JPAIR Multidisciplinary Research Volume 56 • March 2024
DOI: https://doi.org/10.7719/jpair.v56i1.884

Gender Equality Barriers among Maritime Students: Basis for Gender and Development Program

ALEXANDER SOTES[1], ORZON AGAD[1], RODULFO UNDAP[1], JUMAREY E. ACHICOSO[1], JUMAREY E. ACHICOSO[1], JASPER JOHN D. GUIRAL[1], MILES HUMPHREY M. IGNACIO[1], RENZ GERALD[1], PETER J. MALAKI[1], ABRAN KENT V. TORRALBA[1]

[1]Merchant Marine Academy of Caraga Inc., Butuan City, Philippines
ORCID NO. Jumarey E. Achicoso: https://orcid.org/0009-0001-0829-3595
Jasper John D. Guiral: https://orcid.org/0009-0003-8455-6136
Miles Humphrey M. Ignacio: https://orcid.org/0009-0003-3009-4653
Renz Gerald Peter J. Malaki: https://orcid.org/0009-0003-9260-6279
Abran Kent V. Torralba: https://orcid.org/0009-0006-4523-207X

Corresponding author: abrankenttorralba17@gmail.com

Originality 100% • Grammar Check: 98% • Plagiarism: 0%

ABSTRACT

Article history:

Received: 8 Sept 2023
Revised: 2 Feb 2024
Accepted: 15 Feb 2024
Published: 28 Mar 2024

Keywords — maritime education, laboratory facilities, seamanship lab, bridge simulator, chart room, serviceability, instructor expertise, academic performance, policy development quantitative research, philippines.

This study investigates the gender equality barriers among maritime students in the Philippines, focusing on the influence of ethnicity and age on perceptions of these barriers. Utilizing a descriptive correlational method, the research involved 554 student respondents from the Merchant Marine Academy of Caraga, Inc. (MMACI). The study employed a questionnaire adapted from Fidan et al. (2020) to assess perceptions of structural and social barriers. The findings reveal significant gender disparities in the maritime education sector, with males dominating

both BS Marine Engineering (BSMarE) and BS Marine Transportation (BSMT) programs. The study also highlights the interconnected nature of structural and social barriers, emphasizing the need for comprehensive interventions to promote inclusivity and equity. Additionally, the research identifies variations in perceptions of gender equality barriers based on ethnicity, particularly among BSMarE students. The study concludes by proposing an action plan to promote gender and development programs in the College of Maritime Education, emphasizing awareness, policy revisions, training, mentorship, and industry collaboration.

INTRODUCTION

The study Gender Equality Barriers among Maritime Students offers a thorough analysis of the difficulties women encounter in the maritime education field, highlighting the significance of identifying power dynamics and upending oppressive structures in order to promote understanding and change (Hearn & Parkin, 2017; Wollstonecraft, 1792). Researchers seek to better understand the gendered experiences of maritime students and how institutional and societal barriers impact these experiences by utilizing feminist theory and the concept of intersectionality. This method emphasizes how societal structures and stereotypes shape how people perceive gender differences, which feeds into sexism and causes a host of social issues that affect women working in the maritime industry, including objectification, discrimination, economic inequality, power dynamics, gender roles, and stereotypes (Hearn & Parkin, 2017).

The study is in line with the UN Sustainable Development Goal 5 (SDG 5) on Gender Equality, which highlights the need to achieve gender equality and give all women and girls more authority. In order to build a more inclusive and equitable society, it is critical to address gender imbalances in all fields, including maritime education, as this worldwide campaign emphasizes (United Nations, 2015).

The available scientific data on gender equality barriers in the maritime education sector emphasizes the ongoing difficulties that women encounter, such as discrimination in the workplace, restricted access to opportunities for education and training, institutional bias, and a dearth of female role models (Cox & Blake, 1991). Although previous studies have provided insight into these matters, there is still a knowledge vacuum on the particular cultural or sociological elements linked to various ethnic groups that influence the way in which hurdles to gender equality in maritime education are seen.

By investigating the influence of ethnicity and age on perceptions of gender

equality barriers among maritime students, this study aims to generate new knowledge on the intersecting dynamics that shape gender disparities in the maritime education sector. The outcomes of this research are expected to provide insights into targeted interventions that can promote inclusivity and equity across diverse ethnic backgrounds within the maritime industry, both internationally and in the Philippines.

In the local context of Butuan City, where the study was conducted at the Merchant Marine Academy of Caraga, Inc. (MMACI), the findings of this research hold significant implications for maritime education institutions in the Philippines. By addressing gender equality barriers and promoting inclusivity, educational institutions can contribute to a more diverse and gender-equal maritime industry, aligning with national efforts to advance gender equality and empower women in various sectors.

FRAMEWORK

The study anchors its theoretical basis on the Feminist Theory by Mary Wollstonecraft (1792), who, in her work "A Vindication of the Rights of Woman," argued for women's education and rights. It emphasizes the need to disrupt oppression and recognize power dynamics to foster change and understanding. This theory highlights how stereotypes and social structures influence social perceptions of gender differences, perpetuating sexism, and tackles social problems experienced by women, including discrimination, objectification, economic inequality, power, gender roles, and stereotypes. By applying feminist theory to this study, researchers can gain a deeper understanding of the gendered experiences of maritime students and how structural and social barriers shape these experiences. This understanding can inform the development of effective strategies and action plans to promote gender equality in the maritime industry

The study also draws on the concept of intersectionality, which emphasizes the interconnectedness of various social categories, such as gender, race, and class, and how they intersect to shape individuals' experiences of inequality. This framework is particularly relevant in understanding the complex interplay of structural factors within organizational contexts, including maritime education institutions. By considering the intersecting axes of oppression, the study aims to provide a more nuanced understanding of the barriers to gender equality faced by maritime students from diverse ethnic backgrounds.

OBJECTIVE OF THE STUDY

The main objective of the study is to investigate the influence of ethnicity and age on perceptions of gender equality barriers in the maritime education industry, with a focus on understanding the dynamics that contribute to these perceptions and informing targeted interventions to promote inclusivity and equity.

METHODOLOGY

Research Design

The researchers employed a descriptive correlational method, a quantitative research design that explores relationships between variables without implying causation. This method was utilized to investigate gender equality barriers among students in the College of Maritime Education program.

Research Site

The study was conducted at the Merchant Marine Academy of Caraga, Inc. (MMACI), a private school in Southern Philippines located in Butuan City. MMACI offers Senior High School programs, TESDA qualifications, and tertiary maritime education and training.

Respondents of the Study

The respondents of the study were students in the College of Maritime Education program, specifically those in the BS-Marine Engineering and BS-Marine Transportation programs. The study aimed to understand the demographic profile of the respondents and their perceptions of structural and social barriers to gender equality.

Instrumentation

The research instrument used in this study was a questionnaire developed by Fidan et al. (2020) to investigate "Gender discrimination Perception among Maritime Students in Turkey", which was adapted by the researchers for this study. The instrument consisted of two parts: Structural Barriers with seven statements and Social Barriers with eleven statements, aiming to gain valuable insights into the gender equality barriers faced by marine students in their research context.

Data Gathering Procedure

Step 1: The researchers wrote a communication letter to the Dean of the College of Maritime Education formally requesting permission for the researcher to conduct a room-to-room visit in order to float the questionnaire.

Step 2: The researcher employed a convenient random sampling technique in choosing the available respondents in the actual class visit to represent the respondents of the study. Thus, there are 554 student-respondents in total, of which there are 177 first-year, 114 second-year, and 125 third year for the BS-Marine Transportation program and 49 first-year, 48 second-year, and 41 third-year for the BS-Marine Engineering program for the School Year 2023-2024.

Step 4: The respondents are given questionnaires to identify the needed data and only reveal it to the authorized personnel in the school.

Step 5: After floating the questionnaires, the researchers tabulated the data with the Microsoft Excel form for easy computation by the statistician.

Research Ethics Protocol

In this study, ethical standards were strictly applied to ensure privacy and confidentiality, with informed consent actively sought from all participants. A comprehensive consent form accompanied the research questionnaire, providing participants with the necessary information to make an informed decision about their involvement. Measures were taken to maintain participant privacy and confidentiality, including the use of unique statistical codes and anonymous numeric codes, and transparent communication was established throughout the study. The research protocol, including ethical considerations, was submitted to the Institutional Review Board (IRB) for approval, ensuring strict adherence to ethical standards to protect participants' rights and welfare, uphold respect for confidentiality, and maintain confidentiality and confidence throughout the research process.

The data was treated with the utmost confidentiality for the study, and the information was not used for any purpose other than what was intended, as the researchers informed the respondents of the documentation, including pictures. The research must adhere to integrity and ethical practices. Data are secured in a flash drive containing solely the responses. Lastly, there was an orientation of racial and ethnic groups.

RESULTS AND DISCUSSION

Problem no. 1: What is the demographic profile of the respondents in terms of age, gender, family position, religious affiliation, and ethnicity?

Table 1

Profile of Respondents in terms of Age

	BSMarE			BSMT			Total		
Variables	Frequency	Percentage	Rank	Frequency	Percentage	Rank	Frequency	Percentage	Rank
18 years old and below	5	7	3	31	15	3	36	12.68	3
19-21 years old	45	65	1	132	63	1	177	63.73	1
22 years old and above	19	28	2	46	22	2	66	23.59	2
Total	69	100		209	100		278	100	

For BSMarE students, the table indicates that 7% of respondents are aged 18 years old and below, ranking third in frequency. The majority of BSMarE students fall within the 19-21-year-old category, constituting 65% of the total, ranking first in frequency. Lastly, 28% of BSMarE students are 22 years old and above, ranking second in frequency. For BSMT students, 15% of respondents are aged 18 years old and below, ranking third in frequency. The largest proportion of BSMT students falls within the 19-21-year-old category, comprising 63% of the total, ranking first in frequency. Meanwhile, 22% of BSMT students are 22 years old and above, ranking second in frequency.

The existing body of literature suggests that age plays a significant role in shaping individuals' attitudes towards gender equality and diversity, with younger individuals (18-21 years old) being more open-minded and receptive to gender equality initiatives due to their exposure to progressive social movements and educational programs, whereas conventional gender norms and societal expectations may influence older individuals (22 years old or older) (Smith, 2018; Baxter, 2016). Additionally, research indicates that age affects the level of awareness and involvement in gender-related issues among students, with younger individuals displaying higher levels of enthusiasm and engagement. At the same time, older respondents may exhibit resistance or hesitancy in questioning established gender norms (Acker, 1994).

Table 2

Profile of Respondents in terms of Gender

	BSMarE			BSMT			Total		
Variables	Frequency	Percentage	Rank	Frequency	Percentage	Rank	Frequency	Percentage	Rank
Male	67	97	1	202	97	1	269	96.83	1
Female	2	3	2	7	3	2	9	3.13	2
Total	69	100		209	100		278	100	

For BSMarE students, the majority are male, constituting 97% of the total respondents and ranking first in frequency. Female students make up only 3% of BSMarE respondents, ranking second in frequency. Similarly, for BSMT students, males dominate the sample, comprising 97% of the total respondents and ranking first in frequency. Female students represent a smaller proportion, accounting for 3% of BSMT respondents and ranking second in frequency. The total sample size across both programs is 278 respondents, with percentages provided for each gender category. Overall, the table illustrates a significant gender disparity within the maritime education context, with male students outnumbering female students by a considerable margin.

According to the analysis, there is a significant disparity in gender representation among the maritime student population, with males dominating both educational and occupational positions (UN Women, 2020). This lack of female participants highlights ongoing gender inequalities and difficulties faced by women seeking jobs in maritime education and training, which can be attributed to socio-cultural norms, institutional biases, and structural obstacles (Davies & Sampson, 2017). Factors contributing to the underrepresentation of women in maritime studies include misconceptions about women's capabilities, a lack of female role models, and limited training and career progression prospects (International Maritime Organization, 2019).

Table 3

Profile of Respondents in terms of Family Position

	BSMarE			BSMT			Total		
Variables	Frequency	Percentage	Rank	Frequency	Percentage	Rank	Frequency	Percentage	Rank
First Born	18	27	3	73	35	1	91	32.75	2
Middle child	24	35	1.5	71	34	2	95	34.15	1
Youngest	24	35	1.5	48	23	3	72	26.05	3
Only Child	1	1	5	13	6	4	14	4.92	4
Others	2	2	4	4	2	5	6	2.11	5
Total	69	100		209	100		278	100	

For BSMarE students, the largest proportion is comprised of middle children, accounting for 35% of the total respondents and ranking first in frequency. Both first-born and youngest children follow them, each representing 27% of BSMarE respondents and ranking joint second in frequency. Only children constitute the smallest proportion, making up only 1% of BSMarE respondents. For BSMT students, the distribution is similar, with middle children also constituting the largest group at 34% of the total respondents, ranking second in frequency. First-born and youngest children are both equally represented, each accounting for 35% of BSMT respondents and ranking joint first in frequency. Only children and others (those with different family positions) make up smaller proportions of BSMT respondents.

According to Sulloway (2010), birth order has the potential to exert an impact on multiple dimensions of an individual's personality, conduct, and academic achievements, which can influence their performance and perspectives in maritime education. Research suggests that first-born children tend to exhibit attributes like responsibility, accomplishment orientation, and assertiveness, potentially enhancing their performance in competitive academic environments (Black, 2005; Salmon & Daly, 1998). Additionally, the arrangement of birth orders in families can shape individuals' viewpoints on authority, collaboration, and independence, ultimately influencing their views toward gender equality and diversity among marine students (Hertler, 2015).

Table 4

Profile of Respondents in terms of Religious Affiliation

	BSMarE			BSMT			Total		
Variables	Frequency	Percentage	Rank	Frequency	Percentage	Rank	Frequency	Percentage	Rank
Roman Catholic	61	90	1	170	81	1	231	83	1
Islam	0	0	9	0	0	9	0	0	9
Iglesia Ni Cristo	0	0	9	1	0.5	7.5	1	0.5	7.5
Seventh-day Adventist	1	0	8	5	2	5	6	2	7
Jehova's Witness	0	0	9	1	0.5	7.5	1	0.5	7.5
Church of Christ	0	0	9	3	1	6	3	1	6
Bible Baptist Church	2	3	3.5	6	3	4	8	3	4
Other Religious Affiliation	3	4	2	16	8	2	19	7	2
None	2	3	3.5	7	4	3	9	3	3
Total	69	100		209	100		278	100	

For BSMarE students, the majority identify as Roman Catholic, constituting 90% of the total respondents and ranking first in frequency. Other religious affiliations such as Bible Baptist Church, Seventh-day Adventist, and Other Religious Affiliation are also represented, albeit in smaller proportions. Similarly, for BSMT students, Roman Catholicism is the predominant religious affiliation, with 81% of the total respondents identifying as such. Other religious affiliations such as Seventh-day Adventist, Church of Christ, Bible Baptist Church, and Other Religious Affiliation are also present among BSMT respondents.

The categorization of participants based on their religious affiliation provides valuable insights into the religious heterogeneity among maritime students, as religion substantially influences individuals' values, beliefs, and behaviors, including their perspectives on gender equality (Pew Research Center, 2021). Religious teachings and doctrines can shape individuals' understanding of gender roles, family dynamics, and societal standards (Lull & Markus, 2018), and

certain religious traditions may endorse conventional gender norms or prioritize principles of equality and social justice (Woodward, 2016). Furthermore, scholarly investigations have highlighted the intricate dynamics between religion, culture, and gender equality across various settings (Ishida & Harper, 2012; Woodhead, 2016).

Table 5
Profile of Respondents in terms of Ethnicity

	BSMarE			BSMT			Total		
Variables	Frequency	Percentage	Rank	Frequency	Percentage	Rank	Frequency	Percentage	Rank
Surigaonon	12	18	2	47	23	2	59	24.60	2
Butuanon	44	63	1	124	58	1	168	59.85	1
Manobo	3	4	4	1	1	5	4	1.41	4
Ilonggo	0	0	5	3	2	4	3	1.05	5
Others	10	15	3	34	16	3	44	16.20	3
Total	69	100		209	100		278	100	

For BSMarE students, the majority belong to the Butuanon ethnic group, constituting 63% of the total respondents and ranking first in frequency. They are followed by Surigaonon and Others, each representing 18% and 15% of BSMarE respondents, respectively. Manobo and Ilonggo ethnicities make up smaller proportions of BSMarE respondents. Similarly, for BSMT students, the largest proportion is comprised of Butuanon individuals, accounting for 58% of the total respondents and ranking first in frequency. They are followed by Surigaonon and Others, each representing 23% and 16% of BSMT respondents, respectively. Manobo and Ilonggo ethnicities make up smaller proportions of BSMT respondents.

The analysis of respondent distribution based on ethnicity provides insights into the cultural heterogeneity present among marine students, as ethnicity covers a range of cultural, linguistic, and ancestral identities that shape individuals' perspectives, attitudes, and experiences within the educational setting (Fryberg & Markus, 2017). Ethnicity exerts a substantial influence on individuals' perspectives regarding gender roles, societal norms, and institutional behaviors (Chakraborty & Kim, 2018), and the intersection of cultural traditions, practices, and beliefs with gender dynamics can have intricate effects on individuals' perceptions of gender equality and diversity (Gallagher & Smith, 2018). Recognizing and appreciating a range of cultural viewpoints is crucial for advancing gender equality and inclusivity within education, and educators and policymakers can

formulate more efficient approaches to tackle gender inequalities by employing culturally responsive methodologies (Gay, 2018).

Problem no. 2: What is the level of perception of gender equality barriers as perceived by the maritime engineering and transportation student-respondents as to structural barriers and social barriers?

Table 6

The Level of Perception of the Respondents Regarding Gender Equality as to Structural Barriers

Indicators	BSMarE			BSMT			Total		
	Weighted Mean	Verbal Description	Rank	Weighted Mean	Verbal Description	Rank	Weighted Mean	Verbal Description	Rank
1. The Maritime Education Department will always need people in charge to make sure there is a clear order of who is in control.	3.71	Strongly Agree	1	3.76	Strongly Agree	1	3.74	Strongly Agree	1
2. Using machines does not help the Maritime Education Department to encourage equal opportunities for men and women in shipping jobs.	3.26	Strongly Agree	7	3.58	Strongly Agree	7	3.42	Strongly Agree	7
3. The Maritime Education Department becomes more well-known in academics when they make good use of machines and technology in the shipping business.	3.65	Strongly Agree	2	3.59	Strongly Agree	5	3.62	Strongly Agree	2

4. Using technology to handle paperwork and tasks in the Maritime Education Department helps in finding problems or differences in what is expected and what actually happens	3.46	Strongly Agree	5	3.60	Strongly Agree	4	3.53	Strongly Agree	4
5. The Maritime Education Department should use modern technologies, like automated machines in the shipping industry.	3.49	Strongly Agree	3	3.58	Strongly Agree	7	3.51	Strongly Agree	5
6. The use of technology contributes to gender equality because fields like technical education and natural sciences, which are involved in automation, are typically dominated by men.	3.37	Strongly Agree	6	3.61	Strongly Agree	3	3.49	Strongly Agree	6

7. The College of Maritime Education should implement additional measures to promote gender equality among students and staff.	3.48	Strongly Agree	4	3.62	Strongly Agree	2	3.55	Strongly Agree	3
Weighted Mean	3.49	Strongly Agree		3.62	Strongly Agree		3.55	STRONGLY AGREE	

According to the results presented in Table 6, respondents exhibit a strong agreement on the significance of hierarchical structures and authority persons in upholding order inside the department, with a weighted mean of 3.75 (Van den Brink & Benschop, 2012). They also agree on the positive impact of utilizing machines and technology in the shipping industry on the department's academic standing, with a weighted mean of 3.63 (Wajcman, 2010). Additionally, there is consensus on the potential of technology to promote gender equality in male-dominated professions, with weighted means ranging from 3.55 to 3.59 (Van den Brink & Benschop, 2012). However, participants strongly concur that further actions are required to advance gender equality among students and staff, with a weighted mean of 3.59, which aligns with existing literature that highlights the significance of proactive interventions and policies in promoting inclusivity within industries predominantly dominated by men (Peterson & Bredillet, 2009).

Table 7

The Level of Perception of the Respondents Regarding Gender Equality as to Social Barrier

Indicators	BSMarE			BSMT			Total		
	Weighted Mean	Verbal Description	Rank	Weighted Mean	Verbal Description	Rank	Weighted Mean	Verbal Description	Rank
1. I believe that seafaring is perceived as a male profession.	3.42	Strongly Agree	2	3.56	Strongly Agree	6.5	3.49	Strongly Agree	2.4

2. I believe women are being treated biased in maritime education.	3.25	Strongly Agree	11	3.51	Strongly Agree	11	3.38	Strongly Agree	11
3. I believe there are stereotyped negative thoughts about women working in maritime education.	3.30	Strongly Agree	8	3.56	Strongly Agree	9	3.43	Strongly Agree	7.5
4. I believe men are more favored in recruitment in the maritime sector.	3.26	Strongly Agree	10	3.56	Strongly Agree	6.5	3.41	Strongly Agree	9.5
5. I believe men advance more easily and quickly in maritime education.	3.36	Strongly Agree	4.5	3.54	Strongly Agree	10	3.45	Strongly Agree	7.5
6. I believe in maritime education that men are more supported in professional development.	3.28	Strongly Agree	9	3.56	Strongly Agree	6.5	3.42	Strongly Agree	9.5
7. I believe definitions are being used for the stereotypical roles of men and women in maritime education.	3.36	Strongly Agree	4.5	3.59	Strongly Agree	2.5	3.48	Strongly Agree	5

8. I believe that the words or opinions of men and women employees in maritime education are valued differently.	3.39	Strongly Agree	3	3.59	Strongly Agree	2.5	3.49	Strongly Agree	2.5
9. I believe there is different remuneration for men and women employees in maritime education.	3.35	Strongly Agree	6.5	3.58	Strongly Agree	5	3.47	Strongly Agree	6
10. I believe that different legal arrangements have been made for men and women employees in maritime education.	3.35	Strongly Agree	6.5	3.61	Strongly Agree	1	3.48	Strongly Agree	2.5
11. Organizational culture should be maintained and flexible towards institutional theory to promote gender equality.	3.50	Strongly Agree	1	3.59	Strongly Agree	2.5	3.55	Strongly Agree	1
Weighted Mean	3.35	Strongly Agree		3.57	Strongly Agree		3.69	STRONGLY AGREE	

The respondents in the maritime education sector exhibit a high level of agreement regarding the prevailing perception of seafaring as a predominantly male profession (Smith, 2018), with concerns about the unequal treatment of women in maritime education institutions (UN Women, 2018). They also demonstrate a high level of consensus regarding the existence of stereotypical negative perceptions towards women employed in maritime education (Davies & Sampson, 2017). Furthermore, there are ongoing concerns about the

preference for men in recruitment, career progression, and recognition within maritime education environments (Baxter, 2016). To address these issues, the participants emphasize the need for adaptable organizational cultures to advance gender equality, underscoring the necessity for institutional reforms and cultural transformations (Woodward, 2016).

Problem no. 3: Is there a significant relationship between the perception scores of structural barriers and social barriers to gender equality among the respondents?

Table 8

The Relationship between the Perception Scores of Structural Barriers and Social Barriers

Variables	BSMAR-E			BSMT		
	Pearson Correlation Coefficient	P- value	Statistical Decision	Pearson Correlation Coefficient	P- value	Statistical Decision
Structural Barriers and Social Barrier	0.92	0.0001	Significant	0.96	0.0001	Significant

The analysis revealed a significant positive correlation between the perception scores of structural barriers and social barriers among both BSMarE and BSMT students. Specifically, the Pearson correlation coefficient between structural barriers and social barriers was 0.92 with a p-value of 0.0001 for BSMarE students and 0.96 with a p-value of 0.0001 for BSMT students, leading to the rejection of the null hypothesis, indicating a strong positive relationship between these barriers. This highlights the interconnected nature of challenges faced by students regarding gender equality issues, emphasizing the need for comprehensive interventions that address both structural and social aspects to promote inclusivity and equity within the maritime industry.

The observation aligns with prior scholarly works, which emphasize the interrelatedness of obstacles to achieving gender parity in predominantly male sectors such as maritime education (UN Women, 2018). The statement highlights the interplay between institutional and social obstacles, which frequently impede advancements toward achieving gender equality (Davies & Sampson, 2017). A comprehensive comprehension of this robust link is crucial in formulating efficacious treatments and policies targeted at mitigating gender disparities within maritime educational establishments. According to Woodward (2016), the implementation of comprehensive strategies that address both structural and social barriers can facilitate the creation of a more inclusive and equitable

environment for all stakeholders.

Problem no. 4: Is there a significant relationship between the respondents' perceived scores on the gender equality barriers when grouped according to profile?

Table 9

Respondent's Profile and their Perceived Scores in Gender Equality as to Structural and Social Barriers

	AGE							
	BSMarE				BSMT			
Variable	F-value	P-value	Hypothesis	Statistical Decision	F-value	P-value	Hypothesis	Statistical Decision
Structural Barriers	3.75	0.05	Rejected the H_2	There is significant relationship	1.89	0.07	Accepted the H_2	There is no significant relationship
Social Barriers	0.40	0.5	Accepted the H_2	There is no significant relationship	1.73	0.19	Accepted the H_2	There is no significant relationship

For structural barriers among BSMarE students, the F-value is 3.75 with a p-value of 0.05, leading to the rejection of the null hypothesis (H2). This indicates a significant relationship between age and perceived structural barriers to gender equality in the BSMarE program. Conversely, for BSMT students, the F-value is 1.89 with a p-value of 0.07, resulting in the acceptance of the null hypothesis (H2), suggesting no significant relationship between age and perceived structural barriers in the BSMT program.

In terms of social barriers, both BSMarE and BSMT students exhibit similar patterns. The F-values for social barriers among BSMarE and BSMT students are 0.40 and 1.73, respectively, with corresponding p-values indicating no significant relationship between age and perceived social barriers in either program.

Table 10

Respondent's Profile and their Perceived Scores in Gender Equality as to Structural and Social Barriers

GENDER								
	BSMarE				BSMT			
Variable	F-value	P-value	Hypothesis	Statistical Decision	F-value	P-value	Hypothesis	Statistical Decision
Structural Barriers	0.027	0.87	Accepted the H_2	There is no significant relationship	1.58	0.20	Accepted the H_2	There is no significant relationship
Social Barriers	0.021	0.88	Accepted the H_2	There is no significant relationship	0.92	0.33	Accepted the H_2	There is no significant relationship

For structural barriers among BSMarE students, the F-value is 0.027 with a p-value of 0.87, resulting in the acceptance of the null hypothesis (H2). This suggests no significant relationship between gender and perceived structural barriers to gender equality in the BSMarE program. Similarly, for BSMT students, the F-value is 1.58 with a p-value of 0.20, leading to the acceptance of the null hypothesis (H2), indicating no significant relationship between gender and perceived structural barriers in the BSMT program. Regarding social barriers, both BSMarE and BSMT students exhibit similar patterns. The F-values for social barriers among BSMarE and BSMT students are 0.021 and 0.92, respectively, with corresponding p-values indicating no significant relationship between gender and perceived social barriers in either program.

Table 11

Respondent's Profile and their Perceived Scores in Gender Equality as to Structural and Social Barriers

	FAMILY POSITION							
	BSMarE				BSMT			
Variable	F-value	P-value	Hypothesis	Statistical Decision	F-value	P-value	Hypothesis	Statistical Decision
Structural Barriers	0.21	0.64	Accepted the H2	There is no significant relationship	3.76	0.05	Rejected the H2	There is significant relationship
Social Barriers	0.008	0.92	Accepted the H2	There is no significant relationship	0.003	0.96	Accepted the H2	There is no significant relationship

For structural barriers among BSMarE students, the F-value is 0.21 with a p-value of 0.64, resulting in the acceptance of the null hypothesis (H2). This indicates no significant relationship between family position and perceived structural barriers to gender equality in the BSMarE program. However, for BSMT students, the F-value is 3.76 with a p-value of 0.05, leading to the rejection of the null hypothesis (H2), suggesting a significant relationship between family position and perceived structural barriers in the BSMT program.

Regarding social barriers, both BSMarE and BSMT students show similar patterns. The F-values for social barriers among BSMarE and BSMT students are 0.008 and 0.003, respectively, with corresponding p-values indicating no significant relationship between family position and perceived social barriers in either program.

Table 12

Respondent's Profile and their Perceived Scores in Gender Equality as to Structural and Social Barriers

RELIGIOUS AFFILIATION								
	BSMarE				BSMT			
Variable	F-value	P-value	Hypothesis	Statistical Decision	F-value	P-value	Hypothesis	Statistical Decision
Structural Barriers	0.24	0.62	Accepted the H_2	There is no significant relationship	0.01	0.89	Accept the H_2	There is no significant relationship
Social Barriers	0.009	0.92	Accepted the H_2	There is no significant relationship	0.003	0.96	Accepted the H_2	There is no significant relationship

For structural barriers among BSMarE students, the F-value is 0.24 with a p-value of 0.62, leading to the acceptance of the null hypothesis (H2). This suggests no significant relationship between religious affiliation and perceived structural barriers to gender equality in the BSMarE program. However, for BSMT students, the F-value is 0.24 with a p-value of 0.01, resulting in the rejection of the null hypothesis (H2), indicating a significant relationship between religious affiliation and perceived structural barriers in the BSMT program. Regarding social barriers, both BSMarE and BSMT students exhibit similar patterns. The F-values for social barriers among BSMarE and BSMT students are 0.009 and 0.003, respectively, with corresponding p-values indicating no significant relationship between religious affiliation and perceived social barriers in either program.

Table 13

Respondent's Profile and their Perceived Scores in Gender Equality as to Structural and Social Barriers

	ETHNICITY							
	BSMarE				BSMT			
Variable	F-value	P-value	Hypothesis	Statistical Decision	F-value	P-value	Hypothesis	Statistical Decision
Structural Barriers	4.31	0.04	Rejected the H_2	There is significant relationship	0.97	0.32	Accepted the H_2	There is no significant relationship
Social Barriers	8.9	0.002	Rejected the H_2	There is significant relationship	2.59	0.11	Accepted the H_2	There is no significant relationship

For structural barriers among BSMarE students, the F-value is 4.31 with a p-value of 0.04, leading to the rejection of the null hypothesis (H2). This indicates a significant relationship between ethnicity and perceived structural barriers to gender equality in the BSMarE program. However, for BSMT students, the F-value is 0.97 with a p-value of 0.32, resulting in the acceptance of the null hypothesis (H2), suggesting no significant relationship between ethnicity and perceived structural barriers in the BSMT program. In terms of social barriers, both BSMarE and BSMT students exhibit different patterns. For BSMarE students, the F-value is 8.9 with a p-value of 0.002, leading to the rejection of the null hypothesis (H2), indicating a significant relationship between ethnicity and perceived social barriers. Conversely, for BSMT students, the F-value is 2.59 with a p-value of 0.11, resulting in the acceptance of the null hypothesis (H2), suggesting no significant relationship between ethnicity and perceived social barriers.

Problem 5: Based on the findings, what action plan can be derived to promote gender and development program in the College of Maritime Education?

Table 14

The Action Plan to Promote Gender and Development Program

Program	Strategies	Objectives	Time Frame	Budget	Persons Involved	Evaluation of the Activities
	Awareness and Sensitization Workshops	Conduct workshops and training sessions to raise awareness about gender equality issues and inform students and staff about the importance of gender diversity.	6 Months		Students, Faculty, Staff	
	Review and Revision of Policies	Evaluate existing institutional policies to identify and address any gender biases or discriminatory practices, ensuring equal opportunities for all.	3 Months		Administration, Committee	
	Diversity and Inclusion Training	Implement training programs focused on diversity and inclusion for students and faculty to promote the value of diversity in the maritime industry.	Ongoing		Students, Faculty	
	Mentorship and Support programs	Establish mentorship programs to support female students and staff, providing guidance and networks to empower women in the maritime field.	1 Year		Students, Faculty, Staff	
	Promotion of Gender-Neutral Language and Practices	Promote gender-neutral language and practices across the college, fostering an environment that respects and values individuals of all genders.	Ongoing		Students, Faculty, Staff	

Engagement with Industry Partners	Collaborate with industry partners to promote gender diversity initiatives, encouraging participation in events and programs that support gender equality.	Ongoing	Administration, Faculty
Research and Data Collection	Continue research and data collection on gender and equality issues, using insights to monitor processes and inform future interventions.	2 Years	Faculty, researchers
Regular Evaluation and Assessment	Establish mechanisms for regular evaluation and assessment of gender equality programs, collecting feedback and adjusting strategies as needed.	Quarterly Review	Administration, Committee
Celebration of Diversity	Organize events to celebrate diversity and highlight the achievements of women in the maritime industry, inspiring future generations.	Annually	Students, Faculty, Staff

CONCLUSIONS

This study sheds insight on the complicated problem of gender disparity in maritime education by examining how perceptions of gender barriers are influenced by factors such as age, family status, religion, and ethnicity. It highlights the necessity of a thorough strategy to remove these obstacles, including specialized therapies, culturally aware techniques, and laws that support fairness and inclusivity. Understanding the many viewpoints and difficulties that students encounter can help educational institutions create a more encouraging and gender-neutral atmosphere in the maritime sector.

TRANSLATIONAL RESEARCH

The study's practical translational research initiatives could include mentoring opportunities for female students, the creation and implementation

of gender-sensitive training programs for maritime educators and administrators, and industry partnerships to promote inclusive recruitment and promotion practices. Furthermore, studies might examine the efficacy of focused measures, such as grants or scholarships, meant to boost the proportion of women enrolled in marine education programs. The creation of culturally appropriate educational resources and support services may benefit from more research into the subtle cultural influences on gender attitudes among various ethnic groups. These programs can help create a more equitable and inclusive maritime education sector by converting research findings into workable tactics, which will ultimately benefit individuals as well as the industry as a whole.

LITERATURE CITED

Acker, S., & David, M. E. (1994). Gendered education: Sociological reflections on women, teaching and feminism.

Baxter, J. (2016). Age and Gender Equality Attitudes in Australia. Journal of Sociology, 52(4), 723–739.

Black, S. E., Devereux, P. J., & Salvanes, K. G. (2005). The more the merrier? The effect of family size and birth order on children's education. *The Quarterly Journal of Economics*, *120*(2), 669-700.

Carli, L. (2016). Gender in the Laboratory: A Biosocial Approach to Understanding Sex Differences. Journal of Personality and Social Psychology, 107(2), 431–451.

Chakraborty, A., & Kim, H. (2018). Ethnic Diversity and Gender Equality Attitudes in Asia. Social Indicators Research, 139(1), 239–263.

Chakraborty, A., & Kim, H. (2018). Ethnic diversity and gender equality attitudes in Asia. *Social Indicators Research*, *139*(1), 239–263.

Cox, T., & Blake, S. (1991). Managing cultural diversity: Implications for organizational competitiveness. *Academy of Management Executive*, *5*(3), 45–56.

Davies, J., & Sampson, H. (2017). *Women at the Helm: Navigating Gender Issues in the Maritime Industry*. Palgrave Macmillan.

Fidan, V., Günay, E. S. İ. N., Akpınar, G., & Atacan, C. (2020). Gender discrimination perception among Maritime Students in Turkey. *Journal of ETA Maritime Science*, *8*(3), 162-176.

Fryberg, S. A., & Markus, H. R. (2017). Ethnicity as culture. In R. B. Lull & H. R. Markus (Eds.), *Culture as the fabric of social life* (pp. 158–184). Routledge.

Gallagher, C. A., & Smith, S. R. (2018). *Race, ethnicity, gender, and class: The sociology of group conflict and change* (8th ed.). Routledge.

Gay, G. (2018). Culturally responsive teaching: Theory, research, and practice. *teachers college press*.

Hearn, J., & Parkin, W. (2017). Gender, Sexuality and Violence in Organizations: The Unspoken Forces of Organization Violations. *Routledge*.

Hertler, S. C. (2015). Birth order effects in the formation of long-term romantic partnerships. *Journal of Family Issues*, *36*(10), 1388–1406.

International Maritime Organization. (2019). *Women in maritime – IMO and WISTA launch new video to inspire next generation*. https://tinyurl.com/3tf9whrk

Ishida, H., & Harper, I. (Eds.). (2012). *Religion and gender in modern Japan*. Routledge.

Lull, R. B., & Markus, H. R. (2018). *Culture as the fabric of social life*. Routledge.

Peterson, T., & Bredillet, C. (2009). The gender gap in leadership: Do men and women differ in motives and perceived effectiveness of transformational and transactional leadership? *Sex Roles*, *60*(3-4), 193–208.

Pew Research Center. (2021). *Religion and gender*. https://www.pewresearch.org/religion/fact-sheet/religion-and-gender/

Salmon, C. A., & Daly, M. (1998). Birth order and familial sentiment: Middleborns are different. *Evolution and Human Behavior*, *19*(5), 299-312.

Smith, P. (2018). Cultural Attitude Change: The How and the Why. *Routledge*.

Sulloway, F. J. (1996). *Born to rebel: Birth order, family dynamics, and creative lives*. Pantheon Books.

UN Women. (2020). *Women in maritime: Global leadership summit report*. https://tinyurl.com/42688ja2

United Nations. (2015). *Sustainable Development Goal 5: Achieve gender equality and empower all women and girls*. https://sdgs.un.org/goals/goal5

Van den Brink, M., & Benschop, Y. (2012). Gender in academic networking: The role of gatekeepers in professional recruitment. *Journal of Management Studies*, *49*(3), 460–488.

Wajcman, J. (2010). Feminist theories of technology. *Cambridge Journal of Economics*, *34*(1), 143–152.

Wollstonecraft, M. (1792). *A vindication of the rights of woman: with strictures on political and moral subjects*. J. Johnson.

Woodhead, L. (2016). *Gendering religion and religious studies*. Routledge.

Woodward, K. L. (2016). *The Changing Face of Religion in Modern Britain*. Routledge.