ABSTRACT The literature on psychological resilience provides significant theoretical developments to understand and enhance the health and well-being of individuals. This article presents a case study of the implementation of an interview model, using concepts from resilience literature, to deal with the annual mental health screening of a group of naval specialists. The model is based in a salutogenic approach and aims to recognize the depth of experience of the human existence and to enhance physical and mental health, as well as general coping, to promote the well-being of individuals.

INTRODUCTION

The past two decades saw a surge in developments in the field of positive psychology and resilience, which includes constructs like salutogenesis, fortigenesis, personality hardiness, learned resourcefulness, locus of control, and sense of humor—all of which focus on the maintenance and enhancement of wellness in addition to the treatment of illness. This movement introduced an alternative paradigm to the psychopathological approaches dominant in the past literature of personal psychology.

However, in contrast to the many advances in theory and conceptualizations reported in academic literature, relatively few reports have been published on efforts to practically apply the new approaches in specific therapeutic settings. This article describes a case study where the salutogenic approach has been used with a group of naval specialists at the Institute for Maritime Medicine (IMM). It will present a brief overview of the concepts of salutogenesis, before sketching the specific naval setting where the approach was implemented. The salutogenic intervention developed at the IMM will then be described, followed by a short introduction of preliminary support for its effects.

Salutogenesis

The term salutogenesis was coined by Antonovsky. He described the omnipresence of stressors in the human experience, that all people are continuously exposed to fairly serious stressors. He then argued that "given the ubiquity of pathogens—microbiological, chemical, physical, psychological, social, and cultural—it seems self-evident that everyone should succumb to this bombardment and constantly be dying". Since this is apparently not the case, it led to the question of where individuals get the strength to stay alive. This led to a focus on the range of "generalized resistance resources" (GRR) which people use for coping with a diversity of pathogens and stressors. When people experience frequent availability of these resources during their personal development, a strong sense of coherence develops.

Antonovsky's salutogenic model entails three implications. First, the salutogenic model does away with the dichotomy of people being either diseased or healthy, in favor of a "health ease/dis-ease continuum," with all people falling somewhere between the two theoretical poles of total terminal illness and total wellness. Second, the salutogenic model rejects the assumption that stressors are inherently bad, in favor of the possibility that stressors may have salutory consequences. This implies that stressors are neutral in their health consequence, and that the consequences depend on a person's response to a stressor. Stressors arouse a condition of tension in a person; if tension is managed poorly, stress results and the way for disease is open, but if it is managed well, the stressor may remain neutral or even become health enhancing. Third, the salutogenic model urges researchers to study the "deviant case," e.g., smokers who do not get lung cancer or a type A person who does not develop heart disease. This implies looking not at risk factors, but at salutory factors. The question then becomes "what predicts a good outcome?"

Antonovsky posed "sense of coherence" (SoC) as one of the key concepts in his understanding of the salutogenic model, but other constructs, like social support, locus of control, religion, cognitive approaches, etc., may each play its part in moderating or mediating stress. He formally defines SoC as "a global orientation that expresses the extent to which one has a pervasive, enduring although dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement."

SoC is a general way of appraising the world, both cognitively and emotionally, which is associated with effective cop-
ing, health-enhancing behaviors, and better social adjustment. It is not a particular coping style, but an enduring dispositional orientation to life, which allows individuals to select appropriate strategies to deal with stressors confronting them.

SoC has three main components, namely comprehensibility, manageability, and meaningfulness. Comprehensibility refers to the extent to which a person perceives the stimuli from both within and without as clear, ordered, structured, and consistent information, and on the basis of which he or she can expect that these stimuli will in future also be orderable, explicable, and even predictable. This means that the perceptions make cognitive sense. Manageability refers to the extent to which a person perceives the events of his or her life as experiences that are, at least, bearable, or better still, can be coped with, or even better, challenges that can be met. Meaningfulness refers to the extent to which a person feels that life makes sense emotionally, rather than cognitively. At least some of the problems and demands of living are felt to be welcome challenges, motivating one to invest energy.

Antonovsky proposed that having a strong SoC enables one to mobilize effective coping resources in the face of tension, predisposing one to move toward the health side of the ease/dis-ease continuum. A weak SoC is likely to result in poor tension management and an inability to mobilize adequate resources, culminating in health breakdown.

The argument poses that resistance resources are only potentially available; it is up to the person to mobilize them into combating and overcoming pathogens and stressors. People differ in the extent to which they transform potential into actuality. What makes the difference is the strength of the SoC. People with a stronger SoC are more ready and willing to exploit the resources at their potential disposal. Antonovsky developed a 29-item Orientation to Life Questionnaire to measure an individual's way of experiencing the world and his/her life in it.

Naval Specialists

This article is concerned with one specific group of naval specialists, namely sailors on submarines. Submariners work in one of the most challenging and psychologically demanding environments for sailors. The men and women serving onboard the boats are exposed to a wide range of potential stressors. External stressors include adverse weather conditions or mechanical failure that may compromise a boat's ability to reach the surface safely. Biological stressors include living in a pressure-sensitive air environment, potential exposure to toxic gasses, high humidity, and limited ablution facilities for personal hygiene. Physical stressors include cramped living and working conditions, confined space, constantly elevated noise levels when running on the surface, and fatigue due to poor sleep. Mental stressors include the stress of stimulus invariance, the disruption of circadian cycles, chronic noise, and the constant vigilance when operational. Social stressors include the lack of privacy, constant pressure to maintain good interpersonal relations with no escape from the closed interpersonal environment, and extended separation from families and home.

To monitor their health and prevent deterioration of functioning, submariners annually undergo a specialized medical assessment. Due to their high-stress operational environment, as well as their high level of (self)-referrals for counseling, the annual medical assessment includes a psychological component. This consists of an interview with a psychologist specializing in military maritime psychology. It is this psychological screening that forms the focus of this article.

Traditionally, the psychological assessment was based on the medical/illness model and aimed to ascertain the presence of psychiatric disorders. A submariner's fitness for duty was then dependent on the absence of a psychiatric diagnosis. Those with diagnoses were treated, before returning to duty or leaving the service. Those without diagnoses were declared fit to continue with active sea duty. This process broadly followed the international tradition. However, this approach did not adequately provide for the disabling effect of life stressors that all people encounter in daily life.

Our experience at the IMM highlighted the failings of the traditional approach. Despite the above psychological screening, sailors without diagnoses were still unable to perform their duties optimally, affecting the mission readiness of their respective boats.

In our experience, discreet, nonchronic stress ("life issues") affected the individuals' ability to cope well. These stressors included family life, e.g., marital stress, difficulties with children (academic or adjustment problems), and divorce. It also included financial stressors, and work-related problems, e.g., deployment issues, career issues (e.g., nonpromotions), and conflict with coworkers or superiors. These stressors impaired the well-being of the submariners and led to a decrease in their ability to function optimally. Conversely, it was observed that some individuals, despite having to deal with a number of serious stressors, were coping very well and were often thriving.

This led to the conclusion that the focus on pathology is inadequate to account for richness of human experiences and the ways in which individuals deal with these experiences. Our experience that distress and poor coping are due to life's stressors and not psychiatric disorders, and our observation that some individuals cope very well despite serious stressors, led to a questioning of the pathogenic approach underlying the psychological involvement in the submariners' annual medical assessment.

MODEL DEVELOPED AT THE IMM

In arguing against a purely diagnostic interview or tests for the annual (mental) health assessments of submariners, we developed an interview focused on salutogenic concepts—that is, on health and strengths. This model is used at the IMM in Simon's Town, South Africa.
The new model aims to recognize the depth of experience of the human existence and in so doing enhance physical and mental health, as well as general coping, to promote the well-being of individuals.

In the IMM model, interviews are focused on the exploration of general and specific resources for current life situations. It further uses the SoC scale as a broad indication of an individual's general life orientation. The consultant psychologist and submariner assess and examine resources (or lack thereof), e.g., healthy lifestyle, social support, and job satisfaction. Through discussion, strengths and potential strengths are identified, leading to a further exploration of mechanisms in which to actualize or enhance these strengths (the GRRs discussed earlier). This process facilitates awareness of potentials and possibilities to submariners, allowing them to focus on the aspects they believe are important. This takes place within a semistructured interview context, which is flexible enough to allow for individual needs or requirements. The consultant psychologist is nonprescriptive, and serves to guide the interviewee rather than dictate the course of the interview. The interviews usually take places shortly after the physical and physiological examinations were conducted.

**The Salutogenic Interview**

The structure of the interview presented here is only a guideline. Individual needs and expectations, as well as the interrelatedness of many of the themes in the interview, create a dynamic process in practice.

Prior to the interview, the submariners complete a short biographical sheet, which includes the SoC Scale. The interview starts with the psychologist and submariner spending a moment finding common ground—to contract the purpose and focus of the interview. After this, the interviewee's current work situation is introduced to initiate the conversation. This then leads to the discussion of a number of themes (not necessarily in this order):

a. General health issues are addressed shortly after the physical examination takes place. Health behaviors, e.g., smoking, alcohol consumption, and self-medication, are discussed and other health concerns are addressed.
b. Emotional (mental) health is discussed.
c. Possible traumatic or unpleasant experiences in the line of their work exposure are also attended to and the effects on their lives are explored.
d. Lifestyle issues deals with exercise (and related issues like fitness and sport, which is in turn potentially linked to support, e.g., in the form of sport clubs), outside hobbies and interests (again linked to support), and a general sense of connectedness with society (e.g., involvement in church or community activities).
e. Social support examines family life, as well as other networks (i.e., church/sport/societies).

f. Work satisfaction deals with issues at work.
g. Personal happiness and resilience assess the interviewee's current personal experience. This often links to the next theme of

h. Other coping mechanisms (cognitive, emotional, behavioral).
i. The interview then typically ends with a discussion of known risks (stresses) and the management of them. This allows the interviewee to prepare for the demands of forthcoming challenges, for example, through discussing ways in which to activate appropriate GRRs.

The exploration and discussion eventually lead to a conclusion about the psychological fitness for submarine duty, which is discussed at the end of the interview before a formal report is made. Interviews typically take ~45 minutes.

In practice, the situation dictates how closely this structure will be followed. Individual life situations may require deviation from the structure to focus on matters of immediate importance, or to focus on significant others in the submariner’s life who also affect the submariner’s well-being.

Should serious mental or emotional distress be identified during the interview (including signs or symptoms of psychiatric disorder), the focus may revert back to a clinical interview to assess and manage the individual’s mental health situation.

**Use of the SoC Scale**

Our experience is that the direction of scores on the scale fit well with the general level of coping of the respective individuals. As such, the SoC scale was found to be a valuable tool in guiding the depth of interviews. Individuals who scored lower often necessitated (and received) a longer and more in-depth interview, while individuals with higher scores required a less intensive intervention. The SoC scores of naval specialists are reported elsewhere (C.H. Van Wijk, unpublished data).

**PRELIMINARY SUPPORT FOR THE MODEL**

**Method**

Records for psychological involvement with submariners at the IMM—covering the last 12 months when the old approach was still in use and the first 12 months when the new salutogenic approach was followed—were examined. The number of assessments, diagnoses, therapeutic interventions, and referrals is reported here.

**Results**

Table I presents assessment and intervention figures for the traditional and new approaches. During the last 12 months of the "medical" approach, a total of 178 submariners were screened at IMM. Nine cases were identified for further intervention, representing 5% of the assessments. Four individuals were diagnosed with Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) disorders and
referred for therapeutic intervention. Two of them decided to pursue other careers and two were returned to duty within 12 weeks. Five individuals were referred for further therapeutic intervention without a diagnosis being made. Two left the submarine service, and the other three were returned to duty while engaging in some form of counseling.

Fifteen cases were referred after assessment, representing 8.9% of the remaining submariners (after excluding the nine cases identified earlier). Nine submariners were referred by their commanding officers for possible psychological problems after completing the annual assessment. Two psychiatric diagnoses were made and those individuals were removed from active service. Two entered psychotherapy for "stress"-related issues, while the rest were counseled for difficulties dealing with life issues (financial, family, and work related). All were returned to active duty within 12 weeks. Another six submariners referred themselves to the psychology clinic due to difficulties dealing with family and work-related stressors. One chose to pursue an alternative career, the rest returned to duty while participating in either brief intervention programs or longer psychotherapy.

During the first 12 months using the salutogenic approach, a total of 150 submariners were screened at IMM. Six cases were identified for further intervention, representing 4% of the assessments. Two individuals were diagnosed with a DSM-IV disorder and referred for further therapeutic intervention. Both returned to duty within 12 weeks. Another four individuals were referred for further therapeutic intervention. They did not suffer from any diagnosable disorder, but experienced life issues that needed attention. All four continued with duty while participating in brief intervention programs lasting from 2 to 4 weeks.

Only one submariner was referred by his commanding officer for possible psychological problems after completing the annual assessment, represented 0.79% of the remaining submariners (after excluding the six cases identified earlier). He was diagnosed with a psychiatric disorder and chose to be permanently withdrawn from submarine operations.

The numbers in Table I were entered into 2 × 2 tables. There were no significant differences between the number of cases identified during assessment across the 2 years (Yates corrected χ² = 0.004; p = 8.5). The number of cases referred after assessment across the 2 years shows a significant difference (Yates corrected χ² = 9.11; p = 0.003).

**DISCUSSION**

When the figures for the 2 years are compared, a significant difference in the postassessment referrals is found, suggesting that the salutogenic interview in some way may have contributed to preventing later dysfunction or distress.

We believe that the nature of the salutogenic interview is the mechanism through which this occurs. The interviews are focused on working with salutogenic concepts—those aspects pertaining to an individual's coping and environmental factors which affect it. Strengths and potentials are identified and ways to maximize them are explored. Through these interviews issues relating to lifestyle, health, support networks, and individual concerns are covered. Through assessment and discussion, potential strengths (and weaknesses) are brought to the awareness of the individual, allowing him/her to explore and deal with them on his own too.

Of course, there are other factors that could potentially have influenced these figures that were not controlled. It is possible that there were submariners who needed psychological support but were never referred, due to operational demands. It is also possible that individuals chose to consult with private practitioners.

This study was a small pilot study on submariners only. Due to the above limitations, as well as the short time period and small numbers of this study, this study is only suggestive. However, it is tempting to believe that further research, using larger groups over a longer period, may provide support to the salutogenic approach as an effective way of enhancing health among navy specialists.

**CONCLUSIONS**

This article described a new approach to the regular psychological assessment of naval specialists. The traditional approach, with its focus on psychopathology, did not adequately provide for the richness of human experience, and a process with a salutogenic focus was developed to give meaning to the annual assessments.

The IMM annual submarine psychological assessment model was introduced, describing an approach focusing on the strengths and positive health aspects of the individual's life. It is proposed that the self-awareness that is created through the salutogenic interview leads to the development of skills to appraise life situations and challenges and the coping resources (i.e., GRRs) to deal with it. This would hopefully lead to better coping in future situations. Thus, the interview primes individuals toward more effective coping with the challenges facing them in life. It is proposed that this positive benefit of "priming" is suggested by the lower rate of self-referrals after salutogenic interviews (in the data presented above). This process furthers its own positive feedback process to enhance the individual's sense of coherence. Our
experience suggests that this approach can be generalized successfully to other groups as well.

The one weakness of this model is its reliance on professional time. Larger numbers of interviews under the guidance of qualified psychologists may be difficult to implement, and limit the extent to which this model could be used in practice. However, the time spent may prevent more intensive intervention on the longer term, and in that way may become an effort worthy of investment. If a salutogenic interview is found to act as a primer for enhanced coping with future challenges, the benefits of having fewer visits to psychologists may soon outweigh the time spent conducting such interviews.

In conclusion, this article described a case study of a salutogenic approach, which seems to hold promise for the regular psychological screening of navy specialists. It has the potential of reducing individual distress due to life stresses, as well as enhancing the readiness of units involved.

REFERENCES

Copyright of Military Medicine is the property of Association of Military Surgeons of the United States and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.