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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

OPTIMIZED FLEET RESPONSE PLAN (OFRP) PHASE

VARIATION IN SIGNATURE AND DESTRUCTIVE BEHAVIORS

by

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The US Navy's Culture of Excellence Perform to Plan effort seeks to empower warfighting capability by fostering psychological, physical, and emotional toughness. To meet this goal, the Navy needs to understand what encourages signature behaviors and reduces destructive behaviors and how these behaviors impact readiness. This study proposed a path to develop critical insight to encourage signature behaviors and to counter destructive behaviors. Researchers developed a design for a mixed-methods, explanatory sequential study to answer three research questions: (1) What are the rates of signature and destructive behaviors during phases of OFRP? (2) Do rates differ by command type? (3) How do signature and destructive behaviors impact readiness? This project resulted in the design of a study to investigate the surge in destructive behavior during the maintenance phase of the Optimized Fleet Response Plan (OFRP). The detailed proposal prepared by the research team was reviewed by the Naval Postgraduate School Institutional Review Board and later by the Office of Management and Budget. However, final approval was not received in time to conduct the research prior to the expiration of funds.

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ABSTRACT

The US Navy's Culture of Excellence Perform to Plan effort seeks to empower warfighting capability by fostering psychological, physical, and emotional toughness. To meet this goal, the Navy needs to understand what encourages signature behaviors and reduces destructive behaviors and how these behaviors impact readiness. This study proposed a path to develop critical insight to encourage signature behaviors and counter destructive behaviors. Researchers developed a design for a mixed-methods, explanatory sequential study to answer three research questions: (1) What are the rates of signature and destructive behaviors during phases of OFRP? (2) Do rates differ by command type? (3) How do signature and destructive behaviors impact readiness? This project resulted in the design of a study to investigate the destructive behavior surge during the maintenance phase of the Optimized Fleet Response Plan (OFRP). The detailed proposal prepared by the research team was reviewed by the Naval Postgraduate School Institutional Review Board and later by the Office of Management and Budget. However, final approval was not received in time to conduct the research prior to the expiration of funds.

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I. INTRODUCTION

A. BACKGROUND

Workplace stress costs the U.S. economy more than $500 billion, results in the loss of 550 million workdays each year due to stress on the job, and is the cause of 60% to 80% of workplace accidents (Seppala & Cameron, 2015). Reducing workplace stress is likely to have significant effects on individual and organizational well-being and performance. Research has shown that improvement in positivity in organizations is positively correlated with indicators of effectiveness (Cameron et al., 2011). In short, healthy work cultures are both safer and more productive.

In keeping with these findings, the Chief of Naval Operations (CNO) directed the Navy to create a "Culture of Excellence" (US Navy), noting that by focusing on positive, signature behaviors, the Navy can build and sustain a lethal force of tough sailors who are ethical and masters of their trade. The Navy has identified 10 signature behaviors to drive this Culture of Excellence: treat every person with respect, take responsibility, hold others accountable, intervene when necessary, be a leader and encourage leadership, embrace diversity, uphold integrity, exercise discipline, and contribute to team success.

The Culture of Excellence campaign includes a Perform to Plan effort that seeks to empower warfighting capability by fostering psychological, physical, and emotional toughness. To meet this goal, the Navy needs to understand what encourages signature behaviors, what reduces destructive behaviors, and how these behaviors impact readiness.

B. STUDY AIM AND OBJECTIVES

The overarching aim of this study is to support the Navy Culture of Excellence campaign's Performance to Plan effort to encourage signature behaviors and reduce destructive behaviors. The researchers designed a study to answer three questions:

- What are the rates of signature and destructive behaviors during phases of the Optimized Fleet Response Plan (OFRP)?
- Do rates differ by command type?
- How do signature and destructive behaviors impact readiness?

This report includes a literature review and a study design, instruments, and project plan. The study materials and data collection plan are still under review by the Office of Management and Budget.

II. METHODS

A. STUDY PROTOCOL

The study was designed to utilize a mixed-methods, explanatory sequential approach to include two major research thrusts. The first component involves collecting data from Sailors on surface ships of the USN. The second component involves conducting semi-structured interviews with Sailors on ships to elaborate on the quantitative findings of the first component of the study.

1. The Questionnaire

In keeping with the focus and the research questions of the project, the literature review resulted in the identification of the main topics to be addressed in the questionnaire. This result led to the identification of potential tools that could be used to effectively assess these topics of interest.

The questionnaire we developed included items grouped into five sections: demographic and occupational characteristics, health and health/performance-related behaviors, active-duty service member (ADSM) state, destructive behaviors, and signature behaviors. In the following sections, we describe the questionnaire items and validated tools included in the questionnaire and provide a rationale for using them.

a. Demographic and Occupational Characteristics

Participants are asked to report their age in years, sex (male or female), height and weight to calculate their body mass index (BMI), rate, rank, department, and how many years they served on active duty. This information is used to describe our sample in terms of their basic demographic and occupational characteristics.

b. Health and Health-/Performance-Related Behaviors

Respondents identify whether they have ever been diagnosed by a physician with military-relevant disorders (i.e., insomnia, obstructive sleep apnea, depression, post-traumatic stress disorder, mild traumatic brain injury, anxiety, or other; Capener et al., 2018; Foster et al., 2017; Mysliwiec, Gill, et al., 2013; Mysliwiec, Matsangas, et al., 2013; Mysliwiec, McGraw, et al., 2013; Shattuck et al., 2019).

Also, the questionnaire includes items to assess whether respondents used prescribed or over-the-counter medications in the last month, whether respondents habitually used caffeinated beverages (tea, coffee, soft drinks, energy drinks, or other) in the last month, whether respondents used nicotine products (cigarettes, chewing tobacco/snuff, Nicorette gum or patches, electronic smoke, or other) in the last month, and whether respondents followed an exercise routine in the last month. If the respondents followed an exercise routine, they are further asked how frequently they worked out, the kind of exercise routine they had, and how long their routine took.

c. ADSM State

The state of the service members in the last month is assessed by seven validated tools. The Epworth Sleepiness Scale (ESS) assesses average daytime sleepiness (Johns, 1991). A 4-item Likert scale rates the chance of dozing off or falling asleep in eight different everyday situations. Answers for the eight items range from 0 to 3, with 0 being "would never doze," 1 being "slight chance of dozing," 2 being "moderate chance of dozing," and 3 denoting a "high chance of dozing." Instructions ask respondents to rate each item according to their usual way of life in recent times. Responses are summed to obtain the total Epworth score. A sum of more than 10 reflects above-normal daytime sleepiness and a need for further evaluation (Johns, 1992).

The 7-item Insomnia Severity Index (ISI) assesses the severity of both nighttime and daytime components of insomnia (Bastien et al., 2001; Morin et al., 2011).

The 4-item Perceived Stress Scale (PSS) is included in the study questionnaire to assess one's perception of how much stress he/she experienced over the past month (Cohen et al., 1983; Cohen & Williamson, 1988). Each item is scored on a 5-point Likert scale from 0 ("never") to 4 ("very often"). Ranging from 0 to 16, the total score is calculated as the sum of all responses, with two items being reverse scored. Higher scores indicate higher perceived stress.

The 18-item Brief COPE (BC) assesses coping styles (i.e., active coping, denial, using emotional support, behavioral disengagement, using instrumental support, positive reframing, self-blame, planning, and religion; Carver, 1997). Each item is scored from 0 ("I haven't been doing this at all") to 3 ("I've been doing this a lot"). Each subscale score is comprised of summing two items for a subscale score ranging from 0 to

6. Each subscale is interpreted separately, with subscale scores not summed for a total score. Higher scores are associated with greater use of a coping strategy. Denial, behavioral disengagement, and self-blame are dysfunctional/negative coping strategies associated with worse resilience scores (Cooper et al., 2008; Rice & Liu, 2016). Also, the BC is used for the assessment of signature behaviors with more detailed information provided later herein.

The 5-item Satisfaction with Life Scale (SWLS) assesses an individual's satisfaction with life (Diener et al., 1985; Pavot & Diener, 1993). Each item is scored on a 7-point Likert scale from 1 ("strongly disagree") to 7 ("strongly agree"). Responses are summed for a total score ranging from 5 to 35. Higher scores are associated with greater satisfaction with life. Based on their SWLS score, respondents can be classified into seven groups (5–9: extremely dissatisfied with life; 10–14: dissatisfied; 15–19: slightly dissatisfied; 20: neutral; 21–25: slightly satisfied; 26–30: satisfied; 31–35: extremely satisfied with life; Pavot & Diener, 1993).

To assess team psychological safety (TPS), we use the seven corresponding items from Edmondson's questionnaire on team learning, the team psychological safety scale (TPSS) (Edmondson, 1999, 2003). In his work, Edmondson introduced the construct of team psychological safety as a shared belief held by members of a team that the team is safe for interpersonal risk-taking. Also, the TPSS items were used for the assessment of signature behaviors, with more detailed information provided later in this report.

The four-item Patient Health Questionnaire–4 (PHQ–4) assesses depression and anxiety symptoms (Kroenke et al., 2009). Each item is scored on a 4-point Likert scale from 0 ("not at all") to 3 ("nearly every day"). Responses are summed for a total score ranging from 0 to 12 points. A higher score indicates more severe symptoms of depression and anxiety.

d. Destructive Behaviors

Based on information received from the 21st Century Sailor Office (OPNAV N17), we identified several destructive behaviors to include in the questionnaire. Detailed information regarding the tools used for each destructive behavior is shown in the paragraphs below.

To assess workplace hostility, we use the 12-item Unit Support Scale (USS; Vogt et al., 2013). The USS is part of the Deployment Risk and Resilience Inventory–2 (DRRI), which was first introduced in 2006 (King et al., 2006; Vogt et al., 2008). The DRRI is a widely used instrument for assessing deployment-related risk and resilience factors among war veterans and military subgroups across a variety of deployment-related circumstances.

Alcohol misuse is assessed by the 3-item Alcohol Use Disorders Identification Test for consumption (AUDIT-C; Bush et al., 1998). This tool is designed to assess heavy drinking and/or active alcohol abuse or dependence.

We use a direct approach to assess workplace hostility and alcohol misuse, using the USS and the AUDIT-C respectively. That is, respondents are asked to share their personal habits and experiences. For example, USS instructions asks participants to report their level of agreement with several statements about their relationships with other military personnel.

Also, our questionnaire includes items regarding self-harm, drug behaviors, risky sexual behavior, impulsive eating, suicide and suicide-related behaviors, reckless behaviors, financial mismanagement (i.e., gambling), substance misuse, drug behaviors, domestic and child abuse, sexual assault, sexual harassment, and discrimination. To address these behaviors, the research team faced two issues of concern. The first concern was that the above behaviors are more sensitive in nature compared to workplace hostility and alcohol misuse. For this reason, we decided to use an indirect approach. Specifically, the participants are asked to consider how many times they experienced, observed, or heard these behaviors that involved Sailors on their ship. Our expectation was that such an approach would allow for more truthful responses, but it also created the issue of not being able to assess the prevalence of these behaviors. The research team's decision on the aforementioned reasonable trade-off was considered a necessity.

The next issue of concern was the lack of a concise tool to assess all 10 of the destructive behaviors in the limited space of a questionnaire. Our review of the literature identified that the Risky Impulsive Self-Destructive Behavior Questionnaire (RISQ) is an appropriate candidate for our study scope (Sadeh & Baskin-Sommers,

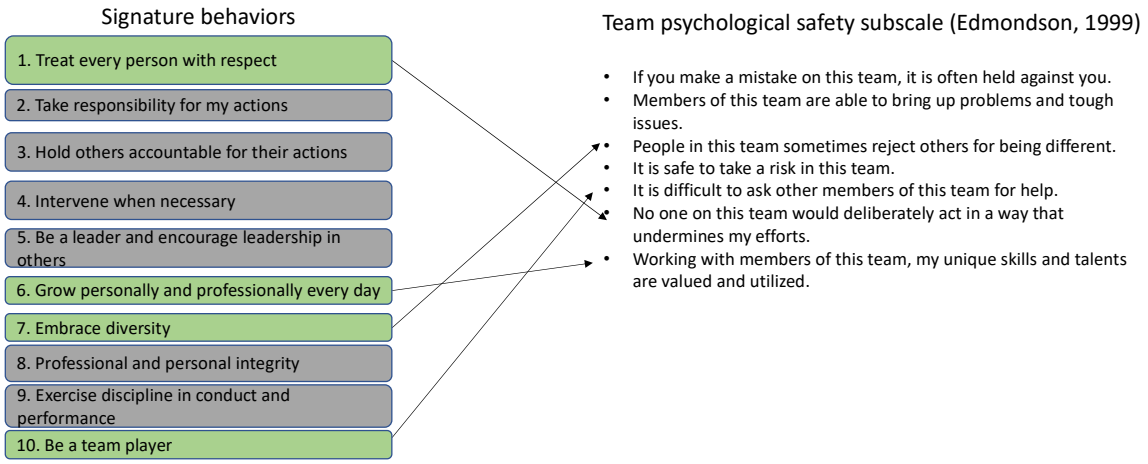
2017). The RISQ has 38 items grouped into 8 subscales: drug use, aggression, self-harm, gambling, risky sexual behavior, impulsive eating, heavy alcohol use, and reckless behavior. The original RISQ had multiple items on drug use but lacked some destructive behaviors that are relevant to the military. For example, the original RISQ include three items on impulsive eating but did not address eating less than needed. For these reasons, we revised the tool to include 36 items by adding some items relevant to the military and consolidating items on drug use. Also, the original RISQ was based on a direct approach by asking participants to fill in how many times they did several behaviors. We revised the RISQ to ask participants in an indirect manner.

e. Signature Behaviors

Derived from the *Signature Behaviors of the 21st Century Sailor* document (United States Navy, 2020), we identified 10 behaviors to address in the study questionnaire. Navy leaders developed the concept of "signature behaviors" as part of the secretary of the Navy's 21st Century Sailor initiative to emphasize positive behavior that Sailors of the USN should exhibit.

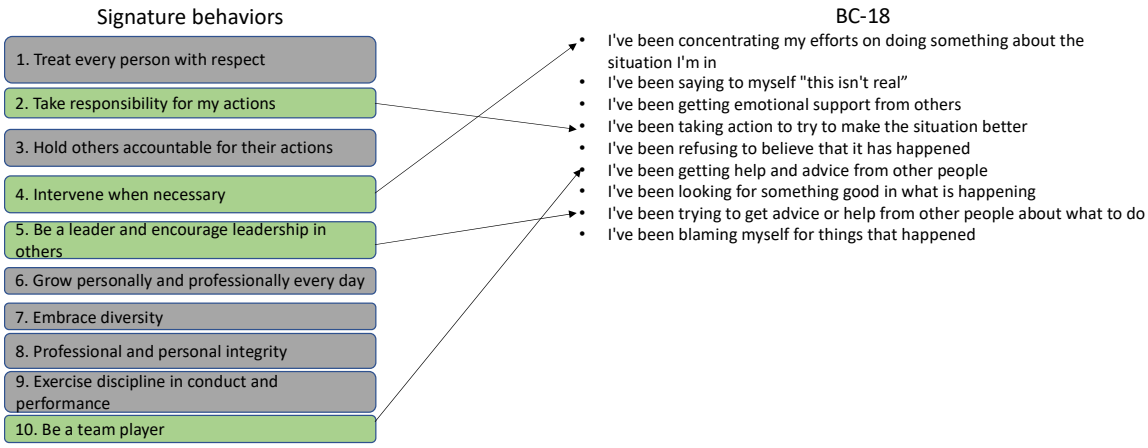
These 10 behaviors are the following: treat every person with respect, take responsibility for my actions, hold others accountable for their actions, intervene when necessary, be a leader and encourage leadership in others, grow personally and professionally every day, embrace diversity, exhibit professional and personal integrity, exercise discipline in conduct and performance, and be a team player (United States Navy, 2020).

For several of the destructive behaviors, our literature review failed to identify a valid and concise tool to assess the signature behaviors. Given this limitation, we decided to map the 10 signature behaviors to existing validated tools, which we added to the study questionnaire. These tools are the team psychological safety subscale (TPSS; Edmondson, 1999, 2003), the Unit Support Scale (USS; Vogt et al., 2013), and the Brief COPE (BC-18; Carver, 1997). The mapping of the 10 signature behaviors to specific items on the validated tools is shown in Figures 1 to 4. As shown, some signature behaviors could be mapped to more than items in different validated tools.



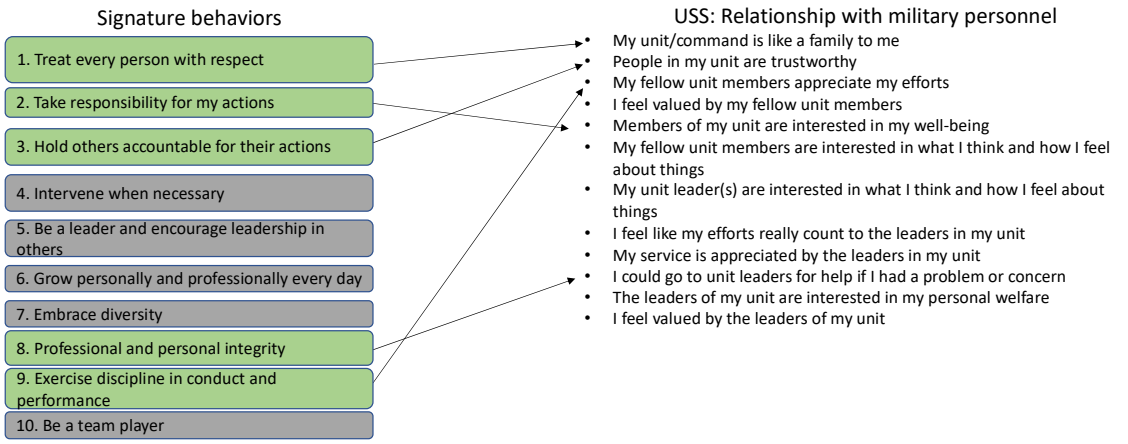
Note. These items provide an indirect assessment by focusing on the closest organizational unit ("the team").

Figure 1. Mapping of Signature Behaviors to the TPSS



Note. These items provide an indirect assessment by focusing on the responses to stress.

Figure 2. Mapping of Signature Behaviors to the BC-18



Note. These items provide an indirect assessment by focusing on the relationships with military personnel.

Figure 3. Mapping of Signature Behaviors to the USS

Figure 4. Overall Mapping of Signature Behaviors to Questionnaires

The overall structure of the study questionnaire is shown in the following figure, whereas the entire questionnaire is shown in the appendix.

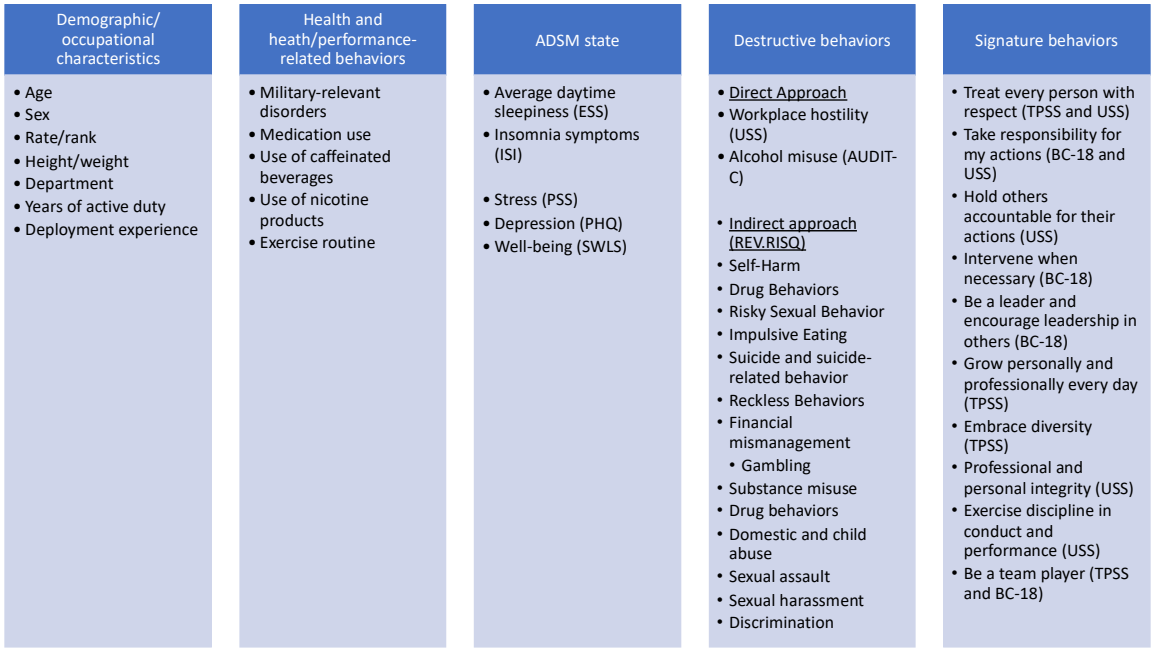


Figure 5. The Overall Structure of the Study Questionnaire

2. Interviews

Semi-structured interviews were designed to follow guidelines for ethnographic and conversational interviews (Spradley, 2016; Stage & Mattson, 2003). The goal of the questions is to engage the participant in conversation to solicit examples and perceptions. Thus, each participant is encouraged to focus on events, perceptions, and ideas that are most important to them. The questions focus on general topics, and researchers use probes and adapt to the participant's lead. The order and emphasis of topics vary by participant. The interview questions are shown in Figure 6.

Demographics
What is your age, sex, rate, rank, department, and years in service?
Discussion 1—Negative Behavior
• *Thinking about* [describe ORFP stage/current time on ship]*, which negative behaviors have you observed or heard of during this OFRP phase?*
The Navy identifies negative behaviors as behaviors that inhibit performance such as alcohol misuse, financial mismanagement, sexual harassment, discrimination, and poor exercise and diet.
• Collect Examples: *Please describe what happened.*
○ Describe the participants (role/rank/relationship).
○ How did you become aware of this?
○ What factors were involved?
○ Who else became involved?
○ What were the outcomes?
Discussion 2—Signature Behavior
• *Which signature behaviors have you observed or heard of during this OFRP phase?*
The Navy identifies signature behaviors as behaviors that support performance such as treating people with respect, taking responsibility for actions, intervening when necessary, leading and encouraging leadership, growing personally and professionally, embracing diversity, upholding integrity, exercising discipline, and contributing to team success.
• *Please describe what happened.*
• Describe the participants (role/rank/relationship).
• How did you become aware of this?
• What factors were involved?
• Who else became involved?
• What were the outcomes?
Discussion 3—Perceptions of Phases
• *How has your experience of negative and signature behaviors in this phase differed from your experience with other phases?*
• Why? What was different (examples, context, and perceptions)?

Figure 6. Interview Questions

B. PROCEDURES

Figure 7 gives an overview of the four study phases in the research design. In the first phase (Preparation), we assessed the background literature. Based on the literature review and the specific needs of the sponsors, the questionnaire was developed and refined. Two important steps in this phase were (1) to select the appropriate signature and destructive behaviors to be investigated in the study, and (2) to identify existing validated instruments and tailor them to the study needs.

Also, we developed probe questions for the semi-structured interviews. After the finalization of the study questionnaire and the probe questions, we submitted the study protocol to the Naval Postgraduate School Institutional Review Board (NPS IRB) for approval. We then submitted it to the Navy Survey Office and, finally, to the Office of Management and Budget. The proposed data collection is currently under review by the Office of Management and Budget with the support of the Navy Survey Office.

Upon approval for data collection, the second phase of the study would have included the fielding of the questionnaire, the collection of responses, and the analysis of the collected data.

The third phase of the project (Interviews) includes two tasks. The first task is to explore the data collected with the questionnaires to identify issues of interest or concern to further refine the probe questions for the interviews. The second task is to conduct the interviews.

The last phase of the study (Reporting) focuses on presenting the study results. Specifically, reporting includes integrating the findings into a technical report and providing briefings to the sponsors and leadership as needed. During reporting, findings can be presented at scientific conferences, and a manuscript can be prepared and submitted to a peer-reviewed journal.

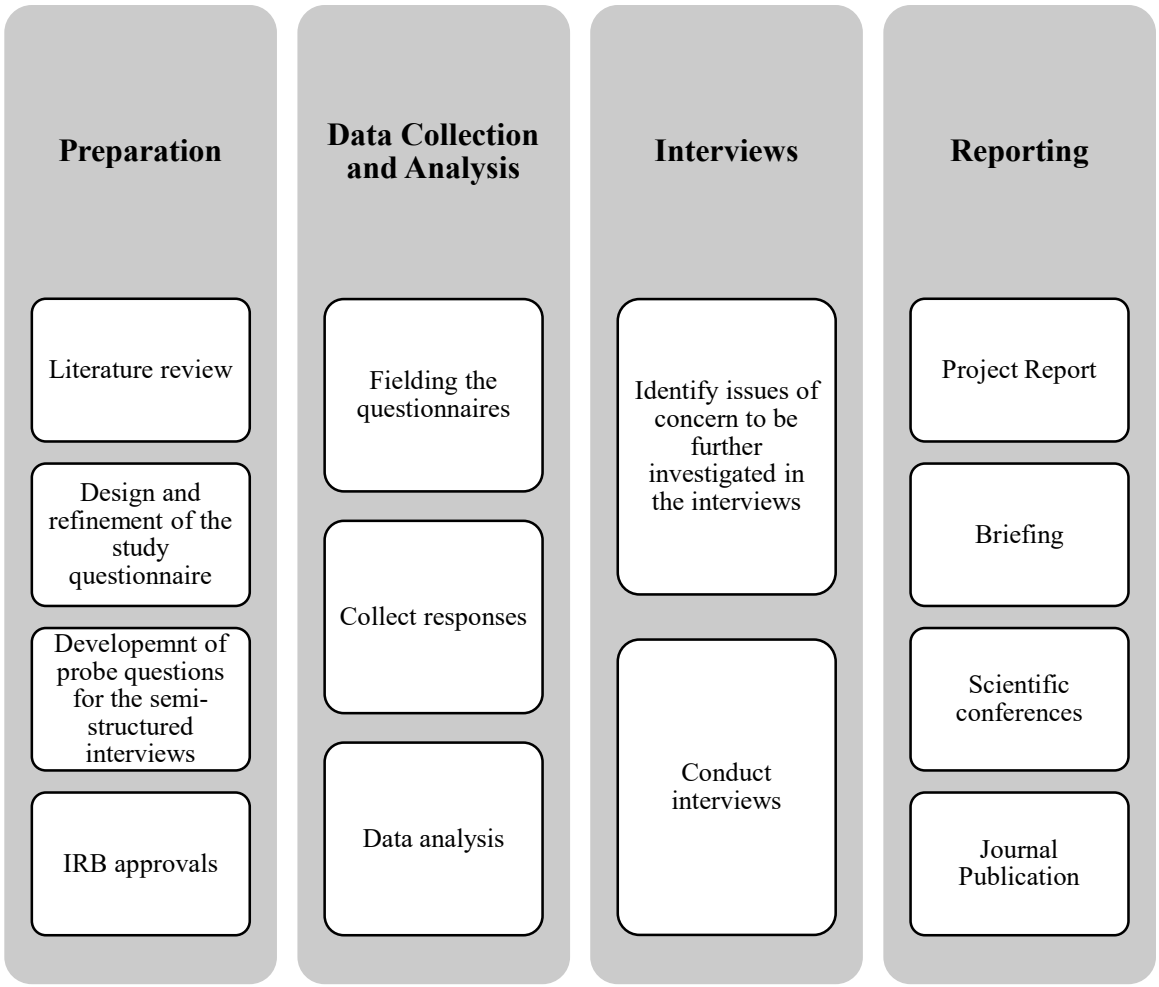


Figure 7. Study Phases

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III. RECOMMENDATIONS

Based on the lessons learned from this project, we present the following recommendations:

- Given the critical importance of understanding destructive behaviors, we propose a phased, multiyear, project to study this topic. The first phase of the study should focus on a small number of ships to include both questionnaires and focus groups. Even though the findings of this first phase will be limited in terms of their generalizability, the use of researchers to interact face-to-face with Sailors (during the recruitment and data collection) will lead to better quality data, fewer missing data points, and higher compliance with the study protocol compared to methods in which the researchers do not interact with the Sailors. The second phase of this project will be focused on collecting data on destructive behaviors from all surface ships using an online survey. From a theoretical standpoint, the data collected with this online approach will be more representative of the Sailor population. However, earlier research in the military using online questionnaires suffered from a low response rate. For example, a recent online survey in three USMC units had an average response rate of 7.5% (Matsangas, Shattuck, Shattuck, Lawrence-Sidebottom, & Bowen, 2021), whereas the response rate of a large-scale survey study conducted in 2018 in the USMC and the USN was 6.6% and 6.7% respectively (Meadows et al., 2018).
- Create a short questionnaire to administer to senior enlisted personnel attending the Senior Enlisted Academy to collect their observations regarding destructive behaviors in their units in relation to the OFRP phases and other factors.
- Given the interpretation of the Paper Reduction Act regarding topics of public interest, future studies should plan for a 12–18-month review period.

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APPENDIX

Study Questionnaire

Instructions: *Please answer ALL questions as accurately as possible. ALL information is confidential and will be used only for research purposes.*

1)	**What is your age?**	**_____ years**	
2)	**What is your sex?**	☐ Male	☐ Female
3)	**What is your height?**	_____ feet _____ inches	
4)	**What is your weight?**	_____ pounds	
5)	**What is your rate: (for example, FC, HT, GSE)**	_____	
6)	**What is your rank: (for example, E4, O2)**	_____	
7)	**What is your department (if applicable)?**	_____	
8)	**Years on active duty?**	_____	
9)	**Have you ever been diagnosed by a physician with any of the following? (check ALL that apply ☑)**		
a)	**Insomnia**	☐ Yes	☐ No
b)	**Obstructive sleep apnea**	☐ Yes	☐ No
c)	**Depression**	☐ Yes	☐ No
d)	**Post-traumatic stress disorder**	☐ Yes	☐ No
e)	**Mild traumatic brain injury**	☐ Yes	☐ No
f)	**Anxiety**	☐ Yes	☐ No
g)	**Other, please explain** _____	☐ Yes	☐ No

10) During the **last month** did you take any prescribed or over-the-counter medications? (Check one ☑) ☐ Yes ☐ No

a) If YES, please list all medications you take:

_____

_____

11) During the **last month**, did you habitually drink caffeinated beverages? ☐ Yes ☐ No

a) **If YES, which of the following caffeinated beverages did you drink on average each day? (Check ALL that apply ☑ and indicate daily amount)**

☐	Tea	If YES, how many servings/cups per day: _____
☐	Coffee	If YES, how many servings/cups per day: _____
☐	Soda/pop/soft drinks	If YES, how many per day: _____
☐	Energy drinks	If YES, how many per day: _____
☐	Other (specify): _____	If YES, how many per day: _____

12) **During the last month, did you use nicotine products?** ☐ Yes ☐ No

a) **If YES, which of the following nicotine products did you use? (Check ALL that apply ☑)**

☐	Cigarettes	If YES, how many per day: _____
☐	Chewing tobacco/snuff	If YES, how many times per day: _____
☐	Nicorette gum or patches	If YES, how many per day: _____
☐	Electronic smoke	If YES, how many per day: _____
☐	Other (specify): _____	If YES, how many per day: _____

13) During the **last month**, did you have an exercise routine? ☐ Yes ☐ No

i) If YES, how frequently did you work out? (for example: 3 times per week) ____Daily ____times per week

ii) If YES, what kind of exercise routine did you do? (for example: cardio, weightlifting) _____ _____

iii) If YES, how long does this routine take? (for example: 45 minutes) _____ _____

ESS instructions: *How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired? This refers to your usual way of life in the **last month**. Even if you have not done some of these things recently, try to work out how they would have affected you. Check the most appropriate number for each situation.*

	CHANCE OF DOZING			
	None (0)	Slight (1)	Moderate (2)	High (3)
Sitting and reading	○	○	○	○
Watching TV	○	○	○	○
Sitting inactive in a public place (e.g., a theater or a meeting)	○	○	○	○
As a passenger in a car for an hour without a break	○	○	○	○
Lying down to rest in the afternoon when circumstances permit	○	○	○	○
Sitting and talking to someone	○	○	○	○
Sitting quietly after a lunch without alcohol	○	○	○	○
In a car, while stopped for a few minutes in traffic	○	○	○	○

ISI instructions: *Please rate the severity of your insomnia symptoms during the **last month**.*
Check the most appropriate for each situation.

	None (0)	Mild (1)	Moderate (2)	Severe (3)	Very Severe (4)
Difficulty falling asleep	○	○	○	○	○
Difficulty staying asleep	○	○	○	○	○
Problems waking up too early	○	○	○	○	○
How SATISFIED/DISSATISFIED are you with your CURRENT sleep pattern?	Very Satisfied ○	Satisfied ○	Moderately Satisfied ○	Dissatisfied ○	Very Dissatisfied ○
How NOTICEABLE to others do you think your sleep problem is in terms of impairing the quality of your life?	Not at all Noticeable ○	A Little ○	Somewhat ○	Much ○	Very Much Noticeable ○
How WORRIED/DISTRESSED are you about your current sleep problem?	Not at all Worried ○	A Little ○	Somewhat ○	Much ○	Very Much Worried ○
To what extent do you consider your sleep problem to INTERFERE with your daily functioning	Not at all Interfering	A Little	Somewhat	Much	Very Much Interfering

CURRENTLY? (for example, daytime fatigue, mood, ability to function at work, concentration, memory, etc.)	○	○	○	○	○

PSS-4 instructions: *The questions in this scale ask you about your feelings and thoughts during the **last month**. In each case, you will be asked to indicate how often you felt or thought a certain way.*

	Never	Almost never	Some times	Fairly often	Very often
In the past month, how often have you felt that you were unable to control the important things in your life?	○	○	○	○	○
In the past month, how often have you felt confident about your ability to handle your personal problems?	○	○	○	○	○
In the past month, how often have you felt that things were going your way?	○	○	○	○	○
In the past month, how often have you felt difficulties were piling up so high that you could not overcome them?	○	○	○	○	○

SWLS instructions: *Below are five statements with which you may agree or disagree. Indicate your agreement with each item by placing the appropriate mark after the item. Please be open and honest in your responding.*

	Strongly disagree	Disagree moderately	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal	○	○	○	○	○	○	○
The conditions of my life are excellent	○	○	○	○	○	○	○
I am satisfied with life	○	○	○	○	○	○	○
So far I have gotten the important things I want in life	○	○	○	○	○	○	○
If I could live my life over, I would change almost nothing	○	○	○	○	○	○	○

BC-18 instructions: *These items deal with ways that you cope with the stress in your life. Obviously, different people deal with stress in different ways, and we are interested in how YOU try to deal with it. Each item says something about a particular way of coping. Please answer to what extent you've been doing what the item says. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Using these response choices, try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.*

	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
I've been concentrating my efforts on doing something about the situation I'm in	○	○	○	○
I've been saying to myself "this isn't real"	○	○	○	○
I've been getting emotional support from others	○	○	○	○
I've been giving up trying to deal with it	○	○	○	○
I've been taking action to try to make the situation better	○	○	○	○
I've been refusing to believe that it has happened	○	○	○	○
I've been getting help and advice from other people	○	○	○	○

I've been trying to see it in a different light, to make it seem more positive	○	○	○	○
I've been criticizing myself	○	○	○	○
I've been trying to come up with a strategy about what to do	○	○	○	○
I've been getting comfort and understanding from someone	○	○	○	○
I've been giving up the attempt to cope	○	○	○	○
I've been looking for something good in what is happening	○	○	○	○
I've been trying to find comfort in my religion or spiritual beliefs	○	○	○	○
I've been trying to get advice or help from other people about what to do	○	○	○	○
I've been thinking hard about what steps to take	○	○	○	○
I've been blaming myself for things that happened	○	○	○	○
I've been praying or meditating	○	○	○	○

Team Psychological Safety: The following questions refer to the climate of your ship. Please answer ALL questions as accurately as possible.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
If you make a mistake on this ship, it is often held against you.	○	○	○	○	○
Members of this ship are able to bring up problems and tough issues	○	○	○	○	○
People on this ship sometimes reject others for being different	○	○	○	○	○
It is safe to take a risk on this ship	○	○	○	○	○
It is difficult to ask other members of this ship for help	○	○	○	○	○
No one on this ship would deliberately act in a way that undermines my efforts	○	○	○	○	○
Working with members of this ship, my unique skills and talents are valued and utilized	○	○	○	○	○

USS instructions: *The statements below are about your relationships with other military personnel in the **last month**. Please mark how much you agree or disagree with each statement.*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
My ship is like a family to me	○	○	○	○	○
Sailors on my ship are trustworthy	○	○	○	○	○
My fellow sailors appreciate my efforts	○	○	○	○	○
I feel valued by my fellow sailors	○	○	○	○	○
My fellow sailors are interested in my well-being	○	○	○	○	○
My fellow sailors are interested in what I think and how I feel about things	○	○	○	○	○
My leadership is interested in what I think and how I feel about things	○	○	○	○	○

I feel like my efforts really count to the leadership on my ship	○	○	○	○	○
My service is appreciated by the leadership on my ship	○	○	○	○	○
I could go to the leadership on my ship for help if I had a problem or concern	○	○	○	○	○
The leadership is interested in my personal welfare	○	○	○	○	○
I feel valued by the leadership on my ship	○	○	○	○	○

PHQ-4 instructions: *Over the **last month**, how often have you been bothered by any of the following problems?*

	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	○	○	○	○
Feeling down, depressed, or hopeless	○	○	○	○
Feeling nervous, anxious, or on edge	○	○	○	○
Not being able to stop or control worrying	○	○	○	○

AUDIT-C instructions: *These questions help in the assessment of alcohol consumption. Indicate how uncharacteristic or characteristic each of the following statements is in describing you.*

How often do you have a drink containing alcohol?	○ Never	○ Monthly or less	○ 2–4 times a month	○ 2–3 times a week	○ 4 or more times a week
How many drinks do you have on a typical day when you were drinking?	○ 1 or 2	○ 3 or 4	○ 5 or 6	○ 7 to 9	○ 10 or more
How often do you have 6 or more drinks on one occasion?	○ Never	○ Less than monthly	○ Monthly	○ Weekly	○ Daily or almost daily

Rev.RISQ instructions: *Consider how many times have you experienced, observed, or heard of the following behaviors that involved Sailors on your ship. How frequent were these behaviors in the **last month**?*

	Behavior	Frequency in the **last month**			
		Never	Rarely	Sometimes	Often
1.	Shoplifted things	0	1	2	3
2.	Drove 30 mph or faster over the speed limit	0	1	2	3
3.	Restricted eating, even if they were very hungry	0	1	2	3
4.	Sexually harassed someone	0	1	2	3
5.	Impulsively bought stuff they did not need, won't use, and cannot afford	0	1	2	3
6.	Had unprotected sex with someone they just met or didn't know well	0	1	2	3
7.	Discrimination (based on race/ethnicity/gender/sexual orientation)	0	1	2	3
8.	Sexual assault	0	1	2	3
9.	Sexual harassment	0	1	2	3
10.	Domestic and child abuse	0	1	2	3
11.	Gotten into a physical fight	0	1	2	3

12.	Thought about killing themselves	0	1	2	3
13.	Reacted with physical aggression when provoked	0	1	2	3
14.	Drank alcohol until they blacked or passed out	0	1	2	3
15.	Driven a car while intoxicated	0	1	2	3
16.	Gone to work intoxicated or high	0	1	2	3
17.	Damaged things because they felt mad	0	1	2	3
18.	Punched or hit someone with a fist or object	0	1	2	3
19.	Cut, burned, or hurt themself on purpose without trying to die	0	1	2	3
20.	Lost more money than they could afford gambling	0	1	2	3
21.	Threatened to physically hurt someone	0	1	2	3
22.	Hurt others to gain status/feel superior	0	1	2	3
23.	Started an argument just for the sake of fighting	0	1	2	3
24.	Destroyed or vandalized property	0	1	2	3
25.	Paid for sex	0	1	2	3
26.	Been worried they would fail a drug test	0	1	2	3
27.	Used physical force to get others to do what they want	0	1	2	3
28.	Tried to kill themselves	0	1	2	3
29.	Used marijuana	0	1	2	3
30.	Been in 2 or more sexual relationships at the same time	0	1	2	3
31.	Done something risky while drunk that they would never do sober	0	1	2	3
32.	Played lotteries, card games for money, placed bets at the casino, bet on sports	0	1	2	3
33.	Abused prescription medication	0	1	2	3
34.	Had a plan to kill themselves	0	1	2	3
35.	Ran red lights or ignored stop signs	0	1	2	3
36.	Stole money	0	1	2	3

LIST OF REFERENCES

Bastien, C. H., Vallieres, A., & Morin, C. M. (2001). Validation of the Insomnia Severity Index as an outcome measure for insomnia research. *Sleep Medicine*, *2*(4), 297–307.

Bush, K., Kivlahan, D. R., McDonell, M. B., Fihn, S. D., & Bradley, K. A. (1998). The AUDIT alcohol consumption questions (AUDIT-C): An effective brief screening test for problem drinking. *Archives of Internal Medicine*, *158*(16), 1789–1795. https://www.doi.org/10.1001/archinte.158.16.1789

Cameron, K., Mora, C., Leutscher, T., & Calarco, M. (2011). Effects of positive practices on organizational effectiveness. *The Journal of Applied Behavioral Science*, *47*(3), 266–308.

Capener, D. C., Brock, M. S., Hansen, H. L., Matsangas, P., & Mysliwiec, V. (2018). An initial report of sleep disorders in women in the U.S. military. *Military Medicine*, *183*(9–10), e266–e271. https://www.doi.org/10.1093/milmed/usx116

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief cope. *International journal of behavioral medicine*, *4*(1), 92-100.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*(4), 385–396.

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the U.S. In S. Spacapam & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on Applied Social Psychology* (pp. 31–67). Sage.

Cooper, C. L., Katona, C., & Livingston, G. (2008). Validity and reliability of the brief COPE in careers of people with dementia: The LASER-AD study. *The Journal of Nervous and Mental Disease*, *196*(11), 838–843.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75.

Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350–383.

Edmondson, A. C. (2003). Managing the risk of learning: Psychological safety in work teams. In M. A. West, D. Tjosvold, & K. G. Smith (Eds.), *International handbook of organizational teamwork* (pp. 255–276). Blackwell Publishing.

Foster, S. N., Hansen, S. L., Capener, D. C., Matsangas, P., & Mysliwiec, V. (2017). Gender differences in sleep disorders in the U.S. military. *Sleep Health*, *3*(5), 336–341. https://www.doi.org/10.1016/j.sleh.2017.07.015

Johns, M. W. (1991). A new method for measuring daytime sleepiness: The Epworth Sleepiness Scale. *Sleep*, *14*, 540–545.

Johns, M. W. (1992). Reliability and factor analysis of the Epworth Sleepiness Scale. *Sleep*, *15*(4), 376–381.

King, L. A., King, D. W., Vogt, D. S., Knight, J., & Samper, R. E. (2006). Deployment risk and resilience inventory: A collection of measures for studying deployment-related experiences of military personnel and veterans. *Military Psychology*, *18*(2), 89–120. https://www.doi.org/10.1207/s15327876mp1802_1

Kroenke, K., Spitzer, R. L., Williams, J. B., & Löwe, B. (2009). An ultra-brief screening scale for anxiety and depression: The PHQ–4. *Psychosomatics*, *50*(6), 613–621.

Matsangas, P., Shattuck, N. L., Shattuck, L. G., Lawrence-Sidebottom, D., & Bowen, Z. (2021). *Understanding motivational factors of problematic video gaming in the USMC and US Navy* (Technical Report No. NPS-OR-22-002). Naval Postgraduate School.

Meadows, S. O., Engel, C. C., Collins, R. L., Beckman, R., Cefalu, M., Hawes-Dawson, J., Williams, K. M. (2018). *2015 Department of Defense Health Related Behaviors Survey (HRBS)*. RAND Corporation.

Morin, C. M., Belleville, G., Bélanger, L., & Ivers, H. (2011). The Insomnia Severity Index: Psychometric indicators to detect insomnia cases and evaluate treatment response. *Sleep*, *34*, 601–608.

Mysliwiec, V., Gill, J., Lee, H., Baxter, T., Pierce, R., Barr, T. L., Krakow, B., & Roth, B. J. (2013). Sleep disorders in US military personnel: A high rate of comorbid insomnia and obstructive sleep apnea. *Chest*, *144*(2), 549–557. https://www.doi.org/10.1378/chest.13-0088

Mysliwiec, V., Matsangas, P., Baxter, T., McGraw, L., Bothwell, N. E., & Roth, B. J. (2013). Comorbid insomnia and obstructive sleep apnea in military personnel: Correlation with polysomnographic variables. *Military Medicine*, *179*(3), 294–300. https://www.doi.org/10.7205/MILMED-D-13-00396

Mysliwiec, V., McGraw, L., Pierce, R., Smith, P., Trapp, B., & Roth, B. J. (2013). Sleep disorders and associated medical comorbidities in active duty military personnel. *Sleep*, *36*(2), 167–174.

Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, *5*(2), 164.

Rice, V., & Liu, B. (2016). Personal resilience and coping Part II: Identifying resilience and coping among U.S. military service members and veterans with implications for work. *Work*, *54*(2), 335–350.

Sadeh, N., & Baskin-Sommers, A. (2017). Risky, Impulsive, and Self-Destructive Behavior Questionnaire (RISQ): A validation study. *Assessment*, *24*(8), 1080–1094. https://www.doi.org/10.1177/1073191116640356

Seppala, E., & Cameron, K. (2015). Proof that positive work cultures are more productive. *Harvard Business Review*, *12*(1), 44–50.

Shattuck, N. L., Matsangas, P., Mysliwiec, V., & Creamer, J. L. (2019). The role of sleep in human performance and well-being. In M. D. Matthews & D. Schnyer (Eds.), *Human performance optimization: The science and ethics of enhancing human capabilities* (pp. 200–233). Oxford University Press.

Spradley, J. P. (2016). *The ethnographic interview*. Waveland Press.

Stage, C. W., & Mattson, M. (2003). Ethnographic interviewing as contextualized conversation. In R. P. Clair (Ed.), *Expressions of ethnography: Novel approaches to qualitative methods* (pp. 97–105). State University of New York Press.

United States Navy. (2020). *Signature behaviors of the 21st century Sailor*.

Vogt, D. S., Proctor, S. P., King, D. W., King, L. A., & Vasterling, J. J. (2008). Validation of scales from the Deployment Risk and Resilience Inventory in a sample of Operation Iraqi Freedom veterans. *Assessment*, *15*(4), 391–403.

Vogt, D. S., Smith, B. N., King, L. A., King, D. W., Knight, J., & Vasterling, J. J. (2013). Deployment Risk and Resilience Inventory–2 (DRRI–2): An updated tool for

assessing psychosocial risk and resilience factors among service members and veterans. *Journal of Traumatic Stress*, *26*(6), 710–717.

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