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ภูมิทัศน์เพื่อการฟื้นฟูในชีวิตประจำวัน และความชอบของนักศึกษาในมหาวิทยาลัยตอนใต้ของจีน

Everyday Restorative Landscapes and Preferences of Students in a University in Southern China

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บทคัดย่อ

รายงานสุขภาพจิตแห่งชาติของจีนแสดงให้เห็นว่านักศึกษาในมหาวิทยาลัยมีระดับค่าความเครียดสูงขึ้น และเนื่องจากมหาวิทยาลัยเป็นสถานที่ที่นักศึกษาใช้ชีวิตเป็นระยะเวลานานในแต่ละวัน การจัดให้มีภูมิทัศน์ที่เอื้อสำหรับการฟื้นฟูสภาพจิตใจจากความเครียดจึงเป็นสิ่งที่ควรคำนึงถึง การศึกษาเรื่องนี้เก็บข้อมูลจากกลุ่มตัวอย่างนักศึกษาระดับปริญญาตรีในมหาวิทยาลัยทางภาคใต้ของจีนแห่งหนึ่งโดยใช้แบบสอบถามออนไลน์แสดงภาพถ่ายภูมิทัศน์ของมหาวิทยาลัยหกแห่ง ซึ่งอยู่ในบริบทใกล้เคียงกับมหาวิทยาลัยที่กลุ่มตัวอย่างกำลังศึกษาอยู่ เพื่อสำรวจภูมิทัศน์ที่นักศึกษาชื่นชอบและทำความเข้าใจในความสัมพันธ์ระหว่างภูมิทัศน์ที่นักศึกษาเลือกกับความเป็นไปได้ของการฟื้นตัวจากความเครียด รวมถึงความสัมพันธ์กับกิจกรรมประจำวันของนักศึกษา ผลการศึกษาพบว่ากลุ่มตัวอย่างมีแนวโน้มจะชื่นชอบในการทำกิจกรรมในภูมิทัศน์ที่ต่างกันไปตามแต่กิจกรรม นอกจากนี้ยังพบว่านักศึกษาที่มีระดับความเครียดสูงมีแนวโน้มจะชื่นชอบทำกิจกรรมในพื้นที่ที่มีความเป็นธรรมชาติสูง ในขณะที่นักศึกษาที่มีระดับความเครียดน้อยลงมามีแนวโน้มจะชื่นชอบพื้นที่ที่มีองค์ประกอบทางสังคมและวัฒนธรรมมากขึ้น

คำสำคัญ : ภูมิทัศน์ที่ชื่นชอบ, ภูมิทัศน์เพื่อการฟื้นฟู, กิจกรรมในชีวิตประจำวันของนักศึกษา, การฟื้นตัวจากความเครียด, ภูมิทัศน์มหาวิทยาลัย

Abstract

According to the “China National Mental Health Report”, in recent years, the stress level of Chinese university students has been increasing. Regarding students’ routines, since the campus is the place in which university students spend most of their times, it is necessary to optimize the potential of the campus landscape to provide students an everyday restorative environment where they can gain their psychological recovery while doing daily activities. Working with students in a southern Chinese university through landscape preference survey, this paper explored the nexus between landscape preferences, possible restorative effects and students’ daily activities. To allow each respondent to reflect his/her landscape preferences in the university context, photos of different landscapes chosen from six Chinese universities located in the southern part of China were provided as choices. Then, the preferable photos regarded as responded well for the designated activities were chosen. The results show that the students tend to prefer to do activities in landscapes with different characters depending on the types of the activities. Moreover, students with high stress levels tend to spend time in landscapes with nature-liked characters; while student with lower level of stress tend to prefer spaces with social and cultural elements.

Keywords: Landscape Preference, Restorative Landscape, Student Daily Activity, Stress Recovery, Campus Landscape

1. Introduction

The university students are at a special time in their lives, and they are prone to face various negative emotions. In the “2022 China National Mental Health Report”, among the 80,000 university students who participated in the survey, the detection rates of depression and anxiety risks were 21.48% and 45.28%, respectively (Fu et al., 2023). At the same time, the report also pointed out that, in recent years, the increase of pressure caused by the employment and study issues has also aggravated the psychological problems of Chinese university students.

Regarding the quality of student life, as most Chinese university students spend most of their time in campuses, the quality of environment in their campuses is an important factor effecting their daily lives. Therefore,

with the concern about students' well-being, how to make the campus environment play a restorative role has been regarded as important. Moreover, after the "Healthy China 2030 plan" (Li, 2020) was introduced, health management for the general public has become the center of attention; that is, focusing on the health of university students is in accordance with this national plan.

Focusing on the campus context, green outdoor spaces are everyday landscapes allowing student to access the natural world, and it seems that preferable landscapes is a key to provide potentially healing environment. People's preferences of the environment are related to the degree of the restorative effects (Van den Berg et al., 2003) The important point is, among university students, their landscape preferences and restoration needs can vary from individual to individual. Therefore, the further understanding linking to landscape preferences of university students should be explored.

2. Aim of Study

The main purpose of this paper is to gain a better understanding of the landscape preferences of Chinese university students and to explore the possible nexus between landscape preferences, daily activities and stress. The link between environmental preferences and recovery effects found from this study may allow designers and researchers to understand how university students adapt and improve psychological states through environmental choices. At the same time, the study will combine Chinese and Western healing theories to make reasonable suggestions for future campus landscape design and upgrading.

3. Literature Review

3.1 Definitions

Both China and the West have a long history of studying healing landscapes. The term "healing landscape" is defined as a green space specifically designed to benefit human health by reducing stress and promoting physical and mental recovery (Pouya & Demirel, 2015). Marcus and Barnes (1999) also point out that healing gardens or healing landscapes are green spaces providing specific therapeutic benefits for different groups of people; additionally, they are created for enhancing people's well-being and for holistically improving overall happiness on both physical and spiritual levels. Healing landscape is a broad term covering different kinds of gardens used for supporting health and well-being, namely therapeutic gardens, wellness gardens, restorative gardens, restorative landscapes, etc. Although they are often regarded as interchangeable terms; there are differences among them. While a therapeutic garden is designed to facilitate interactions between individuals and plants, and used as part of a treatment, rehabilitation and or vocational program for specific groups of users to (American Horticultural Therapy Association [AHTA], n.d.); a restorative garden is usually referred to a garden used for helping individuals recover from stress (Kaplan, 1995). That is, there are different kinds of healing landscapes that are designated for different target groups and in different contexts. This study focuses on everyday healing landscapes in a university which are regarded as potential relaxing spaces used by students for recovering from stress. Therefore, the term "restorative garden" and restorative landscape" are mainly used, and the issues related to the restorative spaces and their effects are the focus of this article.

3.2 Western Theories Related to the Restorative Landscape

Western scholars have explored the concept of restorative landscapes through a variety of studies and from different perspectives. Based on a corpus of research involving the healing landscape, it appears that Attention Restoration Theory (ART) and Stress reduction theory (SRT) are important theoretical foundation recognized by researchers. Proposed in the book - "The Experience of Nature" written by Kaplan and Kaplan (1989), ART states that the process of interacting with nature tends to help people to recover from mental exhaustion and the mentally overburdened state since when people interact with natural environment, they tend to turn into the involuntary attention mode. In this way, the restorative experiences occur. Restorative landscapes support people to restore their psychological resources, especially to reduce attentional fatigue. When being in restorative landscapes, people are allowed to temporarily escape from the pressures and demands derived from daily lifestyles, thereby gaining psychological relaxation and recovery (Kaplan, 1995). Kaplan and Kaplan (1989) also pointed out that restorative environments must contain four crucial components: being away, fascination, extent and compatibility. This means that to create a restorative landscape, it is crucial to make the landscape being a fascinated and preferable space that allow an individual to get away from the routine life to another world.

In 1983, Psycho-revolutionary Theory was proposed; and then SRT were introduced. The theory states that natural environments support recovery from stress, while man-made environments tend to provide the opposite effect (Ulrich, 2023). To create a restorative landscape, four aspects of the space must be retained: 1) sense of control and access to privacy 2) social support 3) physical movement and exercise 4) access to nature and other positive distractions (Ulrich, 1999).

Besides the theories mentioned above, a group of Swedish researchers has studied healing gardens in details. According to their studies, gardens are regarded as "outdoor rooms" and the garden rooms are categorized into eight characters: "Serene" (a peaceful and quiet space with no disturbing people), "Wild" (a space with fascinating with wild nature), "Rich in Species" (a space with diversity of animals and plants), "Space" (a space offering a restful feeling) "The Common" (a green space providing vistas), "The Pleasure Garden" (an enclosed, safe and secluded space), "Festive" (a space for festivity and pleasure) and "Culture" (a space with cultural/historical elements). Each character offers different restorative effects that match people who have different preferences and levels of mental well-being. Working with these eight garden room characters allows a researcher to explore the relationship between an individual and garden spaces with different appearances (Stigsdotter & Grahn, 2002).

3.3 Chinese Theories Related to Healing Landscapes

Chinese healing gardens also have a long history. As early as 2000 years ago in China, the "Yellow Emperor's Classic of Internal Medicine" clearly put forward the concept of the unity of man and nature. It is considered that human survival and health conditions are closely related to the environment. Also, classical Chinese gardens have usually followed the function of "Self-cultivation" (Li & Li, 2020). The Confucian philosophy of "self-cultivation" focuses on the way to develop innate human potential psychologically. The purpose of the concept is to cultivate personal characters through the process involving music, poetry, art and conversation (Tan, 2017). For the Chinese, a garden is a form of art connecting to both nature and culture. A garden is a place where people can connect themselves to the natural world and a place where people could escape from the chaotic world and gain spiritual stability (Zhang, 2018). Furthermore, a garden is considered as a place allowing people to learn about themselves and to approach to self-education that promote transformative aspirations (Bullington, 2024).

There has been some research on healing landscapes in modern China since the 1990s, but it was not until 2000 when Li Shuhua's article "Call for efforts to establish the horticultural therapy theory and practice with Chinese characteristic in the near future (part one)" (Li, 2000) first fully presented the idea of implementing horticultural therapy in China. This article introduced the Western concept of healing landscape to the Chinese. Additionally, He et al. (2017) defines wellness as a behavioral activity that integrates the external environment in order to improve the human body and mind and promote their continuous convergence to the best condition.

However, the concept of wellness landscape in China rather broad, it is related to Traditional Chinese Medicine (TCM), geography and philosophy, and it focuses on the rehabilitation of specific groups of people, as well as on the health maintenance of the general population. In addition, The concept of Chinese wellness landscape emphasizes the maintenance of physical and mental health through the uses of landscape by providing rehabilitation functions, supporting the behavioral characteristics of people of different ages, creating opportunities for social interaction and exercise, and improving concentration (Lin & Yang, 2020).

Nowadays, modern Chinese healing landscapes have incorporated the ancient Chinese concept of healing, which is still at its core concept - the "health preservation". Taoist "health preservation thought" advocates a unified view of health of "Form", "Qi" and "Spirit", which is in line with the concept of comprehensive health promotion put forward by the World Health Organization. The concept emphasizes the prevention of diseases. Traditional fitness exercises such as Tai Chi and Fitness Qigong are promoted as activities for strengthening the body (Yin, 2021). As the core concept of TCM, Chinese medicine focuses on the relationship between the human body and the natural world. The harmony between man and nature, balance and regulation are considered as keys of success. TCM pays attention to prevention and healthcare, so mental adjustment, physical exercise, reasonable diet, and regular routine are considered as standard practice in order to enhance the ability to resist diseases and the promotion of people's physical and mental health (Hou, 2017).

In summary, according to the Chinese concepts, health promotion and preventive medicine are the core of the practice. Gardens are the places where people can merge themselves with the natural world, and to do so, the health conditions can be enhanced. Furthermore, it is important to provide people places to work out and to adjust their mental state.

4. Methodology

4.1 Data collection

4.1.1 The research frame and respondent selection

Since undergraduate students were regarded as a major group of students in the selected university and they are the ones who spent the longest time on campus. By online system, this study randomly recruited 210 undergraduate students of a university in the southern part of China as respondents. Due to the timeframe and the budget, this study worked mainly with respondents from only one university where the main researcher could gain the access and find connections easily.

4.1.2 Survey and photo selection

Adopted a method used by Berto (2005) this study used landscape photos as media for investigating the relationship between individuals and restorative environments. Through an online survey, respondents were asked questions about their preferable landscapes for different activities or events.

According to (Stigsdotter & Grahn, 2002), this study also classified the characters of restorative into eight types. Photos from the websites of six universities were explored and chosen as examples of each type of the landscape characters. As mentioned above, this study worked with students from a university in southern China; however, to provide a range of landscape choices, photos circulated among the respondents were chosen from those six universities located in the same region. As the contexts of the area including sociocultural attributes, weather and vegetation were considered as factors affecting landscape preferences, it was necessary for this study to limit the zone of study within the same region. Therefore, certain questionable factors were reduced. See examples of selected photos in section 5.1.

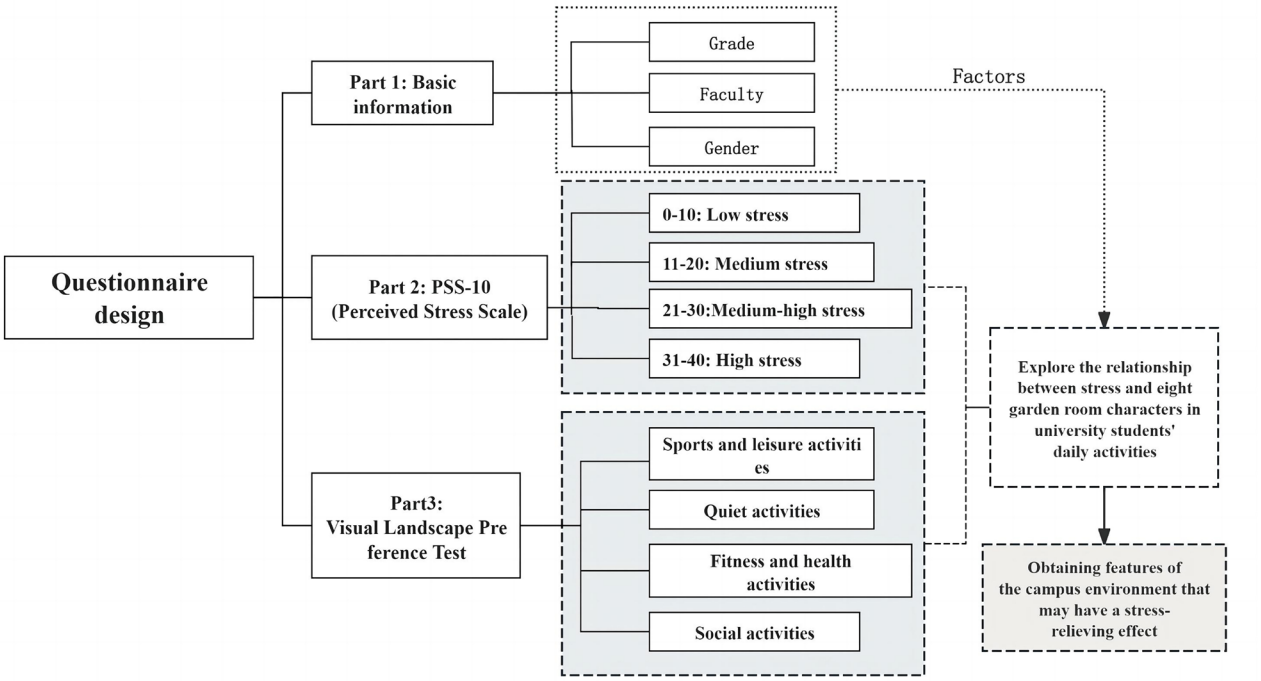
4.1.3 Categories of daily activities of university students

According to the compatibility aspect of restorative environments, an individual tends to gain stress recovery in the environment that matches the purpose and inclination of the individual. In such environment, the individual tends to feel comfortable and at ease with their activities (Kaplan, 1995). That is, an individual, quality of space, and activities done in the space must go well together. Therefore, in this study, the daily activities of university students were categorized, and then used in the questionnaire.

Based on the observation, four groups of activities were identified. First, the group of Sports and Leisure Activities which include sports with displacement activities such as running, walking, etc. The second group is Fitness and Healthcare Activities which covers non-displacement physical activities such as Tai-chi, dancing, etc. The third one is Quiet Activities which refers to activities such as reading and sunbathing which are activities done quietly. Lastly, social activities such as parties, clubs and dating activities are grouped in Social Interaction Activities category. These four groups of activities were put into the questionnaire and selected photos were sorted and placed together as choices of a preferable spaces that matched each activity for each individual.

Figure 1

The Structure of Questionnaire Designed for this Study



4.2 Questionnaire design process

This study mainly used the "Sojump (WJX)" applet on the WeChat platform as a tool for creating a questionnaire and collecting data. Currently the most widely used social application in China is WeChat. The "Sojump (WJX)" applet is deeply integrated with WeChat, allowing users to create and share questionnaires directly within WeChat without having to jump to other applications or websites, making it an efficient, convenient and safe way to collect data (Mei & Brown, 2018). The online questionnaire was designed to examine the landscape preferences of university students linked to their daily activities. Finally, the connections between stress levels and the garden room characters were explored.

Regarding the questionnaire, it is divided into three parts: the information of the respondents, the PSS-10 stress test and the Visual Landscape Preference Test based on university students' daily activities. The first part includes the student's grade, gender, faculty, etc. The second part is a stress test based on the PSS-10 stress test, which is a test widely used in the field of psychology. It consists of 10 items, which are designed to measure how unpredictable, uncontrollable, and overloaded circumstances of an individual (Cohen et al., 1983). The PSS-10 is scored on a 5-point Likert scale, with "Never" scoring 0, "Sometimes" scoring 1, "Sometimes" scoring 2, "Often" scoring 3, and "Always" scoring 4. Scores on the PSS-10 range from 0 to 40, with higher scores indicating higher levels of perceived stress. The respondents are normally asked to reflect their condition in the last month.?

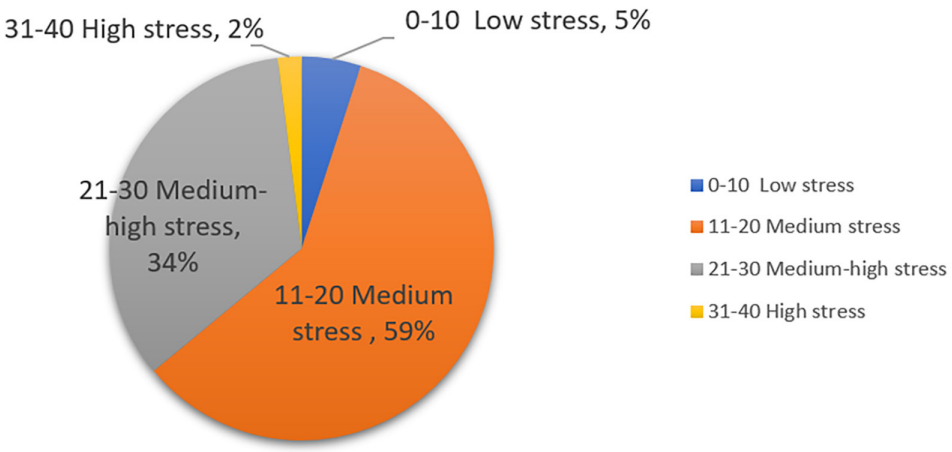
The landscape preference is investigated in the last part of this questionnaire. Photos are used as media for this exploration. Meta-analysis by photographs represents the direct experience better when assessing landscape preferences (Stamps, 1990). In this part, the landscape photos of six representative universities in southern China selected from their websites are shown. The questions are separated into four parts according to the categories of daily activities of the university students. Photos represent the eight garden room characters are placed as choices in each activity category. It is important to note that each selected photo showed dominant landscape character; but many photos did not contain only a single character. Therefore, all characters found in a photo were extracted during the analysis process.

5. Results

A total of 210 questionnaires were sent out, with 201 valid ones, representing a completion rate of 95.7%. Focusing on respondents, 74 were males and 127 were females, representing 36.82% and 63.18% in proportion. Then, according to the stress test, the respondents were categorized into four psychological stress groups ranging from low to high stress level, based on the PSS-10 scores: 0-10 (Low stress), 11-20 (Medium stress), 21-30 (Medium-high stress), 31-40 (High stress). It appears that 59% of the respondents is the majority group which is at the 11-20 Medium stress, and 34% of the respondents is at the 21-30 Medium-high stress (Figure 2).

Figure 2

PSS-10 Score Distribution chart



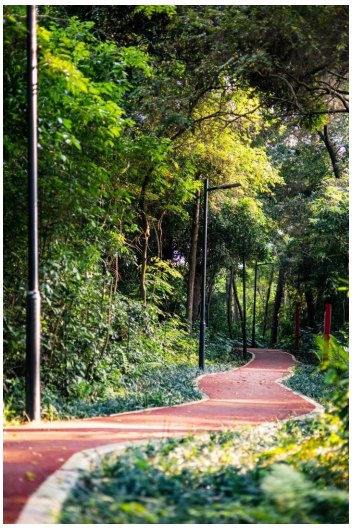
5.1 Students' landscape preferences for different activities

Sports and leisure activities: It appears that photos numbered 14-1 and 14-2 (Figure 3) are rated as preference significantly higher than other photos. This indicates that the university students perceive "Wild" and "Serene" as preferable landscape characters for sports and leisure activities. Furthermore, it can be noticed that photos with high percentage of vegetation coverage and trails for walking and running are seen as main features in those favorable photos.

Figure 3

The most popular photos in Sports and leisure activities

14-1 Serene



14-2 Wild, Serene

Note. Guangxi University. (n.d.). *14-1 Campus Boulevard* [image]. Guangxi University official website. www.gxu.edu.cn/info/1021/18800.htm

Guangxi Minzu University [@Guangxi Minzu University Weibo official account]. (2023, May 18). *14-2 Autumn atmosphere* [Photograph]. Weibo. https://m.weibo.cn/detail/4902808422455191

Quiet activities: In this group, photos numbered 15-2 and 15-6 (Figure 4) lead the way. These two pictures mainly reflect the garden characters of “Pleasure Garden”, “Wild”, “Culture” and “Serene”. What’s obvious is that there are pavilions in both photos, providing quiet resting spaces and plants of varying heights

Figure 4

The most popular photos in Quiet activities

15-2 Wild, Culture, Serene

15-6 The Pleasure Garden, Serene

Note. Damien [@xiaoyun1991999]. (2021, April 2). *15-2 The Hidden Corner of Minzu University* [Photograph]. Xiaohongshu. https://www.xiaohongshu.com/explore/6066c8b50000000021039445?xsec_token=ABttaF_t1pcP9IMZx_QXKp3v9S2C6y26aXgidykcdpe20=&xsec_source=pc_user

Shui Jiao Xue Bo Shi Hou [@4263317655]. (2023, October 3). *15-6 The sunshine spreads all over the campus* [Photograph]. Xiaohongshu. https://www.xiaohongshu.com/explore/651c3244000000001e032bc7?xsec_token=ABYrqVjtu3-nMuFSyNHKYJvw2jqOQaEHSosMSWUbjGecI=&xsec_source=pc_collect

Fitness and health activities: Photos numbered 16-6 are the most popular in this group; however, there are actually four photos in this group that have very similar popularity rate. It can also be inferred from the data that there is a diversity of people’s needs in terms of fitness and health activities. According to the popular photos, respondents perceive “Serene”, “Space”, “The common” and “The Pleasure Garden” at similar levels. All four photos 16-1, 16-4, 16-5, 16-6 (Figure 5) with similar prevalence rates reflect the preference for spaces allowing people to move.

Figure 5

The most popular photos in Fitness and health activities

16-1 Serene

16-4 Space

16-5 The Common

16-6 The Pleasure Garden, Serene

Note. Own work. (2024). *16-1 Small garden* [Photograph]. Zhongkai University of Agriculture and Engineering.

Own work. (2024). *16-4 Back garden* [Photograph]. Zhongkai University of Agriculture and Engineering.

Shui Yu Sha [@1046022611]. (2023, April 18). *16-5 Guangxi University in April already feels like summer* [Photograph]. Xiaohongshu. https://www.xiaohongshu.com/explore/643dfbb20000000013037db1?xsec_token=ABCF34ZFijY-bub5xULZSVx3qXXOPprVIOHdwWpCWLslc=&xsec_source=pc_user

Wu Jin Zang [@1086689066]. (2023, October 20). *16-6 Corner of Album Guangxi Minzu University* [Photograph]. Xiaohongshu. https://www.xiaohongshu.com/explore/65316bf1000000001e00dc17?xsec_token=ABFrnOc2qClL3wjXY3NSHYF3L1fspwnzRCeUKrZvUqMi8=&xsec_source=pc_collect

Social interaction activities: The photos numbered 17-2 and 17-5 (Figure 6) had the highest popularity rate based on social interaction activities, and the rest of the photos had similar popularity, indicating that the perception of garden character for socialization is very vary, in other words, all room characters should be taken into account when designing a campus environment that supports social interaction activities.

Figure 6

The most popular photos in Social interaction activities

17-5 The Common, Culture

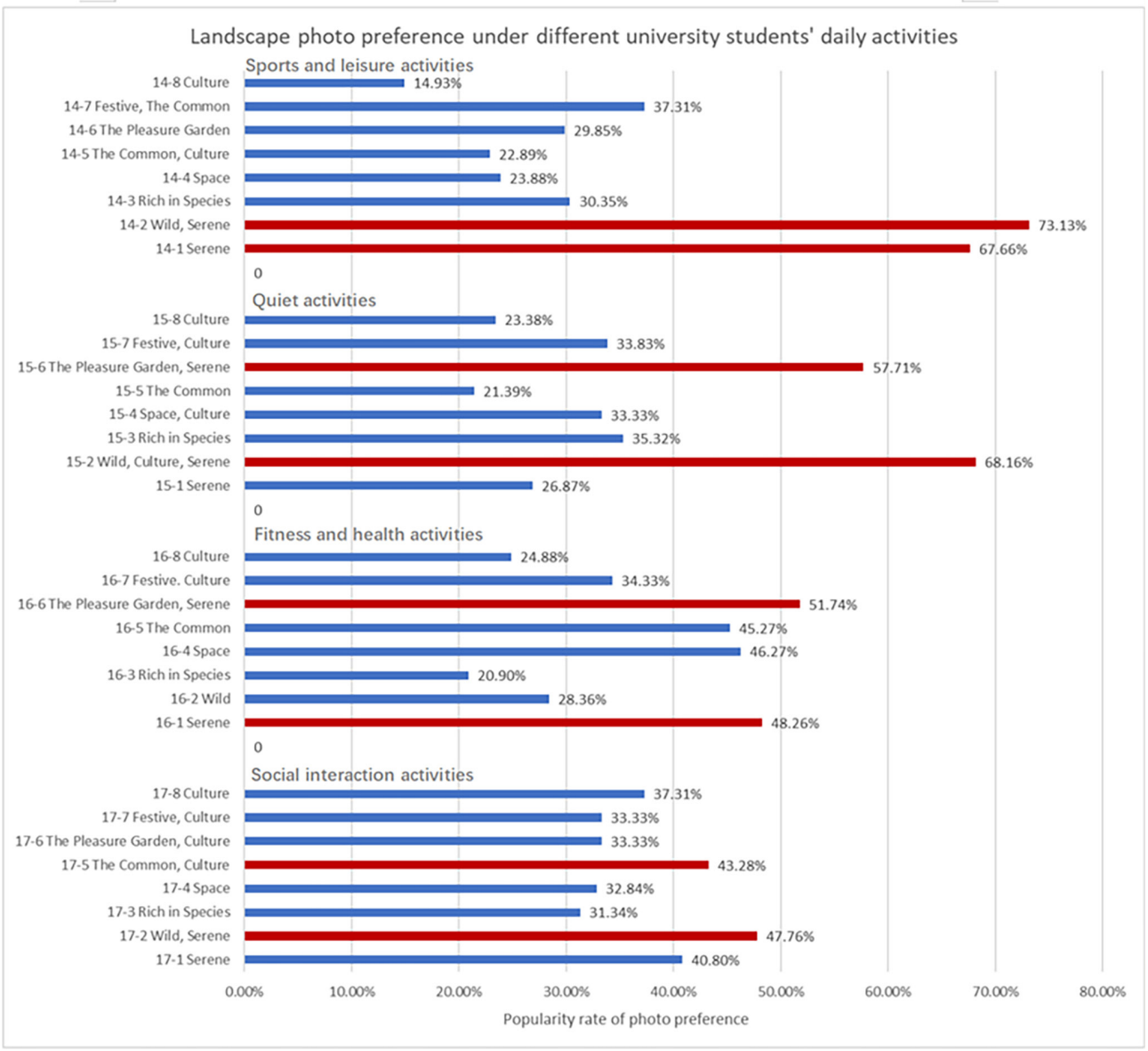
17-2 Wild, Serene

Note. South China University of Technology [@South China University of Technology Weibo official account]. (2023, May 25). *17-5 Wushan Campus* [Photograph]. Weibo. https://m.weibo.cn/u/5549605449?t=0&luicode=10000011&lfid=1076035549605449

Momo [@920717967]. (2023, February 25). *17-2 So many lakes at Guangxi University*. [Photograph]. Xiaohongshu. https://www.xiaohongshu.com/explore/63fa0fda0000000013016fe6?xsec_token=ABt-hvJvdX3oL7WFYkr_SLNzC2eE0yccuu4XtfRbrF7Ik=&xsec_source=pc_collect)

Figure 5

Landscape photo preference under different university students' daily activities



5.2 Relationship between landscape preferences and different stress levels

While working on the analysis process, the four group of daily activities were grouped into two types. The first type is the category of physical strengthening activities which include "Sports and Leisure Activities" and "Fitness and Healthcare Activities". Secondly, the category of emotional related activities including "Quiet Activities" which are generally solitary activities, and "Social Activities" which offer social interaction (Table 1).

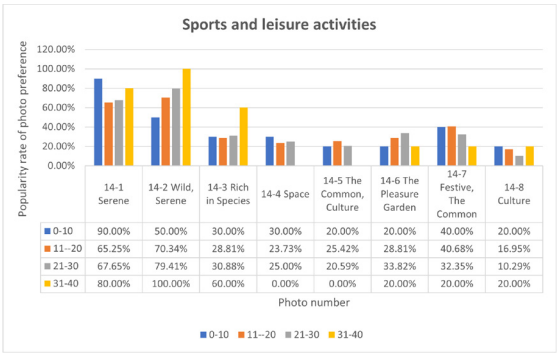
Table 1 *Classification of Chinese University Students' Activities Used in this Study*

Physical Strengthening Activities: Sports and leisure activities: running, walking, etc. Fitness and health activities: playing Tai Chi, dancing, using fitness equipment, etc.
Emotional Related Activities: Quiet activities: reading, sunbathing, meditating, resting etc. Social interaction activities: parties, club activities, meeting friends, dating, etc.

As can be seen from the figure 8, while in the Physical Strengthening Activity category, most students across the stress level groups rated for photos 14-1 (serene) and 14-2 (wild and serene), in the Fitness and health activity category, photos 16-4, 16-5 and 16-6 were voted as preferable. This reflects that the characters of "Space", "The Common", "The Pleasure Garden" and, particularly, "Serene" tend to be favorable spaces for students when they would like to do these activities. Noticeably, although the photo 16-6 which contain "The pleasure garden" and "Serene" characters tend to be preferred by almost every group of students for doing fitness and health activities, it gains less popularity from students with very low-level of stress.

Figure 8

Popularity rate chart of Physical strengthening activities



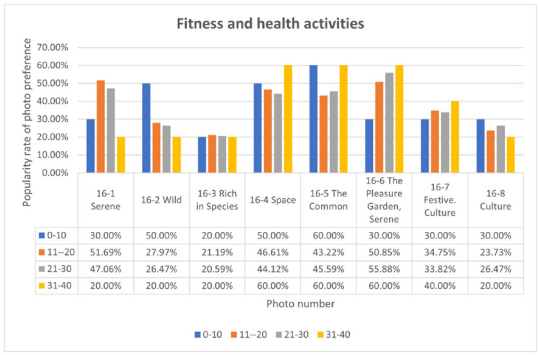
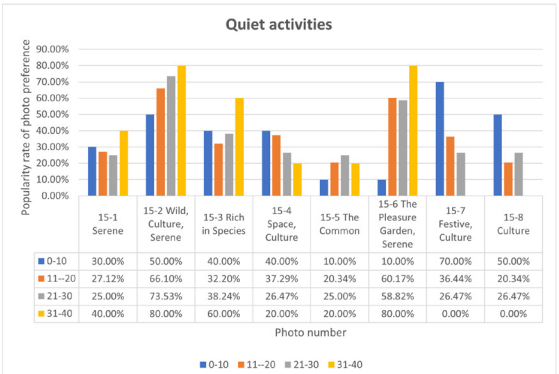
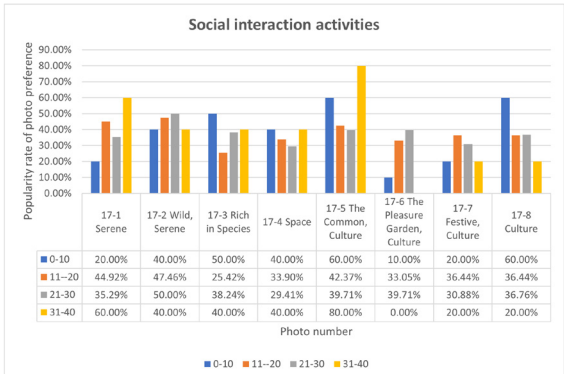


Figure 9

Popularity rate chart of Emotional needs activities





Regarding the emotional needs activity category (figure 9), the preferences for photos representing the characters “wild”, “culture”, “serene”, and “the pleasure garden” are greater among the stress groups. In should be noted that, for respondents in the pressured groups, the popularity for “the common” character is low for quiet activities; but photos with attributes of “the common” are more popular in the part of social interaction activities. In addition, there are significant differences in environmental preferences between high and low stress people in Emotional Related Activities. The low-stress group shows the diversity of preferable spaces for socialization and tends to prefer spaces with “open” and “expansive spaces” characters for the Emotional Related Activities. In contrast, high stress group tends to prefer “enclosed” and “naturalistic” spaces; while, photos with a high proportion of “cultural” character tend to be less attractive.

6. Discussion and Conclusion

As mentioned in the part of literature review, both western and Chinese concepts agree that spending times in outdoor green spaces properly can encourage well-being and support the recovery process. Mental restoration from stress is one of benefits that an individual may gain from interacting with surrounding landscapes. However, it is necessary that restorative landscape should be a preferable landscape that compatible for an individual who seeks for restorative experiences (Kaplan, 1995).

Regarding landscape preferences as important factor for making the campus landscape restorative, this study worked with students in a university in southern China. The findings show that the students tend to prefer landscape with different characters for different activities. Furthermore, the students with different stress levels tend to spend times in landscapes with different characters.

In details, for sport and leisure activities, students with all stress levels tend to prefer “Serene” and “Wild” landscapes; while, “The common” and “Space” characters are more preferable for fitness and health activities. It should be noted that while the photo that contain “The pleasure garden” and “Serene” tend to gain popularity among almost every group of students for doing fitness and health activities, it seems to be less attractive for students with very low-level of stress. For Emotional related activities, high-stress students tend to prefer landscapes with “Wild” and “Rich in Species” characters, and low-stress people tend to prefer landscapes with “Festive” and “Culture” characters. This finding supports (Bengtsson & Grahn, 2014) who point out that low-stress people prefer landscapes with active character blended with socialization and culture, while people with higher levels of stress prefer more passive and nature-like environment.

The findings of this study are expected to be added in as part of knowledge in the framework of healing landscapes. However, the limitation of the research is needed to be noted. Since the limit of timeframe and budget, the study worked with only a group of students in one university and the photos used in the questionnaire are the representative of campus landscapes in the context of southern China. Nevertheless, the findings are potentially to be applied to other similar groups of people and contexts. More future studies with wider range of respondents must be useful for both academic and design practice purposes.

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