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Youth-Friendly City: Community Center as a Recovery Place for Youth Depression

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ABSTRACT

Depression is a widespread mental health condition that negatively impacts adolescents globally, with Indonesia showing a significant prevalence among youth aged 15-24. Despite the growing awareness of mental health issues, there remains a stigma surrounding depression treatment, leading to a lack of recovery spaces for young individuals. This study explores the role of community centers as recovery spaces for adolescents suffering from mild to moderate depression. By integrating principles from Environmental Psychology and the Healing Environment, the research identifies key design variables necessary for creating a supportive and healing environment. These variables include privacy, sensory considerations, social interaction, access to nature, and physical activities, among others. Through a combination of theoretical frameworks, precedent studies, and adolescent preference surveys, the study formulates design strategies that incorporate mass planning, interior arrangement, and façade considerations. The findings emphasize the importance of creating youth-friendly spaces that are both therapeutic and functional in promoting adolescent well-being and recovery from depression.

Keywords: adolescent, depression, environment, healing, recovery

1. Introduction

Mental health is a fundamental aspect of overall well-being, which encompasses an individual's physical, mental, and social health, as defined by the World Health Organization (WHO). Depression, one of the most prevalent mental health disorders globally, affects approximately 3.8% of the world's population—about 280 million people [1]. It is a condition that causes significant changes in mood, thoughts, behavior, and physical health, leading to a considerable decline in quality of life and the ability to function in daily activities [2]. The Institute for Health Metrics and Evaluation reports that depression has been consistently ranked as the leading mental health disorder over the past few decades [3]. This mental illness affects people of all age groups, including adolescents. In Indonesia, around 15.6 million people suffer from depression, yet only 8% seek professional help [4]. Depression rates among adolescents are notably higher in low- and middle-income countries compared to high-income nations [5]. Indonesia, classified as a lower-middle-income country, reports a prevalence of 6.2% for depression in adolescents aged 15-24 [6].

Adolescence, the period between 15-24 years, represents a transitional phase into adulthood and is a time when young individuals are particularly vulnerable to mental health issues. Several factors contribute to the development of depression during this period, including genetics (heredity), hormonal changes, biological influences, environmental pressures such as bullying, childhood trauma, and negative thinking habits [7].

Depressed adolescents often isolate themselves, spending a significant amount of time in their rooms, and may internalize their failures, perceiving them as broader and more significant flaws (e.g., seeing themselves as unintelligent) [8]. Recent research highlights that during the Covid-19 pandemic, 21.1% of students experienced mild depression, 17% had moderate depression, and 3.4% experienced severe depression [9]. Early interventions are crucial to prevent symptoms from progressing to major depression. Moderate depression in adolescents can often be treated through psychotherapy, such as Cognitive Behavioral Therapy (CBT), and improvements in lifestyle [10]. Severe depression in adults, however, often requires more intensive cognitive therapy [11]. Activities such as Bibliotherapy, physical activity, problem-solving therapy, psychoeducation, and supportive counseling have been identified as beneficial in helping adolescents reduce depressive symptoms [12].

In Indonesia, while treatment for depression is available through psychologists, psychiatrists, and mental hospitals, 91% of individuals with depression do not pursue medication or treatment [13]. This reluctance is often due to the negative stigma associated with mental health disorders, which makes cities less friendly for adolescents dealing with mental health challenges. There is a common societal belief that individuals who seek help at mental health facilities are stigmatized, contributing to the reluctance of adolescents to seek support. Consequently, community centers are needed as safe spaces where adolescents can engage in activities that help reduce stress and aid in their recovery from depression. Rizkiani's research emphasizes the importance of designing mental health facilities that avoid environmental stressors by focusing on aspects such as atmosphere, shape, color, material, and lighting [14]. This research incorporates two main aspects—Environmental Psychology and the Healing Environment—that contribute to the creation of spaces designed to assist in the recovery of adolescents with depression. Environmental Psychology focuses on designing environments that promote comfort and recovery, while the Healing Environment emphasizes the use of nature, psychology, and sensory experiences as part of the healing process [15][16]. The combination of these two aspects forms the 'recovery environment,' which serves as the foundation for the design strategy of a community center for depressed adolescents. In order to inform the design process, Tables 1, 2, and 3, as well as Figure 1, provide important details on the variables, space circulation, and design elements essential for creating an effective recovery environment for youth depression [17].

Table 1. Recovery environment aariables and design implementation

Recovery Environment Variables	Design Implementation
Privacy, Personal Space, Density	• Provide acoustic privacy in the administration area and patient therapy area. (2.8 m2 is the standard in the administrative area of health facilities).
Safety and Restorative	• The receptionist must be visible to other staff members. • Selection of furniture and finishes to prevent potential hazards to staff and other patients, comfortable to sit on for long periods, and in the outdoor area has a combination of shaded and sunny sitting areas. • Landscapes should have quiet places where people can sit comfortably in privacy away from mainstream activities.
Organization and Independence	• Landscape should be simple in layout. • The hierarchy should be visible to minimize stress and allow the patient to move. • Outdoor views should guide the circulation process.
Sensory considerations and Consciousness	• Provide daylight and acoustic control in patient and staff areas. • The use of bright colors, different textures, soothing sounds and fragrant plants.
Comfortable and homelike surroundings	• Design should be familiar with occupant experience, safe, have access to nature (windows and courtyards) • Using a good quality chair, as in a traditional health care setting appropriate for a clinic facility.
Social Interaction	• The seating in the waiting area is arranged to allow interaction.

Recovery Environment Variables	Design Implementation
Nature, Daylight and Connectedness	• Providing enough space in some therapy room to allow family participation. • Providing court near therapy area for outdoor session. • Providing area where people can meet / seating in group to eat or participated in communal activity such as gardening and doing sports.
Positive Distraction	• Giving natural scenery and art in waiting and therapy room. • Providing books, music, and internet access.
Purpose	• Providing horticulture therapy area where therapy program can be accommodated.
Physical Activities	• Providing flat open area to allow multipurpose sport court and organized active occupational therapy activities.

Table 2. Zoning, type of activity, and space programming of community centers

Area	Zoning	Type of Activity	Spatial Program
Indoor	Entrance Zone	Registration	Administration and staff room
			Waiting room (Lobby)
		Waiting, Socializing	
	Rehabilitation Zone	Therapy	Therapy room
			Group room
		Counseling	Counseling room
	Education Zone	Bibliotherapy	Library
		Psychoeducation	Multipurpose room
			Meeting room
	Recreation Zone	Watching movies	Multipurpose room
		Sport	Indoor Gym
		Art Workshop	Artspace
Outdoor	Recreation Zone	Physical Activities (Sport, Horticultural Therapy)	Court Healing Garden

Table 3. Human comfort in a room

Thermal Comfort	Visual Comfort				Acoustic Comfort
	Lighting	Colors	Shapes	Materials	
• Use of Air Conditioner • Building orientation • Cross Ventilation	• Diffuse lighting • Maximum lighting 10-15 watt/m2	• Bright colors such as yellow orange, green, and blue for public area. • Neutral warm colors such as cream, warm blue, pastel green, pastel yellow for rehabilitation zone.	The shape of the room is organic, curved, not angular	Floor: Using a vinyl material with a wood pattern. Using cloth rugs Wall: Have a flat surface Ceiling: Using strong materials (gypsum, PVC, GRC, wood)	• Using radio and water sounds. • Sound-masking system for patient privacy • Using soft music

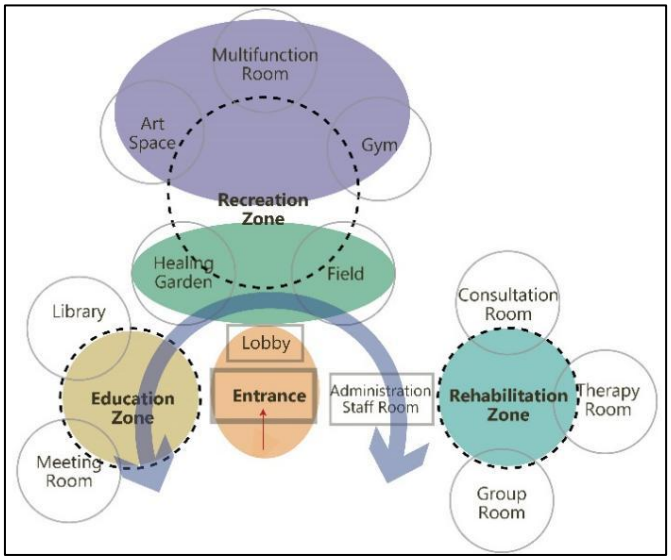

Figure 1. Circulation diagram of community centre

2. Method

The research method is carried out through theoretical studies, precedent studies, and preference questionnaires for adolescents.

Precedent Study

The first precedent analyzed is the Duke Student and Wellness Center (Figure 2) located in the Duke University area (Durham, United States) and designed by Duda|Paine Architects in 2017 [20]. The second precedent is the Sk Yee Healthy Life Center (Figure 2). This healthy life center is located on the roof of Tuen Mun Hospital in Hong Kong and functions as a place to restore joy, create a home atmosphere, and a playground for rehabilitation patients. Its green design is also a consideration in choosing this precedent. It has an area of 350 m2 and was designed by Ronald Lu & Partners in 2014 to make this place a Center for Healthy Living [21]. Some of the criteria determined as the basis for selecting precedents are the exterior shape of the building that looks welcoming, there is access to natural scenery and natural lighting, and has a regular circulation so as not to confuse users. The results of these two precedents can be seen in table 4 which help generate 3 main strategies.

(a)

(b)

Figure 2. Duke student and wellness center dan Sk Yee healthy life centre

Room Ambience Preference Questionnaire

This preference survey/questionnaire aims to understand the space atmosphere preferences of adolescents aged 15-24 years with a total of 110 respondents. The researcher divided the survey into 7 parts, namely preference for density and spatial planning, preference for sight and color, preference for noise and smell, preference for texture, preference for space comfort, preference for positive distraction, connectedness with nature and natural lighting, and preference for activities carried out when you are tired and physical activity.

From the results of the preference questionnaire, there are several things that are different from the theory obtained in the theoretical study. The first is color selection, where in theory it is found that bright colors will be good for use in the entrance, education, and recreation zones (public areas/shared rooms) and soft colors in the rehabilitation zone, while respondents' preferences prefer soft colors in all zones including areas public. Then, in the waiting room (lobby) respondents prefer to sit next to each other and minimize social interaction. In contrast to the theory obtained, namely placing furniture in groups so that interaction occurs. Some of the results from this questionnaire are then concluded and become 3 main strategies (Table 4).

3. Results and Discussion

The analysis from theoretical studies, precedent studies, and space comfort preference questionnaires provides the foundation for developing design strategies for the community center dedicated to the recovery of adolescents with depression. The criteria identified from these analyses are essential in shaping the design approach, which incorporates mass planning, interior arrangements, and façade strategies.

Table 4 outlines the variables, results from precedent studies, and the preferences gathered from the adolescent preference survey. The table emphasizes key criteria, such as privacy, personal space, density, comfort, social interaction, and connection with nature. These elements are vital in creating an environment conducive to mental health recovery, where adolescents can feel safe, connected, and supported. The design strategy is based on these findings, ensuring that all aspects of space—both physical and psychological—are considered in the development of the community center.

Table 4. Variables, precedent study, questioner results, and criteria

Variables	Precedent Results	Questioner Results	Criteria
Privacy, Personal Space, and Density	• Site selection in a place far from noise pollution • Order of space from public to private • If the number of floors is more than 1, the main access joins the public space, and the higher you go the more private. • Public areas have a percentage of 49.4-63.6%	Quiet area in the park	Access Space Percentage Spatial Programming Circulation Location
Comfortable and Homelike Surroundings	• Use comfortable furniture • Added pantry room program • Has a ceiling height of 2.5-3 m in the indoor area • Ceiling height in public areas 4-6 m	Provides cafeteria (dining room), nap room, playroom, and toilet	Space Atmosphere
Positive Distraction	• Providing musical instruments and books as a positive distraction • Have visibility of natural scenery in waiting rooms, counseling and therapy rooms	Providing a room with background music and art	Feature
Social Interaction	• Mezzanine applied for added visibility • Laying furniture in groups both in outdoor and indoor areas • Circulation area becomes communal area	Sitting next to each other is preferable	Circulation

Variables	Precedent Results	Questioner Results	Criteria
Nature, Daylight and Connectedness	• Access to the garden in the counseling room. • Large openings in public spaces • The use of natural elements in the indoor space	Each zone has direct access to nature	Lighting Ventilation
Safety and Restorative	• Have a Healing Garden • Use of safe furniture • Creating space visibility with glass	Provide a quiet area (away from crowds)	Access
Purpose	• Healing Garden for horticultural therapy.	The garden must have both functions (restorative and socializing)	Green Area
Physical Activities	• Special room for indoor physical activities such as yoga	Added a landscape program that is jogging track.	Spatial Programming
Organization and Independence	• Simple and orderly circulation • The hierarchy of the circulation area and entrance zone is larger than the counseling room • Safe placement in every counseling room • The counseling room has an area of 20m2 • The circulation width is about 2-5m.	Ordered circulation and not confusing The scale of the space is high and wide for public areas and smaller scale for private areas	Scale Proportion Zoning Connectivity
Sensory Consideration	• Acoustic privacy in administrative areas with partitions and for buildings using natural buffers • The use of wood material on the floor • Using a mix of bright and soft colors in public and rehabilitation zones • The shape of the room is angular but has many openings	The use of background music or water elements in the entrance zone and education zone Soft colors will be used in each zone's color selection	Sensory perception Material Color

Mass Planning Strategy and Spatial Program

The mass planning strategy focuses on the arrangement of spaces, their size, shape, and site context. The design divides the community center into five main zones: the entrance zone, indoor recreation zone, education zone, rehabilitation zone, and outdoor recreation zone. The prototype for this mass planning strategy is a horizontally fragmented arrangement rather than a solid, massive structure. This configuration is chosen because it allows for expansive green spaces that are easily accessible, providing a visual and physical connection to nature, which is essential for depression recovery.

Figure 4(a) illustrates the spatial program distribution, showing the various zones and their corresponding functions. The entrance zone is placed at the forefront of the design to welcome visitors, while the recreation zones, both indoor and outdoor, are designed to encourage physical activities and social interaction. The rehabilitation and education zones are strategically placed to provide a sense of privacy and calm, essential for therapeutic activities.

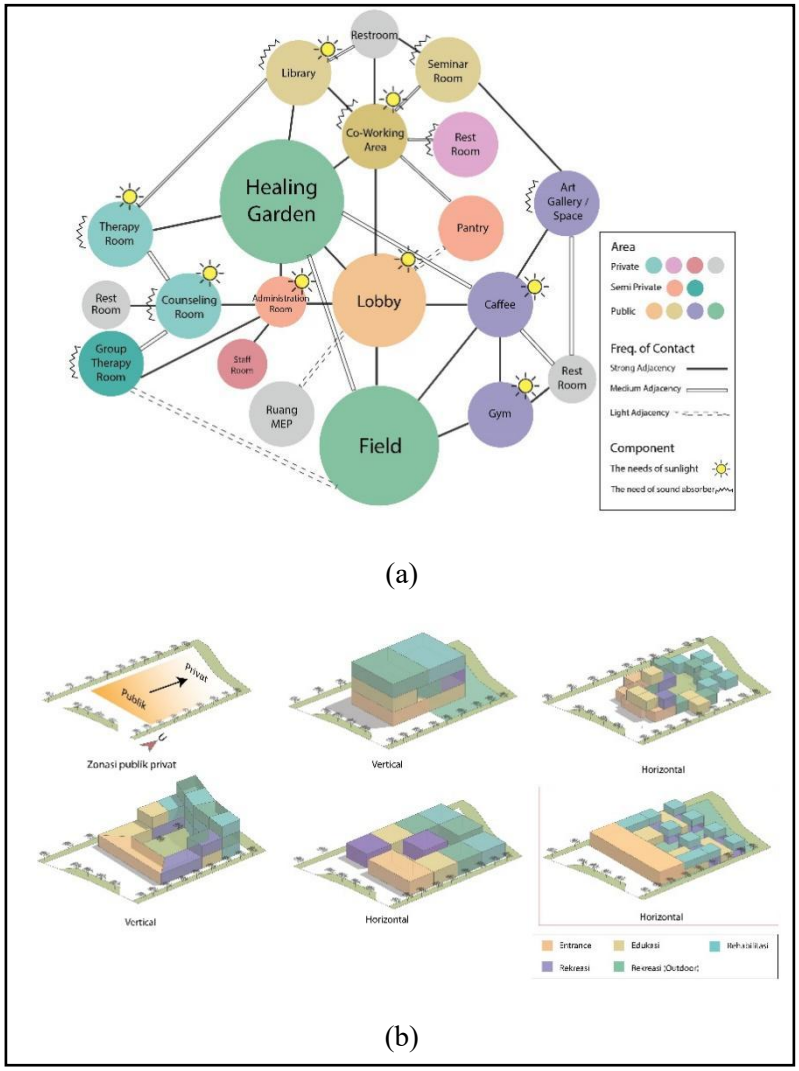

Figure 4. (a) Spatial program (b) Mass planning strategy

Space Interior Arrangement Strategy

The interior arrangement of spaces considers scale, proportion, materials, colors, connectivity, lighting, and ventilation, which all play a role in creating a comfortable environment for adolescents. Sensory perceptions—visual and auditory—are carefully designed to support mental and emotional well-being. The scale and proportion of spaces are adjusted to ensure privacy and comfort. Large windows and open spaces ensure ample natural light, while acoustic considerations are made to create a serene environment.

Figure 5(a) shows how space scale is manipulated to separate public and private areas, ensuring a balance between openness and privacy. The zoning plan, shown in Figure 5(b), further delineates spaces based on their function, with public spaces designed to foster interaction and private spaces optimized for solitude and contemplation. Figure 5(c) provides an example of the materials and colors used in the interior design, which combine to create a homelike and comforting atmosphere. The use of natural materials like wood, alongside soft colors, enhances the emotional comfort of the space.

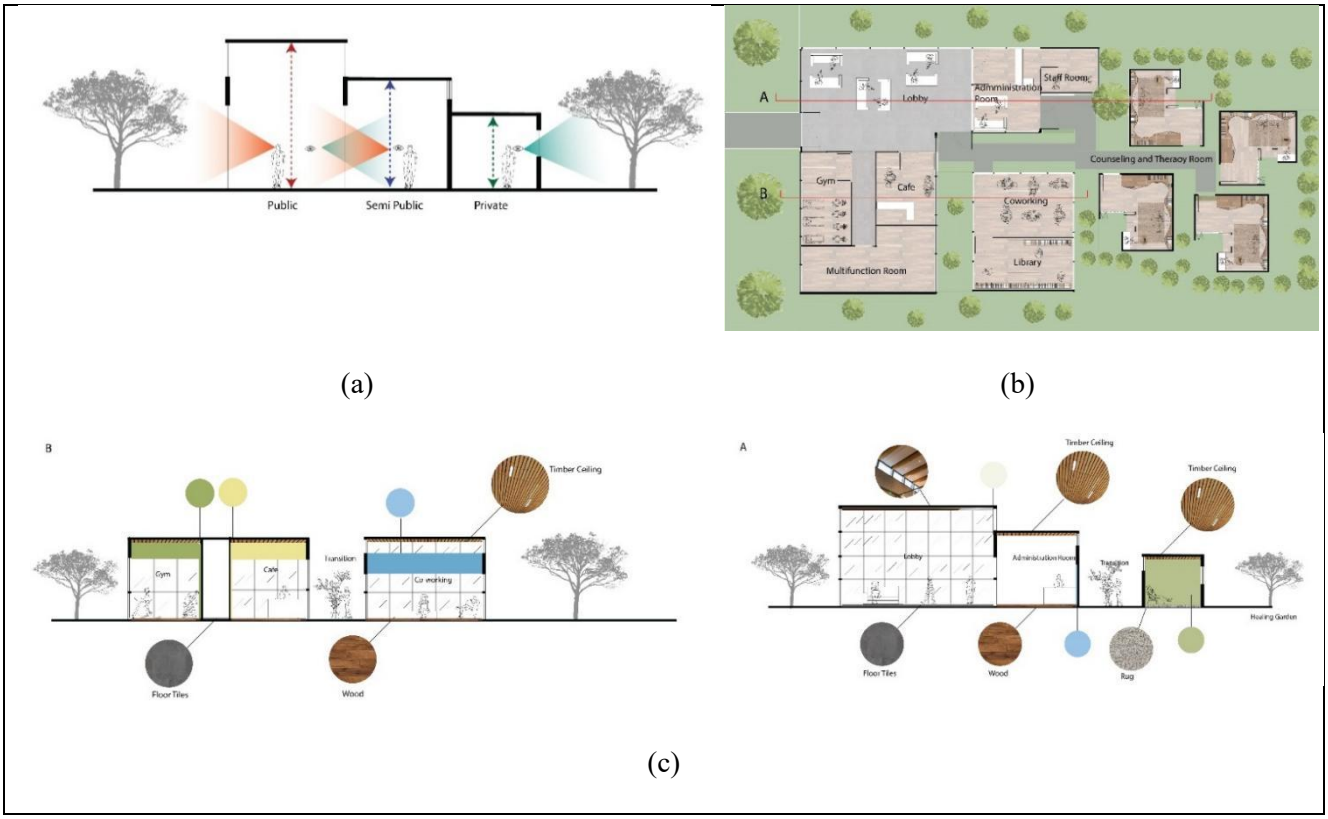

Figure 5. (a) Public private scale of space (b) Zoning plan (c) Materials and colors used

Façade Arrangement Strategy

The façade arrangement focuses on the interaction between the building's exterior and its environment. The design uses transparent glass façades in public zones such as the entrance, education, and recreation zones, allowing for natural light and visual connections to the outside world. This openness promotes a sense of community and transparency. On the other hand, the rehabilitation zone, which requires more privacy, is shielded by a green façade. The green façade acts as a natural buffer, protecting the interior from heat, noise, and air pollution, while providing a restorative environment for those in recovery [18][19]. Figure 6 illustrates this façade strategy, showing the balance between transparency in public areas and the more solid, green-covered façade in private zones. The green façade not only enhances the building's aesthetic but also aligns with the therapeutic design principles of incorporating nature to promote healing and well-being.

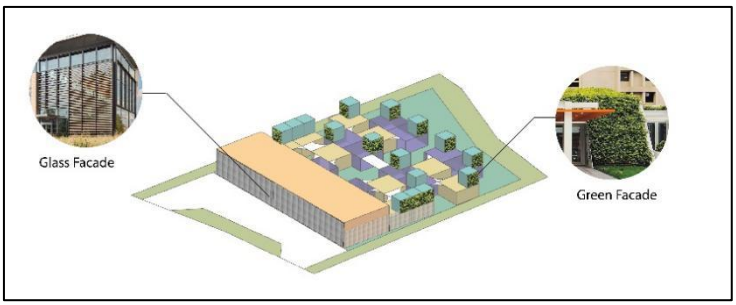

Figure 6. Façade arrangement strategy with g*lass façade* and g*reen facade*

4. Conclusion

The research offers important insights into design aspects and spatial variables that can facilitate the recovery of adolescents dealing with mild to moderate depression. By integrating two fundamental concepts—Environmental Psychology and the Healing Environment—the study leads to the development of a "Recovery Environment" model. This model identifies 10 critical variables that play a role in creating an effective healing

space. These variables include: Privacy, Personal Space, and Density; Sensory Consideration and Awareness; Organization and Independence; Comfortable and Homelike Surroundings; Positive Distraction; Social Interaction; Nature, Daylight, and Connectedness; Safety and Restorative Elements; Purpose; and Physical Activities. Among these, the Comfortable and Homelike Surroundings variable stands out, as it highlights the importance of comfort through sensory considerations such as thermal, visual, acoustic, and respiratory factors. By addressing these elements, the space becomes more conducive to mental healing, offering adolescents a supportive environment for recovery.

In addition to the theoretical exploration, the study also analyzed two precedent examples: the Duke Student and Wellness Center and the Sk Yee Healthy Life Center, which provided valuable insights into successful design strategies. Preference surveys were conducted with adolescents aged 15-24 to gather data on spatial preferences, further enriching the design framework. The findings from these surveys, along with insights from the precedent studies, were synthesized into comprehensive design strategies. These strategies focus on spatial organization, interior design principles, and façade considerations, culminating in a holistic approach to designing a community center that nurtures adolescent mental health recovery.

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6. Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper. The research was conducted independently, and all findings and recommendations are the result of the authors' unbiased analysis and conclusions.

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