority of the people in this ambience of study are of the opinion that female children are only meant to be trained and prepared for "*aure*" which means marriage and not to be enrolled into any Western form of education. It is the few fortunate of married teenagers that are often seen completing their secondary education.

The effect of cultural practices of early child marriage is salient in northern Nigeria. The value of the girlchild is weighed on a scale on how early she can secure a husband to her name. This study interprets these practices as detrimental to the growth and development of the girlchild in the sense that the education of a girlchild is not prioritized in the society. This practiced mindset doesn't allow the push for growth, for the girlchild to follow through to the end, in achieving the required education needed for them to be relevant and be able to contribute to nations building and the development of their society.

Therefore, this practice can be seen to further empower the global pandemic of gender-based violence which Javed and Chattu (2021) argued to have affected one out of three female children in their lifetime. It is not only that the child marriage deprives them access to Western education, but as well rob them of their childhood experience as the few fortunate ones who are permitted to complete their education by their elite husbands are often segregated from their mates who are not yet married through their dress code. The findings conform with Nedegaard et al. (2014) asserts that Gender-based violence is compounded with traditional practices, social constructs, and religious fundamentalism.

This paper also deducts that the boychild experiences violence of forced child labor as a result of the Almajiri system which subjects the boychild to street beggars and exposes them to societal vices such as stealing, cultism, terrorism among others. It is important to mention that the survival of the Boko-Haram terrorist group over the years in the recruitment of their members may be linked to the flood of children on the streets begging for their daily bread for survival in northern Nigeria. Consequently, the study argues that it has been easy for terrorist group like the Boko-Haram to survive in northern Nigeria because children could be easily picked from the street and lured to join the Boko-Haram terrorist group which makes their recruitment processes much easier (United Nations 2017). Furthermore, these practices have become a virtues circle that promotes

poverty in northern Nigeria. The majority of the girlchild are prevented from acquiring or furthering their education; resulting in the lack of ability to be able to add value in moving the society forward away from poverty and in the shaping of their society. In addition, the majority of the boychild of this region are subjected to a form of education that lack the resources to prepare children into solving contemporary societal issues but rather contributes to the advancement of poverty in Nigeria. This study views the menace of early child marriage and child labor as gender-based because it is predominantly experienced by the girlchild boychild in northern Nigeria respectively. All these various forms of violence are detrimental to the children, and they affect the educational development of children in Nigeria.

Conclusion

The study shows that sociocultural norms and religious beliefs influence and play a significant role in societal attitudes toward Western education and children's educational development in Northern Nigeria. Also, the relationship between cultural beliefs, values and gender inequality, is prevalent, and it is evident in the attitude of the society in this study, which places more value on their male child over the female child in northern Nigeria. More so, gender-based violence affecting the educational development of children is embedded in the form of early marriage practices that most girl-child from the northern part had experienced for many years and by implication, it prevents the girl-child from acquiring or furthering their education. In addition, another form of gender-based violence against the boy-child is seen as well in the form of child labor through the Almajiri system of street begging which is harmful to the development of not only the children's education but affects the society at large.

   The research suggests that there is a need for the government to collaborate with traditional and religious leaders in the north to raise awareness and change societal perceptions regarding child marriage and child labor. Also, the government should invest in formalizing and standardizing traditional and religious education to modern standards. In addition, more efforts should be directed at educating people about the importance of education and placing a high value on it.

   While the current study offers several meaningful contributions, future researchers could expand its scope even further. Firstly, researchers may wish to investigate other forms of gender-based violence that impact the educational development of children in Nigeria, which were not covered in this study. Also, in order to be able to generalize the findings to other states and regions in Nigeria, additional research is necessary. Therefore, it would be useful to conduct representative quantitative studies.

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The Relevance of C.S. Lewis's Anthropology for the Contemporary World

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ABSTRACT: C. S. Lewis was one of the great intellectuals of the 20th and 21st centuries. Among other things, he distinguished himself as an apologist and a man who loved Scripture. His anthropological thinking may prove essential in the complex world of the 21st century. This paper will summarize the most significant anthropological views that C.S. Lewis addressed in his work and which he considered essential in human relations. These viewpoints can serve as starting points towards a broader understanding of the world and the interactions within it. His views remain relevant in the contemporary context in which we capture different perspectives on humanity.

KEYWORDS: Tao, Imago Dei, man, redemption, free will, sin, human nature

Introduction

C.S. Lewis through his approach can be an important resource by offering insights into understanding humanity and building a future. It is important to identify in his works those landmarks that make it necessary to understand man and the perspectives that are opened up by understanding him. His theological perspective proves necessary and useful in its realism, but also in its grounding in the realities of our troubled world. Although we are currently talking about the potential of the human being, C.S. Lewis manages to capture its vulnerabilities and lead us to a solid, grounded and balanced understanding of how man should relate to the complex realities of the world. Following the anthropological elements of C.S. Lewis' thought, one cannot help but find its relevance to the world we live in.

Imago Dei

Starting from the statement, "Let us make man in our image, in our likeness, and let them have dominion over the fish of the sea and over the birds of the air and over the beasts and over all the earth and over every creeping thing that creeps on the earth" (Gen 1:26, Catholic Bible). C.S. Lewis went beyond the classical understanding of this idea and saw that man's likeness to God means more than rightly affirming the dignity, worth and sacredness of all of God's creation, but also the special, chosen character of human beings. By this he meant a call from God to recognize the likeness to God of every person, thus reminding us of the need to love and honor our fellow human beings in a noble and dignified way. C.S. Lewis defines this idea more broadly when he says that we also speak of God-likeness when we look at the creative capacity of human beings. From this point of view, being human is seen in our ability to create. Through an act of mind and body, creatively, to be able to bring into being what is then seen. However, approaching God through relationship enhances this likeness to God. C.S. Lewis puts it this way: "The states in which man is 'nearest' to God are those in which man approaches most surely and most rapidly his final union with God, the seeing and savoring of God" (Lewis 2021, 222).

Tao

Each of us has a defining anthropological conception which forms the foundation of our relationship to life. We use concepts taken from the environment in which we live, we value them and make use of them or, on the contrary, we allow ourselves to be influenced by the concepts of man that are proposed to us through various means and instruments. When we talk about the Irish apologist, we notice his concern to show us how a linguistic loan can form the basis of a discussion about anthropology. That is why he proposes the Chinese term *Tao* for understanding how people are united by various moral norms and judgments of moral significance, regardless of culture, historical period or geographical area. The *Tao*, being "the only source of value judgments, subsumes written or unwritten laws, but present (still) in all peoples, such as: duty to children and offspring and duty to ancestors and parents" (Rodica 2006, 12). In the *Tao* we also find essential values related to truth, collective and private good and the manifestation of important inner acts: mercy, altruism or generosity.

From C.S. Lewis' point of view, we thus have a common denominator of humanity, a factor that unites people everywhere, regardless of the geographical area and culture in which they live. Speaking of morally significant values and judgments, the apostle Paul also sees a common element ingrained in the human mind when he says: "14 While the Gentiles, who have not the law, make [the works] of the law by nature, they, who have not the law, are law unto themselves. 15 They show that the deed of the Law is written in their hearts, and to this their consciences bear witness, and their thoughts, which by turns accuse them or exonerate them" (Rom. 2:14-15, Catholic Bible). He also says: "For what can be known about God is made known in them, since God has made himself known to them" (Rom. 1:19, Catholic Bible). Don Richardson in the book *Eternity in Their Heart* argues for this idea of a God and moral values that exist in all humanity using various experiences from distant parts of the world where monotheism or the existence of a God was accepted and even anticipated. The author (Richardson 1996, 34) builds his argument on the statement made by the sage Solomon who says: "He hath made all things beautiful in their season, and hath even put eternity in [man's] heart, though man cannot know the work that God hath wrought from the beginning to the end" (Eccles. 3:11, Catholic Bible).

The first consequence related to the *Tao* is in relation to the training of children and how education should be carried out. Referring to these issues and particularly to the influence exerted on the child, C.S. Lewis says that "It is not a theory, but a premise which is impressed on his mind, and which, ten years later, when he has forgotten whence it came... he is not aware of its presence" (Lewis 2023, 12). C.S. Lewis says of the child who has become an adult, that he may not see the opinion conveyed as controversial. Therefore, it is important that true education be governed by the *Tao*, because "the task of those who adhere to the Tao conception is to form in the scholar those reactions which are in themselves appropriate, whether they will be required of him or not, and the possession of which defines human nature itself" (Lewis 2023, 31).

Although we capture a pattern of moral values found in human beings everywhere we see a tendency for human beings to annihilate themselves. "Man's whole course in the world retains its optimal character so long as it evolves in harmony with Natural Law or Traditional Morality, which Lewis prefers to call concisely the Tao" (Rodica 2006, 15). Conflicting conceptions of the world and life are, in fact, more than an individual's choice, they are life itself because failure to follow Natural Law leads to self-destruction. Our choices should follow a path that man tends to take. The good functioning of human nature should be linked to the Tao and to the choices we make in accordance with this Moral Law with which we were created.

C.S. Lewis talks about several aspects that lead man to self-destruction, to the annihilation of the fundamental values (*Tao*) according to which we were created. The first enemy we are presented with is identified in the rise of new ideologies that partially

affirm values of the *Tao* or are contrary to it. The Irish apologist here uses the image of branches rebelling against the tree which can bring nothing good, perhaps only the destruction of the self. The idea of the progress of perceptions of values is not dismissed, but only affirmed, encouraged and supported from within the *Tao* (Lewis 2023, 61-63).

The second enemy that attacks human integrity is man's intention to conquer Nature. Here we are dealing with a formulation specific to human progress "and demonstrates the real possibility that power is exercised by a diminishing minority, and that every power gained by man is - indeed is - also a power over and against man" (Rodica 2006, 12). By endowing man with power, who, with the powers of scientific institutions and techniques at his disposal, may believe that he will be victorious against Nature, that he can shape the present and the future and that nothing can stand in his way, but in reality we are describing a sure path of man's destruction. One of the ways in which we see this means at work is "the way in which traditional values are dismantled, demythologized, relativized, and the will of a lucky few shaping 'ideologies' to their liking is also reflected in the way our language is affected" (Rodica 2006,14). The relativization of language is part of the elites' arsenal of struggle against the values that define it.

In the twentieth century - in which C.S. Lewis lived - it began to be asserted that there is no natural order to the world and that things do not possess an objective value that demands a particular response; rather, people simply give value to themselves and it is feelings that give objects their value. These feelings were culturally conditioned and relative to particular societies and individuals, and thus completely subjective. Lewis notes that from this conclusion followed certain corollaries, principally that "value judgments are unimportant", "all values are subjective and trivial" and "emotion is contrary to reason" (The Art of Manliness 2022).

Free will

Speaking of the way man was created, but also of his ennoblement, C.S. Lewis speaks of a great asset of the human being: free will. From his point of view we cannot talk about the fall into sin without talking about the power of the free will of the first humans. This is the supreme value from which we can start to understand human nature and how we can function. Free will, although it creates the premises for the fall (man can always choose something other than good), shows the dimension in which man was created: the relationship and understanding of self-awareness. This is why C.S. Lewis says that "free will... is also what gives value to love, goodness and joy" (Lewis 2019, 64). Uplifting values are brought to light by human free will. He is created to do good. Only in this good will he find himself and be able to live fulfilled. The understanding of free will is linked to the way man functions in relation to the supreme values.

Both C.S. Lewis and Thomas Aquinas (Rotaru 2005, 316-323) come to the conclusion that the human will is moved neither by power, nor pleasure, nor prestige, but by an appetite for our own well-being, something that will fulfil and satisfy us. If C.S. Lewis remarked that even after the best moments we experience in life we are still left with a sense of emptiness, Thomas Aquinas concludes thus: "From which it follows that nothing can obstruct the will of man except the supreme good which is not to be found in anything created, but only in God" (Aquinas, Summa Theologiae, I-II, Q.2. A.6 arg.I.).

Definition of sin

C.S. Lewis notes that compared to first century Christianity, cultural and ideological changes make it difficult for modern man to accept this diagnosis. The notion of sin has undergone many transformations, and calls for change must take account of this change in the concept.

Thus, we need a rediscovery of the meaning and depth of sin. "As long as we do not fully feel the truth of this assumption of His, we are not part of those to whom He has spoken, even though we are part of the world He came to save" (Lewis 2021, 397). He goes on to say where these shortcomings can lead us: "And when people try to be Christians without this prior awareness of sin, the result is almost inevitably a kind of resentment against God as One who is always inexplicably wrathful" (Lewis 2021, 397). The risk of self-deception and confusion over rightly relating to sin and feeling guilty makes a right understanding of personal sinfulness unnecessary. Consequently, a correct understanding of sin leads to a correct approach to repentance and a correct view of God's requirements.

For C.S. Lewis, the concept of sin conceals several meanings that can make us aware of the path we have taken as human beings. He speaks of the man fallen into idolatry of self, the one who worships his own person and goes in describing things to the point of "the appearance of a new configuration was a radical alteration of his constitution, a disturbance of the relation between the component parts and an inward perversion of one of them" (Lewis 2021, 420).

The factor that led to the fall into sin of the first humans is closely related to the use of free will in a destructive direction. Satan is the architect of the inoculation of ideas harmful to people and their future. C.S. Lewis says that "the idea that they could be 'god-like' that they could exist on their own as if they had created themselves - that they could be their own masters - inventing a kind of happiness of their own apart from God, apart from God" (Lewis 1991, 65). By this, C.S. Lewis does not mean that free will is harmful, only that it has been used independently of God and the result has led to man's moral downfall.

The meaning of life and the pursuit of happiness

The meaning of life is understood by C.S. Lewis in relation to man's inner life, his emotional side, aspects that have to do with pain, purpose, happiness that a man experiences during his life at various stages. Therefore, C.S. Lewis is dedicated to understanding how these interact with the spiritual life and become the means by which man's understanding of God is impaired or enhanced. Although he lived in a philosophical context in which logical positivism dictated the relationship to life and which said that the purpose of life is neither good nor bad and that we must verify statements through the five senses, C.S. Lewis was not swayed by this school of thought, although his mentor William Kirkpatrick was an ardent believer in this approach to life. In Lewis's view, the purpose of life is "that we should experience a happiness which he invariably described as eternal, infinite, complete or perfect. The experience of this happiness is the life of the blessed" (Goetz 2018, 65). For C.S. Lewis, the fact that we were created in this way is an expression of our future and our ideals.

Seen from another point of view, the question of the relation of pleasure to life itself should lead us to God - the Irish author says that the smallest pleasure is in fact a foretaste of God's intended purpose for us which should lead us to God (Lewis 1931-1949, 463). Aware that it can be misinterpreted by the strong emphasis on pleasure and the role it plays in the life of the individual, C.S. Lewis traces a new direction from which we can understand that man is created to seek certain things which are fundamental to his existence, and which testify to a much deeper need of his, namely, the genuine and profound search for God. For C.S. Lewis, "every pleasure a person experiences in this life is an indication of the purpose for which he was created, which is the joy of God, where to enjoy God is to experience pleasure" (Goetz 2018, 66).

Experiencing happiness is the basic engine of society and how we function. This premise is particularly important for understanding the quests of ancient and postmodern man. Man's goal, from C.S. Lewis's perspective, is happiness, which he seeks in the

wrong directions. As such, man's efforts and strivings are directed towards the fulfilment of this need. Dissociated from God, for C.S. Lewis, the pursuit of happiness in this way is a delusion, an illusion, for we can only function as we were created and that happiness apart from God does not exist. We are created to function only in relationship with Him; until this is initiated and functional, all our seeking and trying will be in vain (Lewis 2019, 66). Elaborating on this idea, C.S. Lewis tells us that we should not make these searches an end in themselves, but that they are merely means by which we remember that God promises us greater happiness. Thus, "God invigorates us along the way with pleasant inns, but does not encourage us to mistake them for our home" (Lewis 1970, 318). It should come as no surprise that C.S. Lewis devotes ample space to this topic, for the change in his conception of the world and life is also related to how he views happiness on an individual and collective level. Trained as an atheist and drawn to Christianity, he understands that one of the fundamental changes that take place in man also has to do with what brings us happiness.

The conflict between emotions and faith

In the writings of C.S. Lewis, we must also capture another side of human nature where we see signs of moral decay: the conflicting relationship between faith and emotions. In his view, the dimension of faith is challenged through imagination and emotions. In this sense, he says: "It is not reason that takes away my faith; on the contrary, my faith is based on reason. Imagination and emotions are to blame. The battle is between faith and reason on the one hand, and emotions and imagination on the other" (Lewis 2005, 92). Emotional and spiritual falls often lead to doubt on the one hand, but they are also born of doubt, and in these circumstances reason must sustain faith: 'Faith in Christ is the only thing that saves you from despair when you come to that point: and out of this faith in him good works must inevitably be born' (Lewis 1991, 103).

In *The Screwtape Letters*, this important idea that vulnerability to emotion is directly proportional to the intensity of temptation is highlighted: "If they get through the dry spell, they become much less vulnerable to emotion, and then they will be more difficult to tempt" (Lewis 2021, 19). How, however, can emotions fight against faith? To the question of how emotions can annihilate faith, the apologist gives several examples, among which we recall the case of the boy who knows from personal observation that people can swim, but who should believe that alone and unsupported by anyone he will be able to achieve this and not be overcome by panic (Lewis 1991, 98).

We understand in this way that emotions conflict with faith and annihilate the truths revealed by the God of human reason. Therefore, man becomes a slave to his emotions, which rob him of his ability to be guided by what he knows and what he calls truth. They thus make him act contrary to reason and faith.

Despite the fact that C.S. Lewis develops this thesis of the struggle and mastery of emotions, he places great emphasis on the inner dimension of man and their role in his relationship with God. Even his conversion is described by Lewis in an emotional note:

> Try to imagine my moments of solitude in Magdalen's room, night after night, feeling, when I interrupted my work, if only for a second, the approach with measured, implacable footsteps of Him whom I had so earnestly desired to avoid. The fact I had feared was finally upon me. In the last quarter of 1929 I gave up, acknowledged that God was God, knelt down and prayed: I was, perhaps, that evening, the most faltering and dejected convert in all England. (Lewis 2008, 245)

If we are to look objectively at the relationship between emotions and faith in the writings of C.S. Lewis we will notice that the Irish writer argues that emotions should conform to the vertical plane of faith.

Pain, suffering and death

There is no greater evidence in the world of the consequences of sin than the experience of suffering and pain. Thus, Lewis not only dealt with the issue of suffering and death from a theological point of view, but also put it through the filter of personal experience when he was faced with the death of his wife. Lewis puts the problem of evil into question from the point of view of grief, which is the key element showing the nature of evil. In *The Problem of Pain*, he says, "So long as the evil man does not realize the obvious presence of evil, in the form of pain, in his existence, he is the prey of illusion" (Lewis 2021, 428). It is therefore through pain that God addresses us and seeks to awaken us to the true meaning of life: "God is our whisper in pleasure, our voice in conscience, but our cry in pain: it is the megaphone with which he awakens a deaf world" (Lewis 2021, 429).

Through the filter of a theocentric approach we can understand the problem of evil involving God's character and man's free will. Therefore, he says that "the possibility of evil is necessary for us to have the possibility of the realization of the great good that God desires" (Peterson 2020, 248). However, we should not see a dependence of good on the existence of evil, but only a means by which it becomes more evident.

Science, technology and the destruction of man

The consequences of moral degradation are seen when human beings cannot manage progress achieved in various forms. The great challenges are given by the way man relates to science and technology. For Lewis there is a strong opening for both. Biblical understanding gave him the perspective from which to look at things in a balanced way, namely that, in its fallen state, humanity is intelligent enough to know that life ends in death, but not strong enough to bear that knowledge. A statement that is quite important if understood in the right context. The development of technology has to do with what man is at his core. That is why technology has been proposed to redefine man, when the possibility of creating cyborg man has been discussed, but also when technology is given a philosophical meaning, namely that man comes out of hiding, interacts with the world. The aim being to relate to the world (Heidegger 1995, 1-45). Therefore "precisely these possibilities of being, of coming out of hiding are taken up by posthuman philosophy which proposes innovative conceptualizations of man" (Ghioancă 2021, 80). His vision of the world must take into account these two factors, namely the inhumanity/dehumanization of man to man and our fear of death.

With science as an instrument in our hands, Lewis knew that it would be used depending on who guides those hands. He was fascinated by outer space and even had a telescope at his home, but was adamantly opposed to colonizing other planets, even if Earth ran out of resources. History has already shown many times how we treat less developed cultures when we want their land. So when Lewis described the first encounter between humans and beings from another planet, he made colonization one of the key themes of Out of the Silent Planet (Clark 2007, 35-50).

Redeeming human nature

Central to Christian theology are the incarnation and death of Jesus Christ for the redemption of man (Lewis 2019, 74-75). For C.S. Lewis, the whole of Christian theology hangs on these two important moments in redemptive history. The fact that God became man and died for us speaks of God's desire to draw near to man and save him. For Lewis, it is in Christ that man's broken relationship with God can be mended.

If we are to speak of the theological position that C.S. Lewis took, it is best summarized by Michael L. Peterson who says that "Lewis is a universalist who asserts

that the opportunity for salvation must be universally available; he is a pluralist only in the sense that he believes that other religions can contain fragments of spiritual truth and sustain the moral life" (Peterson 2020, 248). The role of Jesus Christ cannot be denied in the transformative relationship that man has in approaching God.

The ideas of restoration are more about a path that man chooses, a journey that begins with God and is crowned at the end by the unlocking of all human potential. Restoration is seen from this point of view also through the prism of the cultivation of values. The most appropriate expression is best found in the form of the four loves, which he describes (Lewis 2021, 272-326) as affection, pity, eros and friendship. Perhaps the one Lewis insists on most is the notion of friendship, which he analyses from various points of view. This is why the novel The Horse and His Boy (Lewis 2016) in the Chronicles of Narnia series can be interpreted as an attempt to translate into a narrative the reflections on friendship included in C.S. Lewis's *Four Loves* and his other books dealing with this subject. The main problem here apparently lies in the challenge of reconciling the necessarily elitist nature of friendship with its inclusive rather than exclusive aspects (Wicher 2013, 61-75).

Transforming human nature

Although all people need Jesus Christ, Lewis distinguishes two categories of people who may struggle with needing God's grace. The first category is those who are gifted with God's gifts, who find personal and meritorious value in them, making God's appeals unnecessary; the second category is the weak, unbalanced, vulnerable who try to be good without crying out for divine help. For these categories, Lewis says that "their only chance is Christ. If they do not take up their cross to follow him, they are left with nothing but despair. They are the lost sheep and Christ has come specifically to find them." (Lewis 2019, 232-233). The change of life is seen by Lewis in radical terms, God has come to produce a new kind of people, not to produce better people (Lewis 2019, 234) Lewis's statement resembles the thought conveyed by the apostle Paul who says, "therefore, if anyone is in Christ, he is a new creature: the old has passed away, behold, it has become new" (2 Cor. 5:17 Cornish Bible). In Christ, man is a new creation, a new creation, a new building made by God. Looking at man's transformation through the prism of Lewis's experience, we can say that it has some special coordinates. It brings a balanced and profound understanding of the reality in which we live, and in a special way the change of man brings an inner order that could not have been achieved otherwise (McGrath 2015, 145-149).

The meaning of "in Christ"

Both C.S. Lewis and the apostle Paul use the phrase "in Christ" to emphasize the present and future power of Christianity. For Lewis the phrase is determinative of how a believer can relate to earthly reality and live for God in this world. He clarifies the meaning of this expression when he says: "To become new people is to lose what we call 'ourselves'. We must come out of ourselves and into Christ. His will to become our own and we must think as He thinks, to have "the mind of Christ" (Lewis 2019, 242). Speaking of the changes that take place in man and a retention of his individuality even after this transformation, he continues, "The more we remove more of what we call 'ourselves' and let Christ take over, the more we become ourselves" (Lewis 2019, 243). Here Lewis gives new meaning to human identity. We are not ourselves apart from Christ. This world and the inner man have no meaning without him. Therefore, our sense of identity is related to and derived from who He is for us and what we become in Him. The first step of this surrender is "... to seek to forget ourselves" (Lewis 2019, 244). The meaning of this statement can still be found in the

explanation Lewis gives when he says that we need not concern ourselves with our own lives. Thus "it is only by self-denial that we discover true being" (Lewis 2019, 245) Life without Christ does not exist and we only waste it. Also Lewis says: "Look to Christ, however: you will find him, and you will find everything with him" (Lewis 2019, 245). The theology of the new, redeemed man is centered in C.S. Lewis's view on "Christ in you the hope of glory." (Col. 1:27, Cornish Bible).

We are tempted to think that there is nothing after this stage, but Lewis sees here a movement to maintain the spiritual life of man in Christ accomplished through baptism, holy communion and liturgy. Emphasizing that they do not give life, but only animate it, keep it alive. The concern is not to let the Christian life fall into a deadly rut. The active preservation of the spiritual life must become the main concern of the man drawn to Christ.

Conclusions

From C.S. Lewis's anthropological conception we understand that man is complete when his primary need is to enjoy God and that nothing in this world will fully satisfy him. Through the fall into sin, man discovers in himself the signs of the fall, of alienation from God and a destructive use of freedom of choice which is oriented towards the satisfaction of pleasure and which has as its end a fulfilled life apart from God. The pursuit of happiness, though the great goal in a man's life, must be achieved in the way God desires. Although we speak of a moral degradation that is seen in human nature, in the experience of pain and suffering, in the use of technological progress and inner conflict, Lewis sees in man his potential when man turns to God. Although there are unfortunate consequences to the understanding of one's own moral state, the image of God in man is preserved, and the concept of the Tao speaks to human values, but also to the universality of those values. The restoration of human nature occurs when we understand that human potential can only be unlocked through God and through relationship with God. At the heart of the Christian life is the transformation brought about by Christ.

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The Causal Relationship between Measures of Career Salience and the Probability of Having Children: Comparing Commissioned Officers and Enlisted Personnel in the United States Military

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ABSTRACT: This study examines the childbearing patterns of women in the military, specifically, examining the differences between women in two different career tracks, commissioned officers and enlisted personnel. The study investigates not only the differences in childbearing between these two career tracks but also the effect of career salience on the decision to have or not have children. The author argues that, as career salience increases, women are less likely to have children. While this holds for both commissioned officers and enlisted personnel, the mechanism of career salience is more pronounced for officers than those enlisted personnel. After introducing the topic, the paper provides a comprehensive review of the literature on women and motherhood in the military, presents the research study, discusses findings and results, and offers recommendations for policy reform.

KEYWORDS: women, military, career, children, policy reform

Introduction

Women's service in the United States military extends back to the country's inception, ebbing and flowing with the military demands of the times. Historically women who served endured restrictions, however the change to an all-volunteer force in 1973 stimulated expansions in opportunities available to women (Murdoch et al. 2006; Snyder 2003). With the end of conscription, the military faced shortfalls unless it loosened previous restrictions. The 20th century ended with all but direct combat fields open to women, and women's military participation increased dramatically. The 21st century saw women becoming more integrated into all roles in the military. The Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 established the Military Leadership Diversity Commission (MLDC 2011). The Commission found that in order to establish and maintain fair promotion and command opportunities, the Department of Defense (DoD) should do away with combat exclusion policies (Burrelli 2013; Kamarack 2016). To this end, in December 2015, then-Secretary of Defense, Ash Carter, directed all branches of the military to open all combat positions to women. Even as the military shrinks, the percentage of women serving increases. Today, over 15% of active duty service members are women. Among the service academies, women's enrollment is presently 22-38% of the student body (DoD 2015).

Literature review

Choices in Having Children

The second demographic transition saw an explosion in family forms with children no longer central to the family. The center shifted to the couple (Osiewalska 2015). Motherhood is no longer an obligation but a choice, and we have experienced a reduction in social sanctions for

women who do not reproduce (Tanturri and Mencarini 2008). However, Vinson et al. (2010) found that women who chose to be childfree were perceived as selfish, unwomanly and cold, while Morrell (2000) and Blackstone and Stewart (2012) found them to be perceived as deficient, unfulfilled as measured by the idealized mother standard.

Today, many women are childfree. Stobert and Kemeny (2003) found that 7% of Canadian women are childfree by choice. Blackstone (2014) characterized women without children as one of two forms: articulators, or those who knew early they did not want children, and postponers, who keep putting off having children until it's too late. Additionally, Blair-Loy (2001) saw articulators as a response to the irreconcilable competition between two demanding realms. Professional and managerial women tend to opt out in order to pursue meaningful careers, likewise those with more education are more likely to have fewer or no children (Osiewalska 2015; Tanturri and Mencarini 2008). Less religious women are also more likely to choose being childfree than more religious women (Osiewalska 2015; Tanturri and Mencarini 2008).

With the lessening strength of institutions to shape fertility, women are choosing to cohabitate and remain childfree rather than marry and bear children (Tanturri and Mencarini 2008). Relatedly, Blackstone (2014) found that young adults are delaying the transition from their parents' homes to adult independent homes. With increases in education and urbanization, and a decrease in religiosity, women are more likely to choose to be childfree.

Macro-Level Influences in Childbearing

In examining the differences in childbearing choices for women in the military, it is important to study the macro-level influences that shape these decisions. Officers and enlisted personnel inhabit different socio-economic positions, with disparities in education and income (Sheehan et al. 2015). Women's fertility was thought to be negatively correlated with women's education; however, Osiewalska (2015) found that this relationship is curvilinear, with women at the lowest and highest levels of education having the highest fertility rates, while women at medium levels seem most likely to postpone childbirth. Moreover, women in more family-oriented educational fields, such as teaching or nursing, tend to have higher fertility rates than their counterparts (Begall and Mills 2012; Osiewalska 2015; Solera and Martin-Garcia 2017).

The difference in fertility rates by occupational field may reflect feelings about balancing work and family, or it may be influenced by socialization within particular fields (Begall and Mills 2012). Conversely, women could be self-selecting into these more family friendly occupations. In either case, education is seen as the reason for family postponement. More education affords women more opportunities and alternatives to the traditional mother/wife role.

Policy measures influence parental choice, as Bernardi and White (2009) found, with more traditional cultures experiencing declines in childbearing, while Nordic social democratic countries see higher fertility rates. Traditional cultures tend to have a stronger belief in self-reliance, whereas Nordic countries offer more state support of the family (Bernardi and White 2009; Billari 2004; Osiewalska 2015). More progressive countries embrace policies to reduce the burden of having children in order to encourage fertility (Shreffler and Johnson 2013).

Lalive and Zweimuller (2009) found differences in public policy incentives for having children between high and low wage workers. Monetary assistance was more effective for low income moms, while job protections were more encouraging to higher wage women. In Sweden, Ohlsson-Wijk (2015) demonstrated that job security and family-friendly policies make women more likely to have children. Additionally,

Ohlsson-Wijk (2015a) found that work environment matters: the public sector and caring fields having higher fertility rates than private sector and more competitive fields.

Micro-Level Influences on Childbearing

While policy is generated at the macro-level, it is experienced most saliently at the micro-level, influencing decisions and choices women make in terms of family formation. Almquist and Angrist (1970) discovered that women with high levels of career salience and those in atypical occupations tend to have more commitment to career than those in traditional female jobs (Burgard 2003). Additionally, these women tend to have strong female mentors, building the foundation for Ohlsson-Wijk's (2015) assertion that women experience gender role socialization in the workplace. Hagan and Kay (2007; Walsh 2012) found conflicts in women professionals' career progression and childbearing. The authors noted a paradox for female executives: the time to make partner was also the most common age for childbearing. Adding to the discussion of job satisfaction and childbearing, Hull (1999) and Hagan and Kay (2007) suggest that career salience is the predictor of having children, rather than an outcome. Moreover, high skilled women must manage misperceptions that arise in the workplace due to childbearing. Women are perceived more negatively for having children than men in high skilled fields (Berdahl and Moon 2013; England et al., 2016).

Adair (2013) examined women's adaptations of fertility decisions to careers. Highly skilled professional women without children were viewed as having better marriages and operated more freely in nontraditional gender roles. These women tended to have strong work identities, which Gash (2009) attributes to decisions to postpone or forego childbearing. Additionally, both Adair (2013) and Mason and Goulden (2003) attribute more negative feelings toward babies to women's work commitment. In Mason and Goulden's (2003) examination of female professors, the authors found that 1/3 of fast-track women never have children, while women who receive tenure are twice as likely to be single and childfree 12 years post-PhD. Iskra (2010) found that female officers in the military face similar choices in career progression and family formation.

Bulanda and Lippmann (2012), in examining highly motivated female workers, found women timed children around career milestones, such as putting off a baby until one made partner or earned a promotion. Women learn they need to accommodate work in their timing of fertility, otherwise fertility negatively affects work outcomes (Bulanda and Lippmann 2012; Taniguchi 1999). The younger a woman is when she has her first child, the greater the penalty.

Greedy Institutions

The military and the family are greedy institutions (Segal 1986). They elicit competing devotions and demand complete dedication. While this phenomenon is not unique to military personnel, the intensity and complexity of the demands encompass the lives of female members more than other workers. Little research exists regarding how women in the military negotiate the competing demands of work and family. While women in the military comprise only 15% (DOD 2015) of the services, their navigation between two greedy institutions is similar to many civilian working women today.

Institutions place demands on individuals for their time, energy and devotion. Segal (1986) drew on Coser (1974) in terming both the family and the military as greedy institutions. These institutions compete with each other for loyalty and commitment. "Greedy institutions are characterized by the fact that they exercise pressures on component individuals to weaken their ties, or not to form any ties, with other institutions or persons that might make claims that conflict with their own demands" (Coser 1974). Segal (1974) found that the military assumes adaption by the family; however, the family is becoming more greedy, especially for women (Vuga and Juvan 2013). While many

aspects of military demands are found in the civilian sector, Segal (1986) argues that it is unique in the constellation of demands placed on the soldier.

In the civilian world, women who become mothers may have the options of reducing work hours, moving to less demanding work, or leaving the job. These options are not readily available to military women (Sinclair 2004). Harris (2009) found female military officers were more inclined to leave their career for family responsibilities than males. Mothers tended to lack access to informal networks, and faced barriers to promotion. Because the military requires unwavering commitment, women with families felt pulled in disparate directions, with career and social mothering incongruent (Vuga and Juvan 2013). Women experience more conflict in the two loyalties than men (Harris 2009, Sinclair 2004).

The status of mother, when viewed through the work lens, is seen as lower than non-mothers. According to Harris (2009), because a mother is of lower status, she is seen as less successful than non-mothers. Female officers were much less likely to complete a military career than their male counterparts; however, as a woman rises through the ranks, she is less likely to have children (Harris 2009; Sinclair 2004). Harris (2009) found that female officers "hide pregnancies or time them to prevent causing disruption or sabotage them to avoid perceptions of weakness or that one has less commitment to one's career than male peers." To be perceived as a mother is to be seen as not having the full commitment expected of military officers.

Pregnancy in the Military

Unintended pregnancy for women in the military is quite high when compared to civilian counterparts, with a rate of 72/1000 versus 45/1000 (Grindlay and Grossman 2015). Nearly thirteen percent of women in the military, as opposed to five percent of the general population, experience an unintended pregnancy each year (Finer 2010; Grindlay and Grossman 2013; Grindlay and Grossman 2015; Lindberg 2011). Women experiencing unintended pregnancies cannot deploy and if deployed at the time of the pregnancy, must be returned stateside within two weeks of the discovery of the pregnancy (Grindlay and Grossman 2015; Goyal et al., 2012; Grindlay et al., 2011; Holt et al., 2011; Jacobson and Jensen 2011). Unintended pregnancy directly and adversely affects mission readiness, the military's bottom line.

Enlisted members have higher rates of unintended pregnancy than officers, with 92% of unintended pregnancies in the military being enlisted members while the remaining 8% are officers (Grindlay and Grossman 2015). Grindlay and Grossman (2013) argue that unintended pregnancy is most common among enlisted members due to lack of education but also note that married service members have the highest rates of unintended pregnancy, with an odds ratio of 1.3 to unmarrieds. This is in contrast to the civilian world, where married women have the lowest rates of unintended pregnancy. The authors also argue that this may be because women who are married in the military want children but they face work pressures and conformity demands to not get pregnant. Additionally, women in the military face much higher rates of sexual assault than in the civilian world, which contributes to unintended pregnancy.

Women in the military feel pressure to have children in cycle with deployments and school attendance. Officers feel this pressure and constraint more strongly than enlisted members due to the inflexibility of their career progression (Iskra 2010). Pregnancies can elicit negative reactions from coworkers because a pregnancy is perceived as shirking one's duties. Coupling in general is difficult for women in the military, primarily because of frequent moves (Iskra 2010). Women civilians, traditionally, follow their military member more readily than civilian men follow military women (Iskra 2010). Additionally, military couples experience frequent separations, which are stressful.

Coupled with long work hours, women find it difficult to start and maintain relationships at the highest levels of rank (Iskra 2010; Wadsworth 2010). For a woman to succeed in the masculine world of the military, she needs to enact the ideal worker trope and delay, if not deny, childbearing (Iskra 2010; Williams 1991). Women officers are more likely to forgo marriage and remain childless if they plan to make a career of the military; at the highest ranks, women are 13 times more likely to be single than men (Iskra 2010).

When women do marry, it is less often than men of similar ranks. Almost half of women who are married in the military are married to another military member, whereas only seven percent of men are (DoD 2015). 51% of female officers have no children and 47.6% of enlisted members have none (Iskra 2010). Women in the military have had fewer children over the last two decades (Iskra 2010). Single moms are stigmatized as not as committed to the military. Officers in particular have to plan family formation around their career. Female officers face at least two points in their career where they are expected to make a decision between career and family: The first is between 4-8 years of active duty. Women are typically 26-30 years old at this point, and 95% of officers decide to stay, most putting off having children (Iskra 2010; Evertson and Nesbit 2004). The second point in their career comes 8-10 years after that. Women are approximately 34-40 years old at this point, and it is here that most women decide to leave the service in order to form a family (Bissonette 2012). If she remains, the next decision point in her career would most likely be past fecundity.

Research Questions

As officers and enlisted personnel take different vocational paths, they experience different employment demands that shape family formation and childbearing choices. Officers invest in growing human capital for their career in terms of education and training, while also experiencing more stringent career demands than enlisted members. I develop a model and compare the likelihood of having children for women who are officers and those who are enlisted. I suggest that family formation is affected by a woman's career trajectory in the military.

Hypothesis one: Controlling for basic demographic variables, commissioned officers are less likely to have children than enlisted members.

Building on the first model, I explore how career salience, or job importance. helps to shape women's choices in childbearing. I believe that as the level of career salience increases, the probability of having a child decreases for all women. However, I believe this to be most significant for officers due to the level of self-commitment they are required to give the military in terms of time and dedication.

Hypothesis two: Controlling for basic demographic variables, as women's level of career salience increases, the likelihood of having a child decreases.

Finally, building on the models above, I believe there is an interaction between career salience and military category of rank. In particular, I believe that different levels of career salience function differently for officers and enlisted. It is not a linear relationship.

Hypothesis three: Controlling for basic demographic variables, there is an interaction between career salience and military category of rank. Specifically, I expect to find that career salience negatively affects probability of having a child differently for officers as compared to enlisted.

The relationship between career salience and military category of rank is not linear.

Data and methods

Sampling Issues

This project began in 2012 with a series of unstructured interviews with women on active duty in the United States military. Through this contact, I developed basic questions concerning how women navigate work and family while dealing with such a demanding career. These general questions became the basis for this project.

In order to reach as broad an audience as possible, I contacted the Department of Human Research for the DoD. However, I was informed that the DoD would require complete ownership of all data if I utilized their assistance. One concern brought up in preliminary interviews repeatedly was the uneasiness military members felt when completing surveys they received from the DoD at work. The women voiced concerns that if I utilized the same methods I might not receive honest answers.

Because of the concerns women voiced in allowing DoD involvement, I chose to use the nonprobability strategies of convenience and snowball sampling. I arranged to become the administrator of a social media group that informally served military members in the ROK. Members were vetted to make sure they fit the criteria of being females on active duty in the U.S. military in Korea. While not all women in the population of interest may have social media, I felt confident that this method would produce more honest responses than utilizing a random sample administered by the DoD. Additionally, I weighed the possibility that I would not achieve a random sample through the DoD because they could not guarantee that women serving in more remote locations would receive DoD emails. To compensate for this issue, I travelled to remote bases along the Demilitarized Zone in order to afford as many women as possible the opportunity to participate. Data collection commenced in May of 2015 and concluded in November 2016. In total, 564 women participated in the online survey, with 95% completing the instrument. Approximately 208,000 women serve in the United States Military on active duty, with 3986 serving in the Republic of Korea during data collection (DoD 2015). Due to the anonymity of the instrument, there is a possible issue that someone not fitting my sampling criteria could participate, but I accept that possibility, as reaching participants via social media improved my ability to obtain responses.

In order to keep respondents not only anonymous, but also comfortable that they had complete anonymity, I utilized the option to not track IP addresses on Qualtrics and allowed for undisclosed submissions through a web page I designed, http://www.chelliplummer.com. I printed business cards and travelled throughout the Republic of Korea, distributing the cards to women in military uniforms and asking them to participate. I enabled the mobile survey optimization on Qualtrics so women could take the survey on their cellphones.

Survey Construction

The survey instrument was constructed under the guidance of work done by Czaja and Blair (2005). As Lareau's (2003) findings demonstrated, there are different cultural logics of child rearing across two broad class categories, middle class versus working class. Using these categories, I focus on the differences between officer and enlisted experiences. In addition, and to capture Weber's (1947) aspects of social and cultural class, I categorize households not only on income, but also on rank and job type. This takes into account such factors as education and credentials, authority over others in addition to income. I refer to the military's ranking of critical occupational specialties (MOS—Army and Marines, AFSC—Air Force, NES—Navy) in order to ascertain whether or not a woman is in a occupation that is more commonly occupied by women (Military Ranks 2016). I refer to this as MOS saturation. I also asked basic demographic questions.

Nearly two-thirds of the women in the military are not mothers (DoD 2015). The percentage of women in the military who have children over the course of their lifetime is significantly lower than that of civilian women, leading me to believe that there are cultural as well as structural reasons for these differences. I posit that many women made the choice not to have a child and/or family due to the expectations of a military career. Based on the hierarchal nature of the military, past interviews I conducted, and previous literature on women in professional careers, I contend that women officers experience the motherhood penalty/motherhood track similar to their counterparts in the civilian world. I examine the differences between officers and enlisted women in regard to this penalty, as I believe the environment for female officers makes performing familial roles more difficult than it does for enlisted women. Based on the research of England et al. (2014) and Wilde et al. (2010), we expect that women in positions that require more education would face a greater motherhood penalty than those in positions requiring less education. In investigating the difference between female officers and female enlisted members, I believe that women who are officers have to plan more carefully for a family, as the benchmarks of their careers have more hard deadlines.

In order to examine differences in family formation these different career paths take, I ask a series of questions based on the Career Salience and Work Salience Questionnaires (Allen and Ortlepp 2000; Greenhaus 1971; Carlson, Kacmar, and Williams 2000; Duxbury, Higgins and Mills 1992). These questions look at the importance of career and a woman's priorities when negotiating work and family, as well as the satisfaction she derives from her employment. Additionally, this section of the survey scrutinizes the gives and takes that occur when women navigate these greedy institutions. I constructed my survey using the online platform Qualtrics, through an existing North Carolina State University contract. Qualtrics is a simple, web-based survey tool to conduct survey research evaluations and other data collection activities (Snow and Mann 2013). The software enables users to perform online data collection and basic analysis. Qualtrics allowed me to build skip logic in to the instrument. Skip logic is a feature that changes what question or page a respondent sees next based on how they answer the current question. It is also known as conditional branching and creates a custom path through a survey instrument based on the respondent's answers.

Dependent Variable of Interest

The dependent variable of interest for this research is whether the respondent has or does not have a child at the time of the survey. The question was asked as follows: Do you have a child or children? A no answer was coded zero and a yes answer was coded one. 223 respondents did not have children, 315 did have children, and 26 respondents did not answer this question.

Independent Variables of Interest

In the first model, the predictor variable of interest is military category of rank (milcat1). The distinction here is whether the respondent is a commissioned officer or an enlisted member. According to Moskos (1977), "the multi-tiered military educational system for career officers—as typified by the command schools and war colleges—is as much institutional reinforcement as it is narrow professional training." Officers are the white collar managers of the military, tasked with making decisions under stress and entrusted with the safety of the members in their command. Enlisted members are the blue-collar backbone of the military and carry out the orders missions that officers plan. Distinctions between officers and enlisted occur in the following areas: education, salary, responsibility and duties. Officers can be seen as the office managers; enlisted members are more likely to complete more manual tasks in the field. Because of these indicators, there is a strong socioeconomic difference in the category of ranks.

Additionally, I look at the predictor variable of career salience. Career salience is a measure I adopted to indicate the importance and dedication the respondent has toward her career, with a range in scores of 0-40 (Allen and Ortlepp 2002; DiStefano et al., 2009; Greenhaus 1971). It is an index made up of eight statements, with a 5-point Likert scaling, common in the career salience literature such as my friends and family know that my career is very important in my life, I am willing to make sacrifices in my personal life to succeed in my career, even if I had enough money so that I didn't need to work, I would still choose to continue working. The Cronbach's alpha for the measure in this project is .8912. This is in line with Greenhaus (1971), who had an alpha of .85, and Allen and Ortlepp's (2002) of .84. The career salience index came from a larger factor analysis of work and family conflict variables.

Factor Analysis

Factor analysis operates on the premise that calculable and discernable variables will reduce to fewer latent variables that share a common variance and are unobservable, which is known as reducing dimensionality (Bartholomew, Knott, and Moustaki, 2011). These unobservable factors are not directly measured but are essentially hypothetical constructs that are used to represent variables (Cattell, 1973). An exploratory factor analysis was performed on the current results in order to determine the factor structure. Initially several factors loaded on the work and family conflict variables, with three major factors. The first was gendered work and family conflict, the second sexual abuse, the third career salience. From these factor based scales were calculated.

The Kaiser-Meyer-Olkin is the measure of sampling adequacy, which varies between 0 and 1. The values closer to 1 are better and the value of 0.6 is the suggested minimum. The Bartlett's Test of Sphericity is the test for null hypothesis that the correlation matrix has an identity matrix. Taking this into consideration, these tests provide the minimum standard to proceed for factor analysis. The Kaiser-Meyer Olkin (KMO) and Bartlett's Test measure of sampling adequacy was used to examine the appropriateness of Factor Analysis. The approximate Chi-square is 3036.52 with 136 degrees of freedom, which is significant at 0.05 level. The KMO statistic of 0.8511 is also large (greater than 0.50). Hence Factor Analysis is considered as an appropriate technique for further analysis of the data.

Control Variables

In order to examine the predictor and outcome variables, I controlled for several demographic variables. The first such variable was amount of time in service, meaning how long the respondent had been on active duty in the military. The second variable was the military occupational specialty. While there are hundreds of jobs in the military, looking at gender composition seemed most prudent. Jobs were coded dichotomously, with zero coding those jobs that do not have many women and one coding those jobs with higher than average concentrations of women. Third, the respondent was asked if she had plans to retire. The fourth control was race, followed by highest education level attained, relationship status, branch of service, rank and age.

Analysis

When a multivariate analysis involves a dichotomous dependent variable, logistic regression is the best form of analysis (Agresti et al.,1990). Although linear models accommodate dichotomous predictors, they do not work for dichotomous dependent variables as several OLS assumptions are violated (Menard 1995). According to Trusty (2000), while logistic regression is similar to discriminant analysis equations, models with independent variables

of the nominal or ordinal scaling are not easily accommodated by discriminant analysis. Assumptions of linearity and normality are more stringent for discriminant analysis. Additionally, logistic regression displays results in terms of odds, making interpretation more straight forward than discriminant analysis.

For the first hypothesis, I constructed a logistic regression model in order to predict the relationship between military category of rank and the probability of having a child:

$$\ln(havechild) = \alpha + \beta_1 milcat1 + \beta_2 timeserv + \beta_3 mos1 + \beta_4 retire + \beta_5 race + \beta_6 educ + \beta_7 relation + \beta_8 branch + \beta_9 rank + \beta_{10} age3 + \varepsilon_i$$

For the second hypothesis, I constructed a logistic regression model to examine the effect career salience has on the probability of having children for officers and enlisted military members:

$$\ln(havechild) = \alpha + \beta_1 milcat1 + \beta_2 timeserv + \beta_3 mos1 + \beta_4 retire + \beta_5 race + \beta_6 educ + \beta_7 relation + \beta_8 branch + \beta_9 rank + \beta_{10} age3 + \beta_{11} carsal + \varepsilon_i$$

For the third hypothesis, I constructed a logistic regression equation that introduced an interaction term between military category of rank and career salience. I did this in order to assess how career salience affects the relationship between military category of rank and the probability of having a child:

$$\ln(havechild) = \alpha + \beta_1 milcat1 + \beta_2 timeserv + \beta_3 mos1 + \beta_4 retire + \beta_5 race + \beta_6 educ + \beta_7 relation + \beta_8 branch + \beta_9 rank + \beta_{10} age3 + \beta_{11} carsal + \beta_{12} milcat1 * carsal + \varepsilon_i$$

We compare these two equations, the interaction in one and absence in the other, in order to obtain hierarchically well-formulated models.

Results

In all, 564 women began the survey, 538 completed to the end while one woman did not respond to two questions in the demographic portion (see Tables 2.1 and 2.2). Over one-half of the women have a child, while the majority of them are enlisted members. Most of the women occupy more traditionally female work positions. Time in service is fairly split between the four categories, whereas the majority of respondents plan to retire from the military. Equal numbers of White and Black women completed the survey and education seems to be evenly distributed among the categories. The majority are married while singles are the least represented. One-half of the women are in the Army while approximately one-fifth are in the Air Force and Navy and the remained in the other two branches. The proportion of officers not having a child was .60, while the proportion of enlisted members was .31. The difference in proportions is significant, $\chi^2(1, N=538) = 44.69$, p<.000.

Table 1. 1 Descriptive Statistics for Continuous Variables
in Models Predicting Having a Child

Variable	N	Mean	SD	Range
Age	563	32.7	6.9	22-46
Career salience	538	28.7	7.8	0-40

Table 1. 2 Sample Characteristics for Models Predicting Having a Child

Variable	N	Do not have a child		Have a child	
		Officer	Enlisted	Officer	Enlisted
Time in service	564				
$X \leq 5\ years$		32	67	11	45
$5 < X \leq 10\ years$		21	16	13	59
$10 < X \leq 15\ years$		27	7	16	42
$15\ years < X$		38	15	38	91
Plans to retire	563				
Yes		74	53	50	141
No		6	15	7	25
Not sure		38	36	21	71
Race	564				
White		50	28	23	82
Black		31	40	27	69
Hispanic		17	18	9	41
Other		11	13	10	23
Mixed		9	6	9	22
Education level	564				
HS or GED		1	45	0	94
Some College		3	26	2	70
BA/BS		51	33	31	71
Grad. Degree		63	1	45	2
Relationship status	564				
Married		37	31	43	88
Single		28	27	2	33
Divorced		31	12	13	70
Committed Relationship		22	35	20	46
Branch	564				
Army		72	45	31	124
Air Force		22	27	21	48
Navy		14	31	20	49
Marines		10	1	6	25
Coast Guard		0	1	0	1
Rank	538				
Junior		56	64	27	38
Midgrade		60	31	44	93
Senior		2	10	7	103

To examine this relationship further, I estimated four logistic regression models in Table 2.3, with the predictor of military category of rank. In the first two models, enlisted members are much more likely to have a child than officers. However, when the variable measuring career salience is put in the model, this relationship is not significant any longer. Career salience seems to operate as a moderating variable, while predicting a decrease in the likelihood of having children. The full model, however, with the measure of career salience and the interaction between career salience and military category of rank sees enlisted members' likelihood of having a child drop to .004 times as likely as officers. The likelihood ratio test yields a χ^2 of 8.19, with a p of .036 which indicates that the full model is an improvement over the restricted model. Goodness of fit is .67 with a p value of .7349.

Table 1. 3 Logistic Regression Models for the Effects of Military Category of Rank and Career Salience on the Probability of Having a Child N=538

		Model 1	Model 2	Model 3	Model 4
Military category of rank	enlisted	3.415* (.639)	13.294* (12.407)	1.493 (1.523)	.005* (.011)
Plans to retire	no retire		2.911* (1.179)	2.650* (1.159)	2.551* (1.121)
	not sure retire		2.043* (.577)	1.884* (.572)	1.865* (.568)
Marital status	single		.320* (.103)	.180* (.069)	.226* (.086)
	divorce		.645 (.188)	.613 (.195)	.710 (.231)
	committed relationship		.419* (.124)	.424* (.133)	.432* (.136)
Branch of Service	Air Force			1.800* (.541)	1.595 (.488)
	Navy			2.170* (.724)	2.00* (.680)
	Marines			1.347 (.700)	1.155 (0.607)
	Coast Guard			1.155 (2.114)	.776 1.429)
Rank	mid-career		2.647* (.965)	5.068* (2.051)	4.844* (1.965)
	senior		15.667* (9.026)	27.738* (17.272)	24.627* (15.225)
Career Salience				.834* (.012)	.725* (.043)
Interaction of career salience and military category of rank					1.195* (.0773)
	Constant	.661* (.096)	.000†† (.000)†††	.085 (.444)	10.744 (59.882)
	Observations	538	536	536	536
Log Likelihood		-342.656	-275.217	-241.274	-237.180

†The table entries represent the effect of the independent variable on the likelihood of having a child and, in parentheses, the ratio of the coefficient to the standard error
†† Rounded to three decimals. Actual odds ratio is .0005
†††Rounded to three decimals. Actual standard error is .00002
[*] $p < 0.05$

In order to examine the relationships in the logistic model with interactions, I examine the marginal effects. There is a statistically significant relationship between plans to retire and whether the respondent has a child, as well as for relationship status. Approximately one-half of those who plan to retire have children, whereas almost two-thirds of those who do not plan on retiring have children, while 60% of those who are unsure have children. Two-thirds of married women have a child compared to 61% of divorced women. Fifty-four percent of those in a committed relationship report having a

child, compared to 44% of singles. When examining rank, approximately one-third of junior service members have a child, whereas nearly two-thirds of mid-career and 85% of senior members do. Additionally, the predicted coefficients for the effect of military category of rank on having a child, net of career salience, is -.06 for officers and -.03 for enlisted.

$$e^{-.06}=.94$$
$$e^{-.03}=.97$$

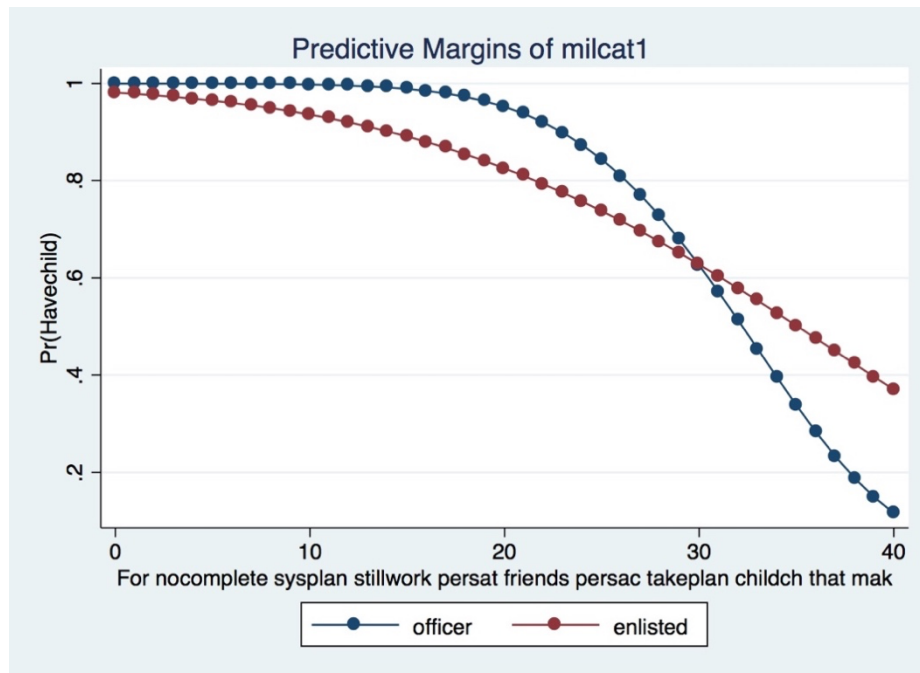The odds ratio for officers is .94 while the odds ratio for enlisted is .97.

Figure 1. 1 Predictive Margins of Military Category of Rank

Discussion and Conclusion

There is a difference in the probability of having a child for officers and for enlisted members, however it is not a straightforward linear relationship. Upon initial examination of the raw data, it is apparent that enlisted members have children more often than officers; the logistic regression model containing only these two variables confirms that enlisted are more likely to have a child than officers. Enlisted members are 3.41 times more likely to have a child than officers. Additionally, this relationship holds when we input the control variables into the model, with the probability of enlisted members having children much greater than officers. Enlisted members are 8.79 times as likely to have a child as officers.

However, once the moderating variable of career salience is introduced, the relationship is no longer straightforward. The predictor military category of rank, while still holding that enlisted members are more likely by a factor of 1.32 to have a child than officers, is no longer statistically significant once career salience is introduced into the model. Career salience predicts a decrease in the probability of having a child in our third model, net the effects of the other variables in the model. For each increase in a respondent's career salience score, the model predicts a decrease in the odds ratio of having a child of .83, net the other variables in the model. Introducing the interaction between military category of rank and career salience obscures our relationship even more. The full model predicts that enlisted members will be .004 times as likely to have a child as officers, net the effects of the other variables in the model. In the full model, a

one unit increase in career salience predicts a .72 decrease in the odds ratio of having a child for enlisted and officers, net the effects of the other variables in the model. The interaction term of career salience by military category of rank has an odds ratio of 1.2, meaning that each increase in the interaction sees an increase in the odds of having a child for enlisted by 1.2.

For the lowest levels of career salience, officers are more likely to have children than enlisted members. This relationship is not constant, however. While both officers and enlisted members see a decrease in the probability of having a child as their levels of career salience increases, this relationship reverses at a score of 31 for career salience. At this point, officers become much less likely to have a child than enlisted members, net the effects of the other variables in the model.

This is the first study to closely look at childbearing choices for different career trajectories in the military. While initial assumptions that officers must plan their families more carefully to accommodate "mile markers" in their careers, this relationship is more complicated. Common knowledge asserts that officers will be less likely to have children than enlisted members due to the demands of their career paths; however, this study demonstrates that this "common knowledge" is not entirely accurate. The importance of one's career is a stronger predictor of a woman's probability of having a child. Even so, career salience is not linear, and its effects are felt differently at different levels of satisfaction.

While this research has contributed to the knowledge on women in the military, this is a snapshot of the bigger picture. A longitudinal study would be useful in order to follow these women over time. By undertaking a longitudinal study, researchers will gain a fuller picture of career trajectories and the timing of childbearing. Additionally, a longitudinal study would allow for the exploration of career success. Further research should examine links between career salience and a woman's desire to stay in the military until retirement as this could aid in retention problems. This research can help inform Department of Defense policy toward higher retention for female members. As women's retention rates are much lower than men's, the DoD needs a multi-faceted approach. Additionally, female officers are more likely to exit the military than enlisted members, so this may help to shed some light in that area as well.

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Understanding and Addressing Environmental Challenges

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ABSTRACT: The purpose of this article is to raise awareness about the multifaceted dimensions of global environmental challenges beyond the commonly known factors of CO2 emissions and greenhouse effects. The article delves into less recognized yet alarming factors contributing to rapid environmental changes, such as methane and aerosol emissions. Additionally, the impact of deforestation on ocean ecosystems, radiative forcing, permafrost thawing, and the weakening of the Gulf Stream current are discussed, shedding light on the interconnectedness of various environmental phenomena. The consequences, ranging from sea-level rise to disruptions in biodiversity, are examined in detail, emphasizing the potential for climate refuges and the threats posed to human health, agriculture, and freshwater resources. The article concludes by highlighting the intricate relationship between climate change and the decline of essential pollinators like bees, underscoring the broader implications on global food security and the potential for armed conflicts arising from environmental stressors.

KEYWORDS: Climate, environmental awareness, global warming, CO2 emissions, greenhouse effects, climate refugees, climate stress factors

Introduction

In an era defined by rapid technological advancements and unprecedented global interconnectedness, the spectre of environmental change looms as a pressing concern that demands our collective attention. Amidst the complex tapestry of factors contributing to these shifts, the responsibility of individuals to comprehend and respond to the unfolding environmental crisis is paramount. While the public discourse often revolves around well-known culprits like carbon dioxide emissions and the greenhouse effect, a deeper exploration reveals a more intricate and multifaceted narrative. This article endeavors to delve into the less heralded yet equally, if not more, alarming contributors to our changing environment, urging us to broaden our understanding beyond the conventional scope (Glover 2006, 69–136).

To assume responsibility for the environment, we must first cultivate awareness and grapple with scientific realities. The cause of global warming, synonymous with the broader phenomenon of environmental change, serves as the epicentre of our inquiry. This examination goes beyond the commonplace knowledge of carbon emissions, greenhouse gases, and ozone layer damage. We aim to uncover the hidden intricacies, the unseen threats that underpin the rapid transformations our planet is undergoing. Focusing on factors often relegated to the periphery of public consciousness, we traverse the realms of pollution, deforestation, radiative forcing, and the delicate balance of ecosystems. It is an exploration that not only delves into the perils that endanger our environment but also underscores the interconnectedness of these challenges and their far-reaching consequences.

As we navigate through the layers of complexity, we find that the responsibility to address these issues transcends the realms of policy and industry – it rests on the shoulders of each individual. By shedding light on the intricacies of environmental change, we endeavor to empower readers with the knowledge needed to foster a collective ethos of responsibility. Our journey begins with an exploration of pollution and its diverse sources, journeying through the intricate dance between deforestation and oceanic ecosystems and scrutinizing the nuanced impacts of radiative forcing on global climate patterns. Along this path, we confront the weakened currents of the Gulf Stream and their implications for biodiversity, scrutinizing the vulnerabilities of specific ecosystems, and probing the far-reaching consequences on human health, agriculture, and freshwater resources. The intricate dance between environmental changes and the delicate balance of biodiversity, exemplified by the crucial role of bees, further underscores the need for a comprehensive approach to these challenges. Finally, we confront the unsettling prospect of armed conflict arising from environmental stressors, underscoring the urgency of a unified global response.

As stewards of the planet, we stand at a pivotal moment. The choices we make today, both individually and collectively, will determine the trajectory of our shared future. This exploration is an invitation to delve into the complexities that define our environmental reality, fostering an understanding that empowers each of us to contribute meaningfully to the preservation of our planet for generations to come.

Factors Beyond CO2 Emissions

As we embark on our journey into the realms of environmental challenges, it is essential to acknowledge the familiar yet critical factors that have dominated discussions on climate change (Griffin 2003, 1–24). Carbon dioxide (CO2) emissions, arising primarily from human activities such as industrial processes and the burning of fossil fuels, contribute significantly to the greenhouse effect. This phenomenon traps heat in the Earth's atmosphere, leading to a gradual rise in global temperatures. Additionally, the depletion of the ozone layer, largely attributed to human-made substances like chlorofluorocarbons (CFCs), has been a prominent concern due to its implications for ultraviolet radiation exposure.

Beyond the well-trodden paths of CO2 emissions and ozone layer depletion, our exploration extends to less recognized yet equally impactful factors. Methane, a potent greenhouse gas, is often overshadowed by CO2 but warrants attention due to its capacity to trap heat more effectively. Released from sources such as livestock digestion, rice cultivation, and fossil fuel extraction, methane significantly contributes to climate change. Likewise, aerosols, minute particles suspended in the air, serve as another understated player in the environmental narrative. Originating from natural sources like volcanoes and human activities such as burning fossil fuels, aerosols possess the potential to influence climate patterns and pose health risks as they can be inhaled or absorbed.

Pollution, a direct consequence of various human activities, introduces particulate matter into the atmosphere with far-reaching health implications. While the average person may associate pollution with elevated CO2 levels from industries, transportation, and agriculture, the impact extends beyond greenhouse gases. Particulate matter from aerosols, smoke, and other pollutants can vary in size, composition, and concentration, affecting human health when inhaled, absorbed through the skin, or ingested. The severity of adverse health effects, ranging from respiratory issues to cardiovascular problems, underscores the need for a comprehensive understanding of the diverse sources and types of pollutants contributing to environmental changes.

Pollution and Its Diverse Sources

Pollution, a pervasive consequence of human activities, often finds its roots in the widespread use of fossil fuels. Industries, transportation, and agriculture collectively contribute to elevated concentrations and emissions of carbon dioxide (CO_2). The combustion of fossil fuels releases vast amounts of CO_2 into the atmosphere, intensifying the greenhouse effect and amplifying the ongoing climate crisis. As a primary driver of environmental change, the role of CO_2 emissions from fossil fuels serves as a focal point in understanding the interconnected web of pollution and its repercussions (Kuylenstierna 2002, 21–56).

While CO_2 dominates discussions on greenhouse gases, methane emerges as a potent contributor to climate change. Often originating from sources such as livestock digestion, rice cultivation, and fossil fuel extraction, methane possesses a higher heat-trapping potential than CO_2. Additionally, aerosols, fine particles suspended in the air, present a less conspicuous yet equally significant facet of pollution. Arising from natural sources like volcanoes and human activities, including the combustion of fossil fuels, aerosols impact both climate patterns and human health. The diverse nature of these pollutants necessitates a nuanced approach to pollution management beyond the conventional focus on CO_2.

The consequences of pollution extend beyond the realms of climate change, directly impacting human health. Particulate matter, a by-product of various pollutants, takes on varied forms and sizes, depending on its source. These particles, when inhaled, absorbed through the skin, or ingested, can lead to a spectrum of adverse health effects. The composition, size, and concentration of particulate matter determine the severity of its impact, ranging from respiratory ailments to cardiovascular complications. Recognizing the multifaceted sources of pollution and their implications for both the environment and public health is imperative for formulating effective strategies to mitigate its adverse effects.

Deforestation and Its Impact on Oceans

Deforestation, the widespread clearance of forests, emerges as a critical factor in the intricate web of environmental challenges (D'Almeida et al. 2007, 633–47). Beyond its obvious consequences for terrestrial ecosystems, the ramifications of deforestation extend to the oceans. Forests act as crucial carbon sinks, absorbing carbon dioxide from the atmosphere during photosynthesis. When forests are depleted, this vital mechanism is disrupted, leading to an excess of carbon in the atmosphere. Consequently, this surplus carbon finds its way into the oceans, transforming them into carbon tanks and setting off a chain of ecological disturbances.

The excess carbon absorbed by oceans doesn't merely dissipate harmlessly; it triggers a process known as ocean acidification. As carbon dioxide dissolves in seawater, it forms carbonic acid, lowering the pH of the ocean. This shift in acidity poses a severe threat to marine life, particularly organisms that rely on calcium carbonate to build their shells and skeletons. Coral reefs, molluscs, and various marine species are adversely affected, leading to disruptions in the delicate balance of marine ecosystems. The consequences extend beyond the immediate marine environment, impacting the populations of fish and seafood-dependent communities worldwide.

The depletion of forests, especially highlighted by the alarming rate of deforestation in iconic regions like the Amazon, contributes to the disturbance of oceanic ecosystems and, consequently, global fisheries. As excess carbon alters the ocean's chemistry, the resulting acidification poses a direct threat to fish populations. In turn, this disruption in the marine food chain jeopardizes the livelihoods of communities, particularly those in

seafood-oriented countries, especially in Asia. The interconnectedness of terrestrial deforestation and the health of oceanic ecosystems underscores the need for holistic approaches in addressing environmental challenges and mitigating the impact on both land and sea.

Radiative Forcing and Climate Change

To comprehend the intricacies of climate change, it is essential to explain the concept of radiative forcing (Badarinath and Latha 2006, 2183–88). Radiative forcing measures the change in the Earth's energy balance resulting from various forcing agents, including greenhouse gases, aerosols, clouds, and surface albedo. This measure quantifies how these agents influence the global energy balance, thus contributing to the broader phenomenon of climate change. When the amount of energy entering the Earth's atmosphere differs from the amount leaving it, radiative forcing becomes a pivotal factor in shaping the planet's climate trajectory.

The consequences of radiative forcing manifest in diverse ways, with profound impacts on the Earth's climate. One of the most immediate concerns is the rise in sea levels, driven by the expansion of seawater as it absorbs heat and the melting of polar ice. The increase in air temperature, another outcome of radiative forcing, exacerbates the melting of glaciers and contributes to the global trend of glacial retreat (Boulton 2006, 2–22). As these processes unfold, they pose significant threats to coastal regions, island nations, and low-lying areas, emphasizing the urgency of addressing the root causes of radiative forcing.

The rise in water temperatures, driven by radiative forcing, brings forth a cascade of challenges (Zhang et al. 2011, 220–29). Warmer waters contribute to the bleaching of coral reefs, disrupting marine ecosystems and jeopardizing the habitats of countless species. Additionally, the increased frequency and intensity of extreme weather events, such as hurricanes and floods, are exacerbated by rising temperatures. Coastal areas face the immediate danger of flooding, posing risks to both human populations and the delicate balance of ecosystems. Understanding the mechanisms of radiative forcing is crucial for devising strategies to mitigate these imminent threats and safeguard the resilience of vulnerable regions in the face of a changing climate.

Gulf Stream Weakening and Implications

The Gulf Stream, a powerful ocean current originating in the Gulf of Mexico, plays a pivotal role in regulating global climate patterns. Its warm, swift flow along the eastern coast of North America influences weather systems, ocean circulation, and temperature distribution worldwide. This immense conveyor belt of ocean currents not only shapes regional climates but also contributes to the stability of the broader climate system, maintaining equilibrium in weather patterns across the Northern Hemisphere.

The prospect of the Gulf Stream weakening or collapsing brings forth ominous implications for climate stability (Ezer 2016, 15–27). The Gulf Stream acts as a heat pump, transporting warm water from the tropics to higher latitudes. If this current weakens or undergoes a significant alteration, it can disrupt the delicate balance of heat distribution in the ocean, potentially leading to more extreme weather events. Regions that benefit from the moderating influence of the Gulf Stream, such as parts of Europe and the United States, may experience more severe winters and altered precipitation patterns. The consequences extend beyond meteorological shifts, impacting sea levels, ocean circulation, and even the monsoon patterns in the tropics.

Beyond its climatic influence, the Gulf Stream sustains diverse marine ecosystems, supporting a rich tapestry of sea life. Weakening or disrupting this current could have cascading effects on marine biodiversity. Species that depend on the specific temperature and nutrient conditions created by the Gulf Stream may face habitat alterations, migration challenges, or even population declines. The intricate dance between ocean currents and marine life exemplifies the interconnected nature of environmental systems. Understanding the potential threats to sea life diversity and the broader climate system emphasizes the urgency of safeguarding the stability of the Gulf Stream for the well-being of both ecosystems and human societies (Piecuch and Beal 2023, 1–11).

The Impact on Specific Ecosystems

Pteropods, delicate sea creatures commonly known as sea butterflies, occupy a crucial place in the marine food chain. These small, free-swimming molluscs serve as a primary food source for various marine animals, including salmon, whales, and other fish species. Their significance extends beyond their role in sustaining larger marine life, as disruptions to pteropod populations can have cascading effects throughout the marine ecosystem (Bednaršek et al. 2023, 130–37; Gardner et al. 2018, 1–12; Comeau et al. 2012, 279–84).

Coccolithophores, microscopic algae adorned with calcium carbonate plates, are fundamental to marine ecosystems. These organisms play a dual role, serving as primary producers in the ocean and contributing to the formation of sediments. The calcium carbonate plates act as a carbon sink, effectively sequestering carbon dioxide from the atmosphere. Any disturbance to the delicate balance of coccolithophore populations can have profound consequences, disrupting the biological cycle and altering the ocean's capacity to absorb and store carbon (Meyer and Riebesell 2015, 1671–82; Meier et al. 2014, 2857–69).

The Great Barrier Reef, a marvel of marine biodiversity, faces unprecedented threats from environmental changes. Rising sea temperatures, driven by climate change and radiative forcing, trigger coral bleaching events that jeopardize the health of coral ecosystems. As corals lose their vibrant colours and symbiotic algae, the entire reef ecosystem is at risk (Pendleton et al. 2019, 1–16). Beyond the Great Barrier Reef, ecosystems worldwide confront similar challenges, from mangrove forests to seagrass beds. The interconnected vulnerability of these ecosystems underscores the need for comprehensive conservation strategies to mitigate the impact of climate change on marine biodiversity.

The intricate interplay of species in these ecosystems emphasizes the delicate balance required for the health of the oceans. Disturbances, whether from rising temperatures, ocean acidification, or disruptions in key species like pteropods and coccolithophores, have far-reaching consequences that extend beyond the immediate marine environment. As we confront the threats facing these specific ecosystems, it becomes increasingly evident that the health of the oceans is intricately linked to the stability of the entire planet.

Climate Change and Human Health

The repercussions of climate change extend beyond environmental shifts, casting a long shadow over human health (Ahern and McMichael 2002, 139–60). Changes in temperature and precipitation patterns can influence the distribution and prevalence of infectious diseases. The proliferation of vectors such as mosquitoes and ticks, driven by altered climate conditions, expands the geographic range of diseases like malaria, dengue fever, and Lyme disease. Additionally, disruptions to ecosystems can impact the availability of clean water

and contribute to the spread of waterborne diseases, posing significant threats to global public health (Haines et al. 2006, 585–96).

The intricate relationship between climate change and food security becomes increasingly apparent as shifts in temperature and precipitation patterns impact agricultural productivity. Changes in growing seasons, increased frequency of extreme weather events, and the spread of pests and diseases all contribute to a decline in agricultural produce. This, in turn, heightens the risk of food shortages and escalating prices, exacerbating hunger and malnutrition in vulnerable populations (Parry and Livermore 2002, 109–38). The implications of climate change on agriculture resonate globally, affecting both developed and developing regions.

Climate change poses a dual threat to freshwater resources. Changes in precipitation patterns can lead to more frequent and severe droughts, diminishing the availability of freshwater for agriculture, industry, and domestic use. Simultaneously, the thawing of permafrost, a permanently frozen layer of soil, releases harmful substances into freshwater ecosystems. Notably, the release of methane and mercury poses risks to both human health and the broader environment. These interconnected challenges highlight the need for adaptive strategies to safeguard freshwater resources in the face of a changing climate.

Understanding the intricate connections between climate change and human health is imperative for formulating effective strategies to mitigate the impact on vulnerable populations. As we confront the complex web of challenges ranging from the spread of diseases to threats to food and freshwater security, it becomes evident that climate change is not solely an environmental issue but a profound concern with far-reaching consequences for global public health and well-being.

Biodiversity and the Role of Bees

Bees, essential pollinators crucial to biodiversity and agriculture, face increasing threats as climate change contributes to more frequent and intense extreme weather events. Events such as wildfires and floods can disrupt and destroy the habitats of bees, affecting their ability to forage, nest, and maintain stable populations. Changes in precipitation patterns and temperatures further challenge the adaptability of bee species, threatening their survival.

Climate change-induced disruptions in weather patterns can significantly impact the foraging behaviour of bees. Extreme rainfall, for instance, may disturb the typical foraging patterns of bees, reducing their efficiency in pollination. The destruction of habitats due to wildfires and floods further limits the availability of suitable foraging grounds for bees, contributing to declines in bee populations. These disruptions have cascading effects on plant reproduction and biodiversity, as many plant species depend on bees for pollination.

Bees play a vital role in global agriculture by pollinating more than 30 percent of the world's food crops. The decline in bee populations, driven by climate change-related stressors, poses a severe threat to food security and agricultural diversity (Thakur 2012, 1–7). Changes in flowering times due to climate change can lead to mismatches between the availability of flowers and the foraging habits of bees, further compromising their ability to pollinate crops. The ramifications extend beyond immediate concerns, impacting the availability and diversity of fresh produce, which is critical for addressing malnourishment and sustaining healthy ecosystems.

The challenges faced by bees underscore the interconnectedness of climate change, biodiversity, and food security. As climate change continues to exert pressure on bee populations and their habitats, it is crucial to recognize the integral role these pollinators play in maintaining the health of ecosystems and ensuring global food security.

Addressing the threats to bee populations requires not only climate mitigation efforts but also comprehensive conservation strategies to protect their habitats and promote their resilience in the face of a changing climate.

Armed Conflict: A Potential Outcome

As the consequences of climate change intensify, the potential for environmental stressors to contribute to armed conflicts becomes an increasingly pertinent concern. Changes in climate patterns, such as extreme weather events, droughts, and resource scarcity, can exacerbate existing socio-economic vulnerabilities and trigger conflicts over essential resources, including water and arable land. The competition for dwindling resources may heighten tensions within and between nations, potentially escalating into armed conflicts (Bernauer et al 2012).

Resource scarcity, intensified by climate change-induced disruptions, may lead to heightened competition among nations and communities for access to essential resources. Water scarcity, in particular, has been identified as a potential driver of conflict, as communities and nations may vie for control over limited freshwater sources. Additionally, changes in agricultural productivity and the decline of essential ecosystems can contribute to food insecurity, further fuelling the potential for conflict over resources vital for survival (Kimble 2005, 103–14).

Recognizing the potential linkages between environmental stressors and armed conflict underscores the imperative for global cooperation in addressing climate change and its cascading impacts (D'Angeli et al. 2022). Mitigating the risks of conflict requires collaborative efforts to reduce greenhouse gas emissions, adapt to changing environmental conditions, and implement sustainable resource management practices. By fostering international cooperation and diplomacy, nations can work towards collective solutions to address the root causes of environmental stressors and promote stability in the face of a changing climate.

As the world grapples with the multifaceted challenges of climate change, understanding the potential for armed conflict arising from environmental stressors is crucial. By acknowledging the intricate connections between climate change, resource scarcity, and conflict, the international community can strive towards proactive measures that promote resilience, cooperation, and sustainable solutions to mitigate the risks associated with environmental changes (Hannay 2005, 7–16).

Conclusion

In navigating the intricate tapestry of environmental challenges explored in this article, a profound and interconnected narrative emerges – one that underscores the urgency of collective action and individual responsibility. From the familiar culprits of CO2 emissions and greenhouse effects to the often-overlooked contributors like methane, aerosols, and the intricacies of oceanic ecosystems, our examination has illuminated the far-reaching consequences of human activities on the planet.

The implications of deforestation extend beyond terrestrial ecosystems, reaching into the depths of our oceans and disrupting the delicate balance of marine life. Radiative forcing, with its capacity to reshape climate patterns, poses immediate threats to coastal regions and vulnerable ecosystems. The potential weakening of the Gulf Stream not only jeopardizes global climate regulation but also imperils the diverse life forms that thrive in its currents.

Specific ecosystems, such as those inhabited by pteropods and coccolithophores, showcase the delicate dance between species and the profound impacts of disturbances.

Human health, intricately linked to environmental changes, faces threats ranging from the spread of communicable diseases to declines in agricultural productivity and freshwater availability. The indispensable role of bees in pollination, agricultural diversity, and global food security underscores the interdependence of biodiversity and human well-being. As the consequences of climate change intensify, the spectre of armed conflict emerges as a potential outcome, driven by resource scarcity and environmental stressors. However, this ominous prospect also highlights the need for global cooperation, recognizing that the preservation of the environment is not merely an ecological imperative but a fundamental aspect of fostering peace and stability.

In conclusion, the path forward demands a paradigm shift – a holistic understanding of the interconnectedness of environmental systems, human societies, and geopolitical landscapes. Each individual's responsibility transcends the reduction of personal carbon footprints; it encompasses a broader commitment to environmental stewardship, sustainable practices, and advocacy for systemic change (Wilbanks and Stern 2002, 337–48). By acknowledging the intricate web of challenges and opportunities, we pave the way for a sustainable future – one where humanity harmonizes with the planet, fostering resilience, equity, and the preservation of the precious diversity that defines life on Earth. The call to action is clear, and the time to act is now.

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The Role of Religion in Contemporary Society – Mapping a Research Itinerary

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ABSTRACT: This article discusses the role of religion in today's society. Starting from a summary review of interdisciplinary literature on the topic, the study continues with an exploration of the complex ways in which religious beliefs, practices, and institutions intersect with various facets of contemporary life. From shaping cultural norms to influencing political landscapes, the paper examines the evolving impact of religion on social cohesion, identity formation, and ethical frameworks. By navigating the complex interplay between tradition and modernity, the research aims to contribute nuanced insights into the ongoing dialogue surrounding the role of religion in fostering or challenging social harmony.

KEYWORDS: religion in society, social cohesion, cultural identity, religious beliefs, religious practices, religious institutions

Introduction

Religion has played a profound and enduring role in shaping the fabric of human societies throughout history. Its influence extends across cultural, ethical, and political dimensions, moulding the collective consciousness of communities and individuals. As societies evolve, so too does the intricate relationship between religion and the various facets of contemporary life. This paper embarks on an exploration of the multifaceted role of religion in today's society, navigating the dynamic interplay between tradition and modernity, and examining the impact of religious beliefs, practices, and institutions on social cohesion, identity formation, and ethical frameworks.

In understanding the contemporary role of religion, it is essential to contextualize this study within the broader historical narrative. Religion has been an integral part of human societies from their inception, influencing cultural norms, ethical principles, and political structures. However, as the world undergoes rapid transformations, including globalization and technological advancements, the role of religion is subject to change. This study seeks to address gaps in our current understanding by delving into the nuanced ways in which religion continues to shape and be shaped by the complex tapestry of contemporary society.

The purpose of this paper is twofold. First, it aims to provide a comprehensive review of the literature, drawing on interdisciplinary perspectives from sociology, anthropology, psychology, and religious studies to construct a holistic understanding of the relationship between religion and society. Second, it seeks to contribute valuable insights into the ongoing dialogue surrounding the role of religion in fostering or challenging social harmony. By examining the historical evolution of this relationship and exploring contemporary manifestations, this research endeavours to shed light on the diverse ways in which religion continues to be a potent force in shaping the world we inhabit.

Research on Religion in Society

The literature on religion and society spans a vast and interdisciplinary terrain, reflecting the complex and dynamic relationship between these two spheres of human experience. Scholars from fields such as sociology, anthropology, psychology, and religious studies have contributed rich insights, offering diverse perspectives on the multifaceted ways in which religious beliefs, practices, and institutions intersect with societal structures. Historical analyses have traced the evolution of this relationship, illuminating the roles religion has played in shaping cultural norms, ethical frameworks, and political landscapes across different epochs. Contemporary research builds upon this foundation, exploring the impacts of globalization, technological advancements, and cultural shifts on the role of religion in modern societies. By navigating this expansive body of literature, scholars aim to unravel the complexities inherent in the interaction between religion and society, providing a nuanced understanding of the forces that shape human communities and individual experiences. The literature review serves as a comprehensive roadmap, guiding us through the diverse scholarly conversations that contribute to the ongoing dialogue on the profound and evolving role of religion in shaping the fabric of societies.

Religion and Society in Historical Perspective

The historical interplay between religion and society constitutes a rich tapestry that has woven its influence across epochs and civilizations. From the ancient river valleys to the sprawling empires and into the complexities of the modern era, religion has been an integral force shaping the very foundations of societal structures. The examination of historical perspectives on religion and society provides a crucial lens through which one can discern the intricate relationships, power dynamics, and cultural nuances that have defined human communities. Thus, any attempt at researching the role of religion in society would begin with tracing the evolution of religion over time, aiming at unveiling the enduring impact of religious beliefs, rituals, and institutions on the collective conscience of civilizations. Such a historical exploration not only would illuminate the diverse manifestations of religious influence but also would set the stage for comprehending the contemporary dynamics that continue to be shaped by the echoes of the past.

Throughout history, religion has been a cornerstone of societal structures, providing a moral compass, fostering community cohesion, and influencing governance. As aptly discussed by Woodring (2020), ancient societies often integrated religious beliefs into their daily lives, with rituals and practices shaping social norms and individual behavior (see also the studies in Versnel 1981; Bodel and Olyan 2008; Bommas et al. 2012). We argue that understanding the historical roots of this symbiotic relationship is crucial for contextualizing the contemporary role of religion.

As societies progressed, so did the complexity of religious influence. From the theocratic governance of ancient civilizations to the pluralistic landscapes of modernity, the evolution of religious influence reflects broader societal shifts (Rotaru 2023, 62-79). This evolution includes changes in the perceived authority of religious institutions, alterations in religious practices, and adaptations to an increasingly interconnected global community.

Possible Approaches to the Study of Religion

Contemporary scholars recognize the need for interdisciplinary approaches to grasp the full scope of religion's impact on society. Sociology, anthropology, psychology, and religious studies contribute unique lenses through which researchers examine the multifaceted nature of religious beliefs, behaviors, and institutions. This interdisciplinary framework allows for a more nuanced understanding of how religion intersects with various aspects of contemporary

life. Each discipline brings valuable insights to the study of religion. Thus, sociology explores the role of religion in social structures and institutions (Barman 2022, 24–31; Clarke and Byrne 1993, 148–72), anthropology delves into the cultural dimensions of religious practices (Gellner 1999, 10–41), psychology investigates the individual and collective psychological aspects of religious belief (Clarke and Byrne 1993, 173–203), and religious studies provide a comprehensive understanding of diverse religious traditions Clarke and Byrne 1993, 79–97). Integrating these perspectives would enhance our ability to analyze the complex interplay between religion and society.

Religion has historically also served as a catalyst for community formation, fostering a sense of belonging and shared identity among believers. This sense of communal unity often extends beyond religious practices to influence social and cultural norms. Thus, understanding how religion contributes to social cohesion provides valuable insights into the foundations of societal harmony. Religious principles, for instance, have frequently played a role in establishing social norms and maintaining order. By examining the impact of religion on social stability, researchers can gain a deeper understanding of how religious institutions contribute to or challenge existing societal structures. This examination is crucial for deciphering the intricate balance between religious freedom and social cohesion in contemporary contexts (see articles in Van Der Braak et al. 2015).

Religion and Cultural Dynamics

Religious values have long been instrumental in shaping the cultural norms of societies (Beyers 2017, 1–9). Whether influencing artistic expressions, moral codes, or interpersonal relationships, religions play a pivotal role in defining what is considered acceptable or taboo within a culture. Researching this relationship would entail careful exploration of the intricate ways in which religious beliefs influence and contribute to the rich tapestry of cultural practices, cultural values, and the reception of religious beliefs within the society (cf. Abdulla 2018, 102–15).

Moreover, the rise of globalization (Rotaru 2014, 532-541), which ushered in an era of increased interconnectivity that challenges traditional cultural boundaries is also relevant to this discussion (cf. Măcelaru 2014b, 67–78). This phenomenon prompts an exploration of how religions adapt to, resist, or reshape cultural dynamics in a globalized world. Whether through the assimilation of global trends or the preservation of distinct cultural identities, understanding the interplay between religion and cultural shifts is essential in deciphering the contemporary landscape (Măcelaru 2014b, 67–78).

Considering the above, it is important to note that religion plays a pivotal role in shaping individual and collective identities (Măcelaru 2014a, 169–74). Personal beliefs often intertwine with broader religious narratives, contributing to a sense of purpose and belonging (cf. Măcelaru 2016, 131–38). Additionally, religious affiliations can serve as markers of group identity, influencing social interactions and shaping the way communities perceive themselves and others. The intertwining of religious identity with other identity markers, such as ethnicity and nationality, adds complexity to the process of identity formation. Examining these intersections provides insights into how individuals navigate the multifaceted aspects of their identities and how religious affiliations interact with and sometimes influence broader societal constructs (cf. Măcelaru 2011, 167–73).

Thus, there is an intricate relationship between religion and culture, which contributes to the dynamic and evolving nature of cultural practices and identity formation within the context of contemporary society. These are nuances that must be examined if we are to gain a deeper understanding of how religion continues to be a significant force in shaping the cultural landscape of the modern world.

Ethics and Morality

Another area of exploration pertains to the role religion plays in providing a framework for ethics (see Arli and Pekerti 2016, 770–85). Unquestionably, all religious traditions offer comprehensive frameworks for ethical decision-making, providing adherents with moral guidelines and principles. Research in this area would entail the examination of diverse ethical teachings across various religions, shedding light on the values that shape individual and collective behavior. Only by understanding such moral foundations will we fully appreciate the profound impact religion has on the ethical landscape of a society (cf. Sofjan 2013, 57–68).

Of course, while religious ethics, being bound to different religious frameworks, exhibit considerable diversity, we ought to recognize that there are also shared principles that transcend individual faith traditions (cf. Schilbrack 2002, 295–312). Thus, research in this area ought to explore both variations and commonalities in ethical teachings. Only in this way, a nuanced understanding of ethical pluralism within and across religious communities becomes possible. Only such an analysis would represent a real contribution to the broader conversation on the interplay between religious values and ethical considerations in contemporary society. The intersection of religious ethics with differing perspectives often leads to ethical conflicts and controversies. Thus, a consideration of instances where divergent ethical stances within and between religious communities give rise to moral dilemmas, both at the individual and societal levels, would provide insights into the complexities of navigating ethical landscapes shaped by religious beliefs.

In addition to the above, it is necessary to observe that religion is a key participant in contemporary ethical debates, influencing discussions on issues such as human rights (e.g., Măcelaru 2012a, 39–52; Măcelaru 2012b, 83–90; Rotaru 2019, 208-215; Rotaru 2013, 210-215; Rotaru 2015, 595-608; Rotaru 2016, 160-173), bioethics (e.g. Gregory 2009, 46–55), and social justice (cf. Thakur 1996, 29–50). Understanding the role of religion in shaping these debates is essential for comprehending the broader ethical discourse in modern society. Thus, the need for exploring how religious perspectives contribute to and sometimes challenge prevailing ethical norms.

To conclude, the study of the intricate relationship between religion and ethics ought to be a part of the research on the role of religion outlined here. By unraveling the moral frameworks provided by different religions, examining variations and commonalities, and critically assessing the challenges and controversies that emerge from differing ethical stances, we can deepen our understanding of the profound impact that religious beliefs have on shaping ethical considerations in the complex tapestry of contemporary society.

Religion in the Political Landscape

Throughout history, the relationship between religion and politics has been complex and multifaceted (cf. Thakur 1996, 85–96). In ancient times, many a time societies have embraced a form of theocracy – a model where religious leaders or institutions wield political power. A good example of such stance is provided by the Ancient Israelite society (cf. Măcelaru 2022, 126). The examination of such historical instances of theocratic governance, although olden, is important – it can provide insights into how religion and political structures have intertwined to shape societal norms and institutions (e.g., Frankfort 1948).

Beyond ancient theocratic models, however, in modern times, we have both, in Europe, a continuation of the historical "Church-State symbioses and the typical social and cultural Christian hegemony that gave our *Vieux Continent* the label of 'Christendom'" (Măcelaru 2014a, 169) and societies which have sought to separate the

religious and political realms, promoting the idea of secular governance (see Monsma and Soper 2009). This separation is often rooted in the desire to create a space for diverse religious beliefs and ensure the protection of individual freedoms. That is why a good understanding of the historical evolution of this separation (e.g. Feldman 1997) is crucial for contextualizing contemporary debates surrounding the role of religion in politics.

Still, religion continues to play a significant role in shaping political ideologies and movements (cf. Knutson 2013). Whether through the advocacy of specific moral values or the alignment of religious communities with particular political agendas, the influence of religion on contemporary politics is undeniable. Thus, religious institutions often serve as catalysts for political activism, advocating for social justice, human rights, or specific policy changes. Understanding how religious organizations engage in political activism provides insights into the ways in which faith-based groups contribute to shaping political landscapes. This analysis is essential for grasping the nuanced relationship between religion and contemporary political dynamics. We argue therefore that an examination of the interplay between religion and the political landscape is crucial for understanding the role of religion in the contemporary world (Rotaru 2022, 585-595).

The Intersection of Tradition and Modernity

As a final point, an examination of the clash between tradition and modern life should also be part of the research on the role of religion (cf. Arts 2000). It is undeniable that societies undergo rapid transformations associated with technological advancements, globalization, and cultural shifts. Within this context, religious traditions face both challenges and opportunities. Such research will explore how religious traditions navigate the complexities of the modern world, addressing questions of relevance, continuity, and adaptation. The strategies employed by religious communities to maintain their identities in a changing global context are reflected in how religious practices have evolved – including changes in worship styles and the incorporation of technology into religious rituals. Thus, a study of such changes will provide a deeper understanding of the dynamic ways in which religious practices evolve, adapt, or resist change in response to the demands of the contemporary landscape. Through such an exploration, we can contribute to a nuanced understanding of how religious traditions persist and transform in the face of ongoing societal shifts.

Conclusion

In pondering about the multifaceted role of religion in contemporary society, this paper has endeavored to indicate what such a research journey would entail. The exploration would undoubtedly refer to historical perspectives, cultural dynamics, ethical considerations, political landscapes, and the intricate intersection of tradition and modernity. Such an interdisciplinary lens, we propose, can unravel the complex tapestry woven by religion and its profound impact on various facets of human existence.

Regarding historical perspectives, one would examine the enduring influence of religion on societal structures, from ancient theocratic governance to the evolving dynamics of modern secularism. Furthermore, the contemporary approaches employed by scholars across disciplines underscore the need for a holistic understanding that encompasses sociology, anthropology, psychology, and religious studies, providing a rich framework for analyzing the multifaceted nature of religious beliefs, behaviors, and institutions.

The role of religion in fostering social cohesion and shaping cultural norms also emerges as a central theme, emphasizing the power of religion to unite communities and influence individual and collective identities. Similarly, the ethical and moral dimensions

would illuminate the diverse frameworks provided by different religions and the challenges arising from conflicting ethical stances, adding depth to the ongoing dialogue on the interplay between religious values and ethical considerations.

Finally, the examination of the presence of religion in political arenas can reveal the variegated historical entanglements, ranging from theocratic rule to the advocacy of specific political ideologies and the active participation of religious institutions in political activism. This touches upon the intersection of tradition and modernity, unveiling the challenges and opportunities faced by religious traditions in adapting to the rapidly changing global landscape.

As we conclude this exercise in mapping possible further research on the role of religion in the contemporary society, it becomes evident that such an exploration would have to deal with issues that are both dynamic and profound. Religion continues to be a source of meaning, identity, and moral guidance for individuals and communities worldwide. Its influence extends beyond the confines of sacred spaces into the realms of politics, culture, and ethics, shaping the very foundations of societal structures. In participating to the ongoing dialogue surrounding the role of religion in the modern world, such research would contribute to further nuance the insights available, although it would very likely remain a provisory answer to a complex relation. The intersectionality of religion with diverse aspects of human existence underscores the need for ongoing research and dialogue, fostering a deeper understanding of how religious beliefs and practices both shape and are shaped by the complex tapestry of contemporary society. Trough the map provided here, we hope to inspire further inquiry into the ever-evolving relationship between religion and the diverse landscapes it traverses.

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