

Reading habit: a survey on seafarers

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Abstract. The purpose of this study is to investigate the reading conditions and preferences of seafarers. Surveys were distributed to 491 seafarers, and statistical analysis was conducted. The research findings indicate that the overall level of reading time and quantity among seafarers is significantly lower than the national average in China. Seafarers under the age of 25 with less than 1 year of work experience exhibit a higher willingness to read, while those aged 56 and above show the lowest inclination to read. As sea service years increase, the willingness to read decreases. Seafarers with higher education levels demonstrate the best reading habits, and those in higher positions with advanced education exhibit better reading methods. The main obstacles to seafarers' reading are attributed to personal factors and external environmental influences. The primary purposes of seafarers' reading include entertainment, problem-solving, self-improvement, and stress relief, with diverse content preferences. After understanding the purposes and needs of seafarers' reading, a series of recommendations are proposed to enhance reading conditions.

1. Introduction

Reading plays a pivotal role in the information-driven society [1]. It transcends being a mere linguistic and cognitive activity, evolving into a profound personal and private experience. It serves as a vital tool for establishing connections with others, sharing thoughts, and fostering social bonds. Effective reading skills are indispensable for active participation in cultural, political, and economic spheres [2]. Individuals engage in reading for multifaceted reasons, including acquiring knowledge and information, seeking entertainment and leisure, addressing life challenges, familial concerns, and navigating the complexities of aging, as well as enhancing social and community interactions [3]. The diverse motivations for reading significantly shape the daily reading habits of adults, influencing what they read, how much they read, and why they engage in reading. Research indicates that reading habits undergo changes throughout adults' lives [4], underscoring the adaptability of adult reading behaviors. In the context of the maritime industry's development, seafarers serve as a cornerstone, participating in a profession marked by its international nature and concurrently recognized as one of the most hazardous occupations [5]. Developing sound reading habits is pivotal for the personal growth and safety of seafarers. Communication constraints, particularly during extended voyages, may result in a detachment from society, potentially leading to psychological challenges [6]. Reading emerges as a crucial means for seafarers to maintain a connection with society and seek recreational solace.

With the accelerated pace of development in the shipping industry, new techniques and technologies are

widely used on board ships [7]. This requires seafarers to maintain a continuous learning attitude. Enhancing the quality and quantity of seafarers' reading is imperative for optimizing seafarer management and upholding maritime safety. In the literature search, it was noted that there is a paucity of literature on the reading habits of seafarers. This study, employing a questionnaire survey, aims to discern the factors influencing seafarers' reading habits, with the objective of guiding them towards meaningful reading practices. Tailoring interventions based on the unique characteristics of different seafarers is anticipated to elevate the overall reading proficiency of the seafarer. By gaining comprehensive insights into the current status and needs of seafarers' reading at sea, this research endeavors to offer more effective reading support, fostering individual development and enhancing overall professional competence. Concurrently, the study aspires to provide valuable reference materials for publishers in producing suitable reading materials tailored to the needs of the shipping industry.

2. Methods

In surveying reading habits, many scholars have utilized questionnaire surveys, as demonstrated in the research conducted by Rhee [8], Lau [9], Pfost et al. [10], and others. These studies indicate that the questionnaire survey method is widely employed in investigating reading. Given its extensive application and successful outcomes, we have decided to adopt a similar questionnaire survey approach for this study. We refer to the questionnaires designed by other scholars, based on the reading characteristics of seafarers and the opinions

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Table 1. Basic Information of Survey Participants (N=491)

Variables	Categories	Frequency	Percentage
Age	A1: 25 years old and below	81	16.5
	A2: 26-35 years old	172	35.0
	A3: 36-45 years old	142	28.9
	A4: 46-55 years old	89	18.1
	A5: 56 years old and above	7	1.4
Sea Service Experience	B1: Less than 1 year	63	12.8
	B2: 1-5 years	116	23.6
	B3: 6-15 years	187	38.1
	B4: 16-25 years	75	15.3
	B5: 26 years and above	50	10.2
Position	C1: Management Level	164	33.4
	C2: Operational Level	152	31.0
	C3: Support Level	175	35.6
Educational Level	D1: High School and Below	82	16.7
	D2: Technical Secondary School	67	13.6
	D3: Associate Degree	259	52.7
	D4: Bachelor's Degree and Above	83	16.9
Company Type	E1: State-Owned Large Shipping Company	379	77.2
	E2: Large Private Shipping Company	32	6.5
	E3: Smaller-Scale Shipping Company	49	10.0
	E4: Foreign Company	31	6.3
Contract Type	F1: Sign a Long-Term Employment Contract and Serve Long-Term with a Shipping Company	333	67.8
	F2: Freelance seafarer Member with Long-Term Service for a Shipping Company	114	23.2
	F3: Freelance seafarer Member and Regularly Serves Different Shipping Companies	44	9.0

of senior seafarers of Shanghai Maritime University, combined with interviews and feedback from some of the interviewees, to determine the questionnaire.

2.1. Questionnaire Design

The questionnaire comprises three main sections:

Demographic Information of Respondents: This section consists of 6 questions aimed at collecting demographic information to assess the impact of these factors on the reading habits of seafarers.

Likert Scale Questions: This section encompasses 13 questions utilizing a five-point Likert scale for rating. The five-point Likert scale, widely recognized in survey research, has demonstrated effectiveness as a questionnaire method.

Multiple Choice Questions: This section includes 8 questions related to reading needs and desired reading assistance. These questions primarily address aspects that are more challenging to quantify using a five-level scale.

The questionnaire is distributed to seafarers for on-site completion and collection. Experts from maritime academies, experienced captains and chief engineers also gave their opinions on the content of the questionnaire. Notably, feedback highlighted that the seafarers' affiliated company and contract conditions may

influence their reading habits. In response, two additional questions were incorporated into the demographic information section, bringing the total to 6 questions. In the Likert scale questions, one question concerning the willingness to read in leisure time was identified as challenging to answer due to subjective factors. Consequently, this question was removed, resulting in a total of 12 Likert scale questions. Minimal changes were made to the multiple-choice questions.

2.2. Questionnaire Distribution

The questionnaires were distributed to the seafarers through an online format, and the questionnaires were filled out with the consent of the subjects. In order to safeguard the privacy of the participants, all data were treated anonymously. The experimental data is intended for study and research purposes only and will not be used for any other purpose. The distribution period of the questionnaire commenced on June 10, 2023, and concluded on July 20, 2023. To uphold data quality, surveys displaying inconsistencies in responses, indicative of a lack of seriousness, were screened and excluded from the analysis. Ultimately, a total of 491 valid questionnaires were received (N=491). Participant information is presented in Table 1.

2.3. Validity and Reliability Testing

The scores on the scale were aggregated and classified into high and low groups utilizing the 27% and 73% thresholds. Independent sample t-tests were subsequently conducted to ascertain the significance level ($P < 0.05$) between these groups. The results showed that there was a clear distinction between high and low groups on each project. The questionnaire data was analyzed using KMO and Bartlett's sphericity test, as shown in Table 2. With a Kaiser-Meyer-Olkin (KMO) measure of 0.859, surpassing the threshold of 0.5, the data indicates a favorable fit for factor analysis. The significance probability value for Bartlett's sphericity test is 0.000, falling below the 0.05 threshold, confirming the suitability of the scale for factor analysis. The detailed outcomes of the factor analysis are delineated in Tables 3 and 4.

According to Table 3, the scale can be divided into three factors, achieving an overall explanatory power of 75.99%. Based on Table 4, the scale items can be grouped into three dimensions, and they are named as follows:

The first dimension is named "Reading Willingness," consisting of items 1-4, with a total of 4 questions. It

reflects the seafarers' awareness, attitude, and evaluation of reading.

The second dimension is named "Reading Habits," consisting of items 5-8, with a total of 4 questions. It represents the seafarers' plans, habits, and regular reading practices.

The third dimension is named "Reading Methods," consisting of items 9-12, with a total of 4 questions. It indicates the specific reading methods employed by the seafarers.

The reliability of each dimension was assessed using Cronbach's alpha, and the results are shown in Table 5. The Cronbach's alpha coefficients for each dimension are all greater than 0.8, indicating high data quality in the study.

Table 2. KMO and Bartlett Test.

KMO sampling suitability quantity.			0.859
Bartlett's test	Approximate Chi-Square		3604.051
	Degrees of freedom		66
	Significance		0.000

Table 3. Total Variance Explained.

Component	Initial Eigenvalue			Extraction of Loading Squared Sum			Rotated Loading Squared Sum		
	Total	Variance Percentage	Accumulated %	Total	Variance Percentage	Accumulated %	Total	Variance Percentage	Accumulated %
1	4.627	38.557	38.557	4.627	38.557	38.557	3.158	26.314	26.314
2	2.739	22.823	61.380	2.739	22.823	61.380	3.014	25.114	51.427
3	1.753	14.610	75.990	1.753	14.610	75.990	2.948	24.563	75.990
4	0.475	3.960	79.950						
5	0.429	3.577	83.528						
6	0.353	2.944	86.472						
7	0.339	2.827	89.299						
8	0.295	2.458	91.757						
9	0.272	2.265	94.022						
10	0.250	2.083	96.105						
11	0.240	2.001	98.106						
12	0.227	1.894	100.000						

2.4. Pay a Return Visit

After analyzing the results of the questionnaire, and in order to gain a deeper understanding of the reasons behind these results, a random sampling method was adopted to select a portion of the seafarers, covering different ages, positions, and educational backgrounds, to conduct a return visit survey. This return visit process included face-to-face interviews and telephone interviews. In order to ensure the accuracy and objectivity of the interview results, we paid special attention to factors such as the tension that the respondents might face, and adopted a free-flowing conversation format to minimize the impact of these factors on the interview results. We also emphasized confidentiality during the interviews to ensure that respondents felt at ease and that they were able to express their views naturally. By returning the interviews,

we aimed to be able to dig deeper into the reasons behind and explain the problems that the seafarer reflected in the questionnaire.

Table 4. Rotated Component Matrix.

	Component		
	1	2	3
b8	0.885		
b6	0.882		
b5	0.870		
b7	0.839		
b2		0.869	
b4		0.865	
b3		0.860	
b1		0.844	
b9			0.848
b12			0.836

b10	0.821
b11	0.819

Table 5. Reliability Statistics.

	Reading Willingness	Reading Habits	Reading Methods	Overall
α	0.889	0.911	0.878	0.851
Number of Items	4	4	4	12

3. Results

3.1 Descriptive Statistical Analysis

Conduct statistical analysis on the multiple-choice section of the survey questionnaire.

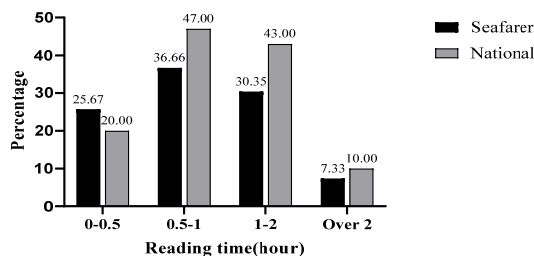


Figure 1. Comparison of seafarer Reading Time with the National Reading Time in China in 2018.

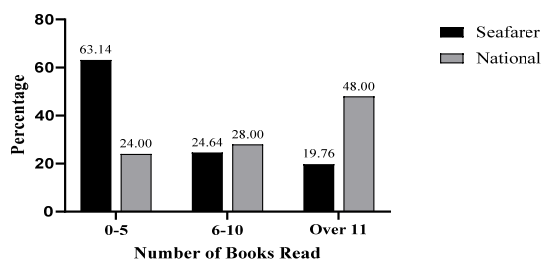


Figure 2. Comparison of seafarer Reading Volume with National Reading Volume in China in 2018.

Based on Figure 1, it is evident that 37.68% of seafarers dedicate more than one hour to daily reading, while 54.79% engage in reading for less than one hour. When comparing the seafarers' reading time with the national average reading time in China for 2018 [11], the percentage of reading time under 0.5 hours is higher among the seafarer than the national average, indicating a greater prevalence of short-duration reading. Conversely, the percentage of seafarers spending more than 0.5 hours in reading is notably lower than the national average reading time. As shown in Figure 2, over 63.14% of the seafarers have an annual reading volume ranging from 0 to 5 books, while those with an annual reading volume of 5 books or more constitute 36.86%. When compared to the national average, where 76% of the population reports an annual reading volume of 5 books or more, seafarers with an annual reading volume of 5 books or more make up 44.4%. This comparison highlights that the seafarers' annual reading volume is predominantly concentrated in the range of 0-

5 books. Evidently, the seafarers tend to have a lower reading volume relative to the national average.

As outlined in Table 6, an analysis of the choices made by seafarers reveals that the most significant factor influencing reading habits is the proportion of 19.6%, citing "Too busy with work, no time." Following closely is the 16.8% proportion indicating that "Personal inertia" plays a notable role in shaping individual reading habits. Factors such as "Lack of a reading atmosphere" and "Limited or untimely updates of books on board" contribute to the influence on reading, with proportions of 15.5% and 14%, respectively. Collectively, these four factors constitute the majority and stand out as the primary reasons affecting the reading habits of the seafarers.

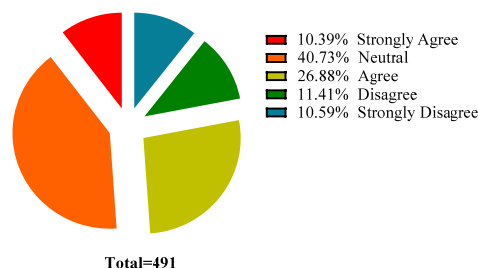


Figure 3. Do ship leaders frequently encourage reading?

As depicted in Figure 3, the choices made by over half of the seafarers are concentrated in the categories of "Neutral" (40.73%) and "Agree" (26.88%), together accounting for a total proportion of 67.61%. Only 10.39% of the seafarers indicated that their leaders frequently encourage reading.

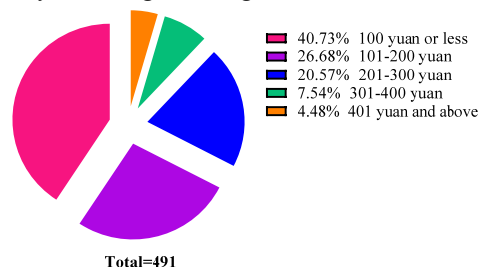


Figure 4. Average Annual Expenditure on Book Purchases.

As shown in Figure 4, seafarers with an average book purchase expenditure below 100 yuan account for 40.73%, those with expenditures in the range of 101-200 yuan make up 26.68%, and the combined percentage of these two categories is 67.41%. The majority of seafarers spend less than 200 yuan on book purchases annually, indicating a relatively low annual expenditure on books. As detailed in Table 7, it reveals that the choice of reading with the purpose of "leisure and recreation, satisfying interests and hobbies" constitutes 26.2% of the total choices. The option aimed at "alleviating psychological stress" represents 12.7%. Choices related to "addressing practical work problems," "updating professional knowledge," and "enhancing personal qualities" are relatively close, accounting for 19.2%, 21.1%, and 20.8%, respectively.

Per Table 8, it is evident that 68.8% of the seafarers frequently choose to read books related to lifestyle, leisure, and entertainment. This preference accounts for 40.2% of all choices, whereas books related to academic

Table 6. Factors Influencing Reading.

	Response	Response		Percentage of Cases
		Number of Cases	Percentage	
What is the biggest factor influencing your own reading?	Too busy with work, no time	252	19.6%	51.3%
	Personal inertia	216	16.8%	44.0%
	Lack of a reading atmosphere	199	15.5%	40.5%
	Lack of reading space and inconvenient access to reading materials	127	9.9%	25.9%
	Preference for online novels	114	8.9%	23.2%
	Too many types of books, don't know where to start	37	2.9%	7.5%
	Book prices are too high, cannot afford to buy	42	3.3%	8.6%
	Limited or untimely updates of books on board	180	14.0%	36.7%
	Other reasons	118	9.2%	24.0%
	Total	1285	100.0%	261.7%

Table 7. Main Purposes of Reading.

	Response	Response		Case percentage
		Number of cases	Percentage	
The primary purpose of your reading is?	Leisure and recreation, satisfying interests and hobbies	325	26.2%	66.2%
	Addressing practical work-related issues	238	19.2%	48.5%
	Updating professional knowledge	262	21.1%	53.4%
	Enhancing personal qualities	258	20.8%	52.5%
	Alleviating psychological stress	157	12.7%	32.0%
	Total	1240	100.0%	252.5%

Table 8. Categories of Books Frequently Read.

	Response	Response		Case percentage
		Number of cases	Percentage	
What types of books do you frequently read?	Academic disciplines and specialties	296	35.2%	60.3%
	Lifestyle, leisure, and entertainment	338	40.2%	68.8%
	Literary works	206	24.5%	42.0%
Total		840	100.0%	171.1%

disciplines and specialties represent 35.2% of the total choices. The remaining preferences are inclined towards literary works. The observation indicates that seafarers tend to favor books in the categories of lifestyle, leisure, and entertainment, as well as professional

subjects, with comparatively less preference for literary works.

3.2 Correlation Analysis

Table 9. Correlation Analysis.

	Category	Frequency	Reading willingness			Reading habits			Reading methods		
			Average	Standard Deviation	Variance Test	Average	Standard Deviation	Variance Test	Average	Standard Deviation	Variance Test
Age	A1	81	3.648	0.766	F=2.87	3.361	0.851	F=0.90	3.645	0.786	F=1.84
	A2	172	3.317	0.736	5	3.381	0.885	2	3.416	0.776	5

	A3	142	3.437	0.823	P=0.02	3.336	0.940	P=0.46	3.579	0.769	P=0.11
	A4	89	3.329	0.878	3	3.169	0.834	2	3.433	0.727	9
	A5	7	3.143	0.827		3.321	0.863		3.643	0.775	
Sea Service Experience	B1	63	3.726	0.754	F=3.83	3.405	0.937	F=1.12	3.599	0.862	F=1.32
	B2	116	3.412	0.778	9	3.295	0.869	6	3.459	0.757	3
	B3	187	3.381	0.755	P=0.00	3.385	0.920	P=0.34	3.517	0.748	P=0.26
	B4	75	3.347	0.753	4	3.300	0.794	4	3.600	0.763	0
	B5	50	3.170	1.027		3.110	0.859		3.325	0.755	
Position	C1	164	3.527	0.819	F=2.86	3.422	0.914	F=2.17	3.681	0.719	F=7.14
	C2	152	3.339	0.804	9	3.339	0.903	7	3.472	0.794	5
	C3	175	3.350	0.772	P=0.05	3.223	0.839	P=0.11	3.374	0.768	P=0.00
Educational Level	D1	82	3.274	0.826	F=1.52	3.216	0.791		3.293	0.755	F=6.20
	D2	67	3.519	0.677	7	3.205	0.828	F=2.86	3.463	0.824	4
	D3	259	3.391	0.791	P=0.20	3.315	0.937	P=0.03	3.495	0.764	P=0.00
	D4	83	3.491	0.887	7	3.563	0.827	7	3.792	0.681	0
Company Type	E1	379	3.398	0.798	F=0.39	3.303	0.899	F=0.48	3.487	0.773	F=0.88
	E2	32	3.336	0.787	7	3.375	0.948	1	3.430	0.744	9
	E3	49	3.429	0.826	P=0.75	3.367	0.820	P=0.69	3.622	0.724	P=0.44
	E4	31	3.540	0.829	5	3.484	0.777	6	3.645	0.824	7
Contract Type	F1	333	3.402	0.847	F=0.05	3.362	0.856	F=1.18	3.502	0.773	F=0.02
	F2	114	3.425	0.717	9	3.283	0.960	8	3.515	0.801	2
	F3	44	3.381	0.644	P=0.94	3.159	0.912	P=0.30	3.523	0.673	P=0.97

To identify potential influencing factors on the reading habits of seafarers and enable customized reading guidance for different individuals, the variables of reading willingness, reading habits, and reading methods are considered as dependent variables. Age, sea service experience, position, education level, company type, and contract type are selected as independent variables. A one-way analysis of variance is employed to assess whether differences exist in each independent variable among the dependent variables. The results of this analysis are presented in Table 9.

In the dimension of reading willingness, age, sea service experience, and position show statistically significant differences at the 0.05 significance level ($P < 0.05$). This indicates that the reading willingness varies among seafarers of different ages and sea service experiences. Categories A1 (3.648) and B1 (3.726) have the highest average scores, indicating that seafarers under 25 years old and with less than 1 year of work experience have the highest reading willingness. seafarers aged 56 and above and with sea service experience of 16 years and above exhibit the lowest reading willingness, with A5 (3.143) and B5 (3.170) having the lowest average scores.

In the dimension of reading habits, education level ($P < 0.05$) shows statistically significant differences, indicating variations in reading habits among seafarers with different educational backgrounds. seafarers with university education (D3, 3.315, and D4, 5.563) have higher average scores than those with lower education levels (D1, 3.216, and D2, 3.205), suggesting that seafarers with higher education have better reading habits.

In the dimension of reading methods, both position and education level ($P < 0.05$) demonstrate statistically significant differences. The average scores follow the order C1 (3.681) > C2 (3.472) > C3 (3.374) and D1 (3.293) < D2 (3.463) < D3 (3.495) < D4 (3.792). This indicates that seafarers with higher positions and education levels have better reading methods than others.

Company type and contract type have P values greater than 0.05 in reading willingness, reading habits, and reading methods, indicating no statistically significant differences.

4. Discussion

In the descriptive statistics, a thorough statistical analysis was conducted on the daily reading time and reading quantity of seafarers, comparing these data with the general reading habits in China. As evident from Figures 1 and 2, it is apparent that the daily reading time and reading quantity of seafarers markedly fall below the national average. The observation in Figure 4 underscores that the financial investment made by seafarers in purchasing books is relatively modest, affirming their lower emphasis on reading. In response, it becomes imperative to provide an abundant supply of reading resources and support to meet the seafarers' demand.

In the pursuit of identifying factors influencing the reading habits of seafarers, a statistical analysis was conducted, as outlined in Table 6. Four primary factors affecting seafarers' reading habits were identified: being too busy with work and lacking time, personal inertia, a

lack of a reading-friendly atmosphere, and insufficiently timely updates of onboard reading materials.

4.1. Busy Work and Personal Inertia

The issue of being too busy with work and lacking time is undeniably present, primarily stemming from shipping companies reducing seafarer complements to enhance earnings. Consequently, each seafarer member shoulders a heightened workload, exacerbated by the accelerated operating cycles of vessels and shorter port stays, leading to increased stress [12]. In response to this challenge, it is recommended that shipping companies, in adherence to the minimum seafarer complement stipulated in the STCW Convention, consider judiciously augmenting human resource allocation based on the level of route busyness.

The distinctive nature of the maritime profession necessitates seafarers to endure long hours of work at sea. This, coupled with personal inertia, prompts a preference for allocating precious leisure time to other hobbies rather than investing it in reading. The confined space environment and extended maritime life on board can further impede the creation of a conducive reading atmosphere. On a personal level, seafarers are encouraged to proactively manage their work time effectively and explore strategies to alleviate their workload suitably. Inertia, while a common challenge not exclusive to seafarers, is exacerbated by the prolonged periods of work on ships without the periodic division between work and home seen in other professions. This contributes to a lifestyle more inclined towards collectivist forms [13]. To aid seafarers in overcoming inertia, ship leadership may contemplate implementing structured reading times, integrating reading into their daily work routine to foster a more positive attitude towards this activity. Additionally, shipping companies can introduce various incentive measures to enhance the organizational aspects of seafarers' reading habits.

4.2. External Environment

The survey results depicted in Figure 3 reveal that 63% of ship leaders do not frequently encourage seafarers to read. The absence of external motivation contributes to a diminished willingness among seafarers to engage in reading activities. The predominant time spent at sea poses a challenge for seafarers to access bookstores as readily as individuals on land. Opportunities to purchase books are limited to port calls, and the common issue of delayed replenishment of books at ports, coupled with inadequate updates, exacerbates the challenge. The unfavorable external reading environment, coupled with the absence of external motivation, collectively contributes to a gradual decline in the reading interest of seafarers.

Upon investigation, it was found that most ships either lack reading rooms, or existing reading rooms have devolved into disorganized storage spaces. To address this issue, shipping companies are encouraged to

establish stringent regulations to ensure that ships have adequate reading spaces and maintain them in an organized and orderly manner. Additionally, effective mechanisms should be implemented to promptly replenish books, especially during port stops. By defining standards and requirements for reading rooms, companies can ensure their optimal utilization on board, fostering an environment that encourages seafarers to actively participate in reading and enhancing the overall reading atmosphere within the organization.

4.3. Reading Purposes and Needs

Based on the statistical findings presented in Table 7, the reading motivations of seafarers predominantly encompass entertainment, problem-solving, self-improvement, and stress relief. The isolated and monotonous nature of a seafarer's life underscores the necessity for entertainment. When contending with work-induced stress, reading emerges as a soothing method, aiding certain seafarers in alleviating psychological pressure and mitigating feelings of loneliness. Given the rapid technological advancements in the maritime industry, continuous learning has become paramount for seafarers. They perceive reading as a vital avenue for acquiring knowledge and updating professional expertise, facilitating ongoing self-improvement to better tackle challenges and adapt to the evolving maritime landscape and professional requirements. Through reading, seafarers seek entertainment beyond work responsibilities, concurrently enhancing their professional knowledge and skills to fulfill their duties more effectively. Publishers should tailor their offerings to meet the diverse needs of seafarers, producing materials that align with both their technical requirements and recreational preferences. The data from Table 8 underscores the broad spectrum of reading interests among seafarers. Notably, in the category of literary works, seafarers engage slightly less compared to other genres. It is hoped that publishers can curate and publish literary works related to maritime life, providing reading choices that resonate with the practical experiences of seafarers. An exemplary initiative worth considering is the establishment of the Sailor Writers Association in Shanghai, which has proven to be a highly successful endeavor, offering seafarers rich literary works that profoundly reflect various aspects of maritime life.

With the widespread promotion of education in China, academic qualifications and knowledge levels are on the rise. This trend has led to an increasing demand for intellectual fulfillment among seafarers. Alongside the continuous increase in land salaries, an escalating number of seafarers are contemplating career changes to pursue opportunities ashore [14]. They utilize their time at sea to enhance their skills, preparing for future career transitions. Addressing these evolving needs is imperative.

4.4. Individual Factors

In the correlation analysis outlined in Table 9, we observed variations in reading awareness among seafarers. Those under the age of 25 exhibited the highest reading intentions, while individuals aged 56 and above displayed the lowest inclination towards reading. As sea service experience increased, there was a declining trend in the willingness to read. Young seafarers below the age of 25 are typically more eager to learn and explore new concepts, often being in the early stages of their careers and not fully familiar with job responsibilities. Reading during this stage can aid in acquiring professional knowledge and enhancing skills, which is crucial for their work. The younger generation is more proficient in using digital products, allowing them to engage in reading anytime, anywhere. Conversely, seafarers aged 56 and above in China often have lower educational backgrounds, and a lack of cultivating good reading habits in their youth contributes to a diminished interest in reading. Senior seafarers face challenges in adapting to electronic devices, limiting their access to a broader range of reading resources. Compared to those with only high school or lower education, seafarers with college and undergraduate education exhibit higher scores in reading habits. With increasing educational qualifications, there is a gradual upward trend in reading method scores. Seafarers with higher education have undergone extended periods of formal education, making it easier for them to develop excellent reading habits. They are generally more accustomed to self-directed learning, continually pursuing knowledge enhancement. This self-driven learning spirit motivates them to engage in sustained reading, cultivating outstanding reading methods. Advancement in positions also correlates with an upward trend in reading method scores, particularly for managerial-level seafarers who typically shoulder greater responsibilities and decision-making authority. This necessitates the need for them to acquire comprehensive information through reading to make informed choices in decision-making and managerial responsibilities. They are more inclined to delve deep into various issues, including regulations, ship operations, and maintenance, to ensure the smooth operation of the vessel.

To stimulate the reading interest of seafarers, tailored approaches based on different age groups and educational backgrounds can be implemented. For seafarers aged 25 and below, providing abundant electronic reading resources can be instrumental, while offering suitable printed books for those aged 56 and above to meet their unique reading needs. For seafarers with higher education and elevated positions, encouraging them to serve as role models during leisure time, organizing book-sharing events, and sharing their own reading experiences can help create a vibrant reading atmosphere throughout the entire fleet.

5. Conclusion

Through meticulous statistical analysis of seafarers' daily reading time and volume, it was discerned that seafarers perform significantly below the national average in this regard. Further exploration revealed their relatively low investment in book purchases, indicating a preference for acquiring reading materials through autonomous choices and accessing articles on public platforms. This underscores their strong emphasis on self-directed reading and learning.

A detailed examination of factors influencing seafarer reading habits, through statistical analysis, identified key contributors such as busy work schedules, personal inertia, the absence of a conducive reading atmosphere, and untimely updates of onboard literature. These factors collectively contribute to the seafarers' comparatively low attention to reading. We advocate for the implementation of a series of measures aimed at igniting their interest in reading and cultivating healthier reading habits.

Seafarers regard reading as a primary means to acquire knowledge, solve problems, self-improve, and alleviate stress, underscoring the crucial role of reading in their professional development and personal growth. To foster positive reading habits among seafarers, it is recommended to implement innovative and effective measures. This includes providing a diverse range of books, optimizing the mechanism for updating literature resources, and establishing easily accessible reading areas. These efforts aim to create more flexible reading opportunities and enhance the overall quality of the entire seafaring team. These initiatives not only positively impact the individual development of seafarers but also contribute to the effective performance of maritime tasks and the maintenance of safety within the entire seafaring team.

References

1. Schoor, C. (2016). Utility of reading-Predictor of reading achievement? *Learning and Individual Differences*, 45, 151-158. <https://doi.org/10.1016/j.lindif.2015.11.024>
2. UNESCO. (2005). *Education for all global monitoring report: Literacy for life*. Paris: UNESCO Publishing.
3. Guthrie, J., & Greaney, V. (1991). Literacy acts. In R. Barr, M. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading: Vol. 2, Society and Literacy* (pp. 68-96). New York: Longman.
4. Smith, M. C. (1995). Reading practices, reading skills, and cognitive growth in adulthood. *Journal of Adult Development*, 2, 241-256. <https://doi.org/10.1007/BF02251039>
5. International Maritime Organization. (2011, July 2). *Maritime Safety*. Retrieved July 5, 2012, from <http://www.imo.org/OurWork/Safety/Pages/Default.aspx>
6. Jonglertmontree, W., Kaewboonchoo, O., Morioka, I., & Boonyamalik, P. (2022). Mental health problem

- ms and their related factors among seafarers: a scoping review. *Bmc Public Health*, 22(1), 19, Article 282. <https://doi.org/10.1186/s12889-022-12713-z>
7. Chacon, V. H. (2017). The New Technologies Applied in Maritime Transportation. *The Due Diligence in Maritime Transportation in the Technological Era*, 163-221. https://doi.org/10.1007/978-3-319-66002-8_4
 8. Rhee, A. M. S., Ock. (2001). Adult reading habits and patterns. *Reading psychology*, 22(3), 175-203. <https://doi.org/10.1080/027027101753170610>
 9. Lau, K. L. (2009). Reading motivation, perceptions of reading instruction and reading amount: A comparison of junior and senior secondary students in Hong Kong. *Journal of Research in Reading*, 32(4), 366-382. <https://doi.org/10.1111/j.1467-9817.2009.01400.x>
 10. Pfost, M., Schiefer, I. M., & Artelt, C. (2016). Intergenerational continuity in attitudes toward reading and reading behavior. *Learning and Individual Differences*, 51, 179-188. <https://doi.org/10.1016/j.lindif.2016.09.002>
 11. Xiao, K. S., Su, W. L., Zhong, H. (2021). Reflection on the Reading Situation of Chinese Language Teachers in Township Primary Schools-Based on a Survey of Three Primary Schools in Guzhen Town, Zhongshan City. *New Curriculum Research* (18), 88-92. (In Chinese)
 12. Wadsworth, E. J. K., Allen, P. H., Wellens, B. T., McNamara, R. L., & Smith, A. P. (2006). Patterns of fatigue among seafarers during a tour of duty. *American Journal of Industrial Medicine*, 49(10), 836-844. <https://doi.org/10.1002/ajim.20381>
 13. Liu, Y., An, J., Sun, Y. J., & Liu, C. (2022). Work-family conflict and job stress among seafarers: the moderating role of job satisfaction. *Psychology Health & Medicine*, 27(9), 1989-1995. <https://doi.org/10.1080/13548506.2021.1996617>
 14. Albert, M. N., Dodeler, N. L., & Guy, E. (2016). From a Seafarer's Career Management to the Management of Interwoven Sea-and Shore-Based Careers. *SA GE Open*, 6(1), 10. <https://doi.org/10.1177/2158244016634146>