Ahmedabad University

School of Arts and Sciences

PSY252- Health Psychology

End Semester Examination 2025 (Winter Semester)

Total Marks – 75 **Total Time: 3 Hours**

Date of Examination: 29.04.2025 **Number of Printed Pages: 14**

Section 1: Please attempt all questions in this section. Each question carries one mark. Try not to spend more than 35 minutes on this section. = 26 marks

1. **W**hich theoretical shift best explains the development of health psychology as a discipline?
    a. The transition from psychosomatic medicine to acute care medicine
    b. The shift from the biomedical model to the biopsychosocial model
    c. The reconceptualization of health as an achievement rather than the absence of illness
    d. The change from individual psychology to community psychology

2. A health psychologist is developing interventions to help patients with diabetes adhere to their treatment regimens. According to the chapter, this work most directly addresses which aspect of health psychology?
    a. Health promotion and maintenance through preventive behaviors
    b. The application of behavioral interventions to manage chronic disease trajectories
    c. Evaluation and modification of health policy formulation
    d. Psychological aspects of prevention and treatment of illness

3. Which phenomenon most directly contributed to the development of health psychology as a field distinct from traditional medical practice?
    a. The shift from chronic to acute diseases as primary causes of death
    b. The decrease in healthcare costs associated with preventive interventions
    c. The change from infectious to chronic diseases as leading causes of mortality
    d. The increased preference for alternative medicine over conventional treatments

4. Galen's Theory of Humours has been largely superseded by modern medical models, yet certain conceptual parallels exist between ancient and contemporary health frameworks. Which statement most accurately captures this relationship?
    a. Both recognize internal balance as central to health, though modern models incorporate psychological dimensions absent in humoral theory
    b. Both acknowledge environmental influences, but modern models reject the notion of constitutional predispositions central to Galen's theory
    c. Both emphasize individualized approaches to treatment based on specific imbalances, though modern models consider additional factors
    d. Both view health as the absence of excess or deficiency, though modern models locate imbalance in biochemical rather than humoral mechanisms

5. According to Cummins' theory of Subjective Well-Being Homeostasis, when a person faces severe, prolonged challenges that overwhelm their homeostatic system, which outcome is theoretically predicted?

    a. Their SWB temporarily decreases but returns to baseline through cognitive adaptation mechanisms

    b. Their SWB remains within normal range but requires increased deployment of internal buffering resources

    c. Their SWB falls below their set-point range and homeostatic failure occurs until external conditions improve.

    d. Their SWB shows increased volatility while maintaining average levels within their characteristic range

6. A rural migrant family recently moved to an urban slum area in a major Indian city. The father, who previously worked as a farmer, now works long hours at a construction site. His previously healthy 10-year-old son has begun experiencing respiratory problems, and the father delays seeking medical care despite deteriorating symptoms. According to the chapter, which factor most comprehensively explains this health-seeking behavior?

    a. Poor knowledge about respiratory diseases and their complications

    b. The interplay of socio-economic constraints, residential environmental hazards, and accessibility barriers to quality healthcare

    c. Cultural beliefs that respiratory problems are not serious enough to warrant immediate medical attention

    d. Lack of social support networks in the new urban environment

7. In the context of stigmatized health conditions in India, which statement most accurately reflects the relationship between stigma and health outcomes?

    a. Stigma primarily affects mental health conditions but has minimal impact on physical health conditions

    b. Stigma operates mainly through actual social interactions rather than anticipated interactions

    c. Stigma contributes to delayed diagnosis, treatment non-adherence, and disease progression across multiple conditions including HIV/AIDS, leprosy, and tuberculosis

    d. Stigma affects individual psychology but has limited influence on public health outcomes at the population level

8. A public health campaign aims to reduce cardiovascular disease risk in urban India. Based on social psychology principles, which approach would most effectively address the underlying determinants of cardiovascular health?

    a. Implementing community-based interventions focusing on promoting indigenous health practices like yoga while developing family-centered health education programs

    b. Designing interventions targeting the psychosocial factors that mediate between socioeconomic status and cardiovascular risk behaviors

    c. Creating health communication strategies that address both individual health behaviors and social determinants through culturally sensitive messaging and social network mobilization

    d. Integrating preventive approaches that modify environmental conditions and social structures while simultaneously promoting individual behavior change

9. A patient with damage to the hypothalamus would most likely experience difficulties with

    a. Coordination of voluntary muscle movements and maintenance of posture

    b. Processing visual and auditory stimuli and forming memories of these experiences

    c. Regulation of basic physiological needs and endocrine functions

    d. Recognition of sensory stimuli and interpretation of their meaning

10. When considering Chronic Traumatic Encephalopathy (CTE) in military veterans, which statement most accurately reflects the complex relationship between biological damage and psychological symptoms?

    a. Psychological symptoms like PTSD trigger the physical brain damage characteristic of CTE

    b. The biological damage is limited to motor areas of the brain, while psychological symptoms are solely due to combat stress

    c. Protein accumulation in the frontal and temporal lobes leads to deficits in cognitive function and emotional regulation

    d. Psychological interventions can reverse the biological damage if implemented early enough

11. In the bio-psychosocial understanding of Type II diabetes, which factor most precisely represents the intersection of biological and psychological influences on disease development?

a. The hypothalamic-pituitary-adrenal axis dysregulation that leads to cortisol-induced glucose metabolism disturbances following prolonged psychological distress

b. The bidirectional relationship between depression and glycemic control where each condition exacerbates the neurohormonal imbalances associated with the other

c. The neurobiological pathways through which perceived self-efficacy influences adherence to preventive health behaviors

d. The inflammatory processes triggered by psychological stress that interfere with insulin receptor signaling at the cellular level

12. A 45-year-old patient presents with unexplained weight gain, fatigue, cold intolerance, and slowed cognitive processing. Brain imaging reveals a small tumor in the region that connects the hypothalamus to the anterior pituitary. Which physiological pathway best explains how this tumor could produce these symptoms?

    a. Compression of the thalamus disrupts sensory processing pathways, causing heightened sensitivity to cold

    b. Disruption of thyrotropic hormone (TSH) signaling leads to reduced thyroid hormone production

    c. Damage to the medulla impairs autonomic regulation of metabolic rate and core temperature

    d. Interference with somatotropic hormone production alters cellular metabolism in peripheral tissues

13. A military veteran who served in a high-conflict zone exhibits memory problems, impulse control issues, irritability, and difficulty concentrating three years after returning from deployment. He experienced multiple close-range explosions but never had diagnosed traumatic brain injury. Which neurobiological mechanism most comprehensively explains the potential connection between his combat experience and current symptoms?

    a. Hyperactivation of the amygdala resulting in emotional dysregulation and heightened threat response.

    b. Protein accumulation in the frontal and temporal lobes disrupting executive function networks

    c. Decreased hippocampal volume due to prolonged cortisol exposure affecting memory formation

    d. Disruption of white matter tracts connecting limbic structures with prefrontal regulatory regions

14. When comparing the neural and endocrine systems' roles in maintaining homeostasis during stress responses, which distinction most accurately characterizes their complementary functions?

    a. The neural system initiates immediate defensive responses while the endocrine system facilitates the recovery phase

    b. The neural system processes cognitive appraisals of threats while the endocrine system processes emotional reactions

    c. The neural system governs fast-acting, short-duration responses while the endocrine system mediates slow-acting, prolonged adaptations

    d. The neural system regulates voluntary behavioral responses while the endocrine system exclusively controls involuntary physiological changes

15. Based on Taylor's examination of cognitive-behavioral approaches to health behavior change, which statement most precisely characterizes the role of implementation intentions?

    a. They bridge the intention-behavior gap by automating responses to environmental cues that would otherwise require conscious decision-making.

    b. They function primarily by enhancing commitment to predetermined goals rather than facilitating execution of specific behaviors.

    c. They operate through increased attention to goal-relevant stimuli while simultaneously reducing attention to competing demands.

    d. They strengthen the association between situational triggers and desired responses through repeated mental rehearsal of if-then scenarios

16. In analysing the efficacy of financial incentives for health behavior change, which statement most precisely identifies the limitation of incentive-based interventions?

    a. They produce immediate compliance without addressing underlying motivational structures necessary for long-term maintenance.

    b. They potentially undermine intrinsic motivation by shifting perceived behavioral causality from internal to external factors.

    c. They create temporary behavior change that typically reverts once the contingency relationship is terminated.

d. They promote instrumental compliance rather than genuine attitudinal commitment to health-promoting behaviors

17. Which characterization most accurately describes the relationship between consciousness raising (as a process of change) and the stages of change in the Transtheoretical Model?

    a. It functions primarily during precontemplation by increasing problem awareness but becomes counterproductive in later stages.

    b. It operates across multiple stages but serves different functions at each phase of the behavior change process.

    c. It initiates movement from precontemplation to contemplation but must be supplanted by behavioral processes thereafter.

    d. It represents a cognitive-experiential process that precedes and enables the subsequent behavioral processes of change

18. Within the Health Belief Model, which combination of factors most precisely predicts health behavior change when a person perceives a significant health threat?

    a. Perceived severity of the health condition combined with perceived vulnerability to the condition, regardless of perceived barriers to action

    b. The interaction between perceived benefits of the health action and perceived costs, moderated by the perceived efficacy of the action in reducing threat

    c. The relationship between health value orientation and health locus of control, independent of specific beliefs about the health threat

    d. The combination of perceived threat and perceived ability to reduce that threat through a particular health practice that exceeds perceived costs

19. Based on the Theory of Planned Behavior, which mechanism most accurately explains why subjective norms affect health behavior adoption beyond personal attitudes toward the behavior?

    a. Subjective norms create anticipated social consequences that operate as additional behavioral incentives independent of attitude-based incentives

    b. The motivation to comply with normative beliefs functions as a moderator that amplifies or diminishes the impact of one's attitudes on behavioral intentions

    c. Normative beliefs generate affective responses that either reinforce or counteract the cognitive evaluations underlying one's personal attitudes

d. Subjective norms influence perceived behavioral control by defining social contexts that facilitate or inhibit the ability to perform the target behavior

20. Research on accident prevention indicates which of the following as the most significant psychological barrier to consistent safety behaviors?

    a. Optimistic bias leads individuals to underestimate personal risk relative to peers.

    b. Repeated exposure to hazards without negative consequences creates illusory perceptions of immunity.

    c. Safety behaviours require consistent vigilance which competes with limited cognitive resources.

    d. The delayed relationship between preventive actions and outcomes reduces perceived contingencies

21. Analysis of vaccination hesitancy reveals which complex interrelationship among psychological factors?

    a. Higher education correlates with increased scientific literacy, which consistently predicts greater vaccination acceptance.

    b. Concerns about vaccine safety represent rational risk assessments rather than emotional responses to uncertainty.

    c. Perceived vulnerability to disease interacts with trust in medical authorities to determine vaccination behaviour.

    d. Media exposure to anti-vaccination messages primarily influences individuals with pre-existing medical mistrust

22. Which psychological mechanism most comprehensively explains the limited effectiveness of knowledge-based interventions in promoting sun safety practices?

    a. The temporal distance between sun exposure and skin damage weakens perceived contingency relationships.

    b. Short-term aesthetic goals (tanned appearance) compete with long-term health goals creating motivational conflict.

    c. Habitual behaviors in recreational contexts operate largely outside conscious regulatory control.

d. Cultural norms regarding physical appearance override health concerns despite awareness of risks

23. A health psychologist is designing an intervention to increase physical activity among middle-aged adults in a low-income urban neighborhood. Initial assessment reveals most residents express positive attitudes toward exercise and understand its health benefits, but fewer than 15% engage in regular physical activity. Several focus groups identify concerns about neighborhood safety, limited recreational facilities, transportation barriers, and time constraints due to work and family responsibilities. Additionally, many participants report starting exercise programs in the past but discontinuing them within 2-3 weeks.

    Based on this scenario and principles of health behavior change, which intervention approach would most effectively address both the initiation and maintenance of physical activity in this population?

    a. Implementing a multi-level intervention combining environmental modifications (improved lighting on walking paths), formation of neighborhood walking groups with graduated exercise goals, and training in implementation intentions for integrating activity into daily routines

    b. Establishing a community fitness center with subsidized membership, transportation assistance, and extended hours, combined with motivational interviewing sessions to strengthen commitment to exercise

    c. Creating a mobile app-based intervention providing personalized exercise plans, virtual group challenges, safety alerts for neighborhood areas, and cognitive restructuring techniques to address perceived time constraints

    d. Developing a social media campaign featuring success stories from community members who overcame similar barriers, combined with text-message reminders and incremental incentives for sustained participation

24. Research on sleep behavior change interventions indicates which complex relationship among psychological factors?

    a. Sleep habits are predominantly determined by biological factors and show minimal response to psychological interventions.

    b. Effective sleep interventions must target both physiological arousal and cognitive activity simultaneously.

    c. Sleep behaviors are primarily influenced by environmental cues rather than cognitive processes.

d. Beliefs about sleep have stronger effects on perceived sleep quality than on actual sleep behaviors.

25. Following a Western-style high-fat meal, researchers note that women reporting prior day stressors exhibited altered metabolic profiles compared to non-stressed women. Which phenomenon below would most likely account for the long-term health consequences of this observation?

a. Repeated exposure to this metabolic pattern would trigger compensatory hypothalamic mechanisms that eventually normalize fat oxidation, preventing weight gain despite continued stress exposure.

b. The observed metabolic alterations would primarily influence gut microbiota diversity with minimal impact on energy regulation, as bacterial fermentation offsets caloric retention.

c. Lower post-prandial fat oxidation combined with higher insulin levels in stressed individuals could potentially contribute to 7-11 pounds of weight gain annually if this pattern persists.

d. The metabolic alterations would primarily increase short-chain fatty acid production, neutralizing the inflammatory consequences of stress-induced eating despite caloric implications.

26. In the context of diet's impact on stress reactivity and depression, which statement most accurately reflects the current understanding as presented in the research?

a. Mediterranean diet adherence is associated with lower risk of depressive symptoms primarily through reduced gut leakiness, though these effects are not mediated by the microbiome.

b. Sugar consumption reduces cortisol in response to stress while high-fat meals enhance cardiovascular reactivity to stress, indicating that different macronutrients have opposing effects on stress physiology.

c. Saturated fat consumption demonstrably reduces physiological stress responses in humans, explaining why stressed individuals preferentially consume high-fat foods.

d. Probiotic supplementation consistently ameliorates depressive symptoms across all human studies by strengthening the gut barrier regardless of baseline micro-biota composition.

Section 2- Attempt any 7 questions. Each question carries 7 marks. 2 hours and 25 minutes to this section may be a reasonable allocation.

1) Mr. Khan, a 68-year-old man with Type 2 diabetes, visits four different doctors over a period of two months to seek advice and clarity about managing his condition. Each doctor uses a different communication style. **Doctor A** gives direct instructions without involving Mr. Khan in decisions. **Doctor B** shares detailed information and asks Mr. Khan to make all decisions on his own. **Doctor C** listens and encourages a shared decision-making process after exploring Mr. Khan's preferences. **Doctor D** offers brief advice and appears curt to Mr Khan's concerns. After each visit, Mr. Khan feels varying levels of confidence, confusion, and motivation to follow through with the advice given.

    a) Analyse how the different communication styles used by the four doctors might impact Mr. Khan's understanding, emotional response, and willingness to manage his condition. Use specific examples from the scenario in your answer. (4 marks)

    b) Detail how doctor–patient communication can influence long-term health outcomes. Discuss indirect immediate and intermediate outcomes in short term outcomes. (3 marks)

2) Tversky and Kahneman in 1981, proposed the 'prospect theory' which states that people consider their prospects (possible losses or gains) while making decisions. A public health agency is developing two versions of a public campaign to encourage young adult women to get regular health check-ups

    Campaign A : "Get tested today — early detection protects your health, your future, and your relationships." **Campaign B :** "Not getting tested could put your health, your future, and your relationships at serious risk."

    Before launching the campaign, the agency conducts a small survey. Participants exposed to Campaign A express a sense of reassurance and empowerment, while those who saw Campaign B report feeling more urgency and concern, but also some discomfort.

    a) Using the scenario above, explain how Prospect Theory applies to the development of these two campaigns. (2 marks)

    b) If you were a health communication strategist, how would you decide in a real campaign? Discuss at least two factors (e.g., type of behaviour, audience characteristics) that might influence the effectiveness of the two campaign strategies.(5 marks)

3) Joyeeta is a 15-year-old secondary school student who wants to be admired and popular among her circles. Some of her friends have begun experimenting with vaping and drinking alcohol at parties. Joyeeta is curious about all this and also wants to be accepted. At the same time, she also feels uncertain about the risks.

a) *Using the scenario above, explain why adolescence is considered a "window of vulnerability" for health-compromising behaviours. In your answer, refer to at least four psychological or developmental factors that increase risk during this stage. (4 marks)*

b) Identify and describe three health compromising behaviours that amplify during adolescence and describe briefly the long term impact on health (3 marks)

4) Rupalben is a 38-year-old primary school teacher who has been feeling overwhelmed due to increased work, curriculum changes that require her to use computers, which she doesn't know and student behavioural issues. Rather than withdrawing or reacting aggressively, Rupalben sits with other teachers facing stress where they share strategies, vent frustrations, and sometimes bring snacks and tea to lighten the mood. Rupalben also finds comfort in caring for her younger siblings, checking with them. She also asks her mother for help and emotional support. Sometimes, when some school colleagues feel overwhelmed in day to day affairs, Rupalben brings lunch/food for them as well.

a) *Using the scenario above, explain how Rupalben's behaviour is different from the classical /traditional fight-or-flight response to stress. What are the neurochemical bases for an affiliative response to stress and what is this model called ? (4 marks)*

b) *How can this insight be used to design workplace stress management program? Suggest one practical example and explain how it might benefit individuals under chronic stress (3 marks)*

5) Ravi, a 52-year-old business owner, has spent the last two years dealing with chronic financial strain, a difficult divorce, and the demands of caring for his elderly parents. He reports feeling constantly tense, has difficulty sleeping, and rarely finds time for physical activity or social support. Recently, Ravi was diagnosed with early-stage colon cancer. He is shocked and wonders whether stress may have contributed to his illness. During his oncology consultation, his doctor explains that while stress doesn't directly *cause* cancer, long-term stress impacts the body's immune defences, potentially affecting disease progression and recovery.

a) Explain the mechanisms: how short term and long-term stress can dysregulate immune system functioning. (4 marks)

b) Explain the connections, if any, between the psychological, endocrine and immunity systems. (3 marks)

6) Sofia, a 21-year-old university student, recently found out she failed a major exam that has a significant impact on her final grade. At first, she feels overwhelmed and thinks the situation is hopeless. After some reflection, she reaches out to her professor to discuss her options and learns there may be a chance to re-sit the exam. She also decides to join a study group and plans out her revision schedule more carefully. Though still disappointed, she starts feeling more hopeful and capable of handling the situation.

   a) Sofia's thoughts and actions changed over time in response to the failed exam. What do her shifting reactions suggest about how people assess and respond to stressful situations? (4 marks)

   b) Describe the model that emphasises how people view the situation and the resources they believe they have as compared to the model of General Adaptation Syndrome? (3 marks)

7) Three friends—Amar, Priya, and Leo—have all recently lost their jobs due to company downsizing. There is immense pressure due to machine automation in the job sector. Although they are in similar situations, each of them responds quite differently:

   Amar immediately begins updating his CV, reaching out to contacts, and applying for new roles. He also thinks about how he needs to upgrade his skills.

   Priya spends most of her time sleeping, avoiding conversations about her job loss, and binge-watching shows to distract herself.

   Leo journals every evening, meditates, and talks regularly with his sister about how he's feeling and what this change means for his future. He also thinks about how he either needs to upgrade his skills or shift to an entirely new profile.

   a) Each of the three friends is using a different coping style. Based on the scenario, describe the approach each one is taking and explain how it might affect their ability to adapt to the situation in the short as well as long term. (4 marks)

   b) Give one example each where each of the style might not work. (3 marks)

8) Nadia and Arjun are both undergoing treatment for chronic autoimmune conditions. Although they face similar medical challenges, their emotional and psychological approaches are quite different.

   Nadia often feels hopeful about the future. She frequently contemplates on how 'lucky' she is. Despite setbacks, she believes that she can influence her health through lifestyle choices. She maintains a positive relationship with herself, her social network, who in turn, actively check with her and actively follows her treatment plan.

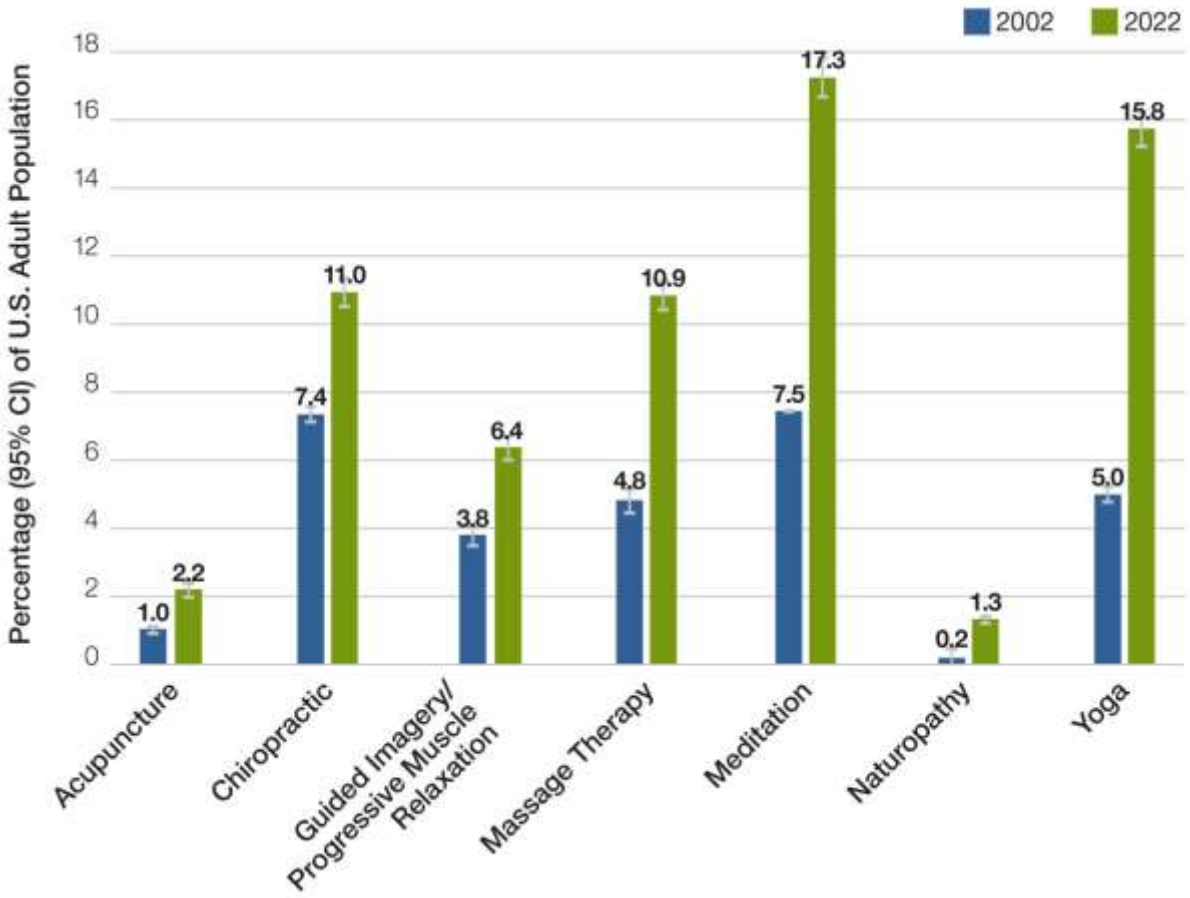
Arjun, is frequently distraught. He feels frustrated and helpless. He worries that nothing he does will improve his condition and tends to withdraw from others. Setbacks particularly make him feel very pessimistic. He occasionally skips appointments and often doubts that the treatment will help.

Their doctors notice that Nadia seems to be recovering better, experiences fewer symptom flare-ups, while Arjun's condition appears more difficult to manage.

a) According to research, what specific role might Nadia and Arjun's emotional dispositions (positive vs. negative affect) play in how they experience illness and recovery ? (3 marks)

b) Explain how a person's belief systems, particularly their ability to influence outcomes (sense of control) might affect their immune system and outcomes on managing disease. (4 marks)

9) Please see the chart below



Source : Nahin RL, Rhee A, Stussman B. Use of complementary health approaches overall and for pain management by US adults. *JAMA.* 2024;331(7):613-615.

a) 10 A. Read any 2 key findings from this graph and explain why people use CAM in three specific points, given that surveys reveal that over half of American adults have engaged with at least one form of CAM, such as acupuncture, herbal remedies, or meditation. (4 marks)

b) Consider the case of Maya, a 65-year-old woman experiencing chronic back pain and fatigue. Maya turned to acupuncture seeking relief. Post-treatment, Maya reports significant pain reduction and improved well-being. Her physician notes that while acupuncture's clinical efficacy for back pain remains debated, Maya's positive response is noteworthy. What psychological factors might help explain why Maya is feeling better, even though the scientific evidence for her treatment is still debated? What could be helpful about this kind of mindset/belief system, and what challenges might it present? (3 marks)

10) Mrs Jaiswal, a 75-year-old woman, has been living with cancer for several years. The cancer had remitted and then showed up again. Recently, her condition has worsened, and her doctors have explained that there are no further treatments; the available treatments might be difficult for her to bear. As her condition declines further, the focus of care shifts. Mrs Jaiswal is now mostly bedridden, and her medical team focuses on whether she is comfortable, not distressed, and surrounded by loved ones. Conversations with her family include her wishes regarding place of death, a life review and meeting relatives.

a) Based on the scenario, how would you describe the difference between the support Mrs .Jaiswal received earlier in her illness and the care she is receiving now? (3 marks)

b) In your view, based on the scenario and according to research, what are some important elements that might contribute to a "good death"? What is the role of psychologists in the scenario? (3 marks)

c) *In this scenario, Mrs. Jaiswal was surrounded with family and has medical support. What if she had no one? Where would persons who have no family or have been abandoned go, to receive medical help with a good death? (1 mark)*