

The effect of sport-related serious leisure on depressed emotions among Chinese international students in Britain

Introduction

Existing researches suggest that international students tend to face heavier stress and are more likely to develop depressive emotions and even further depressive symptoms than local students(1–4). One of the main challenges faced by them is acculturation(3–6), the process of adapting from one culture to another different culture(7), including language barriers as well as cultural conflicts(5,8). When facing this series of challenges, negative emotional reactions such as depression and anxiety of international students, who failed to adjust themselves well, might be aroused(9–11). Nonetheless, international students, especially those who come from China, because of traditional Chinese culture and the medical definition of mental illness as a somatization symptom, may believe that they are simply suffering from poor physical health instead of mental problems, therefore will not seek professional mental health services for help(10), which indicates that accessible methods of informal psychological intervention are significant for them. Some studies have shown that exercise or sport-related activities, particularly sport-related serious leisure (SSL), a purposeful and long-term persistence in pursuing higher levels of leisure activities(12), can effectively release these negative emotions(6,13). As a method of informal psychological intervention, SSL is easy to implement and be accepted by international students and might be an accessible method to help them to achieve acculturation more quickly.

To date, most research on SSL and the mental health of Chinese international students has focused on those in the United States. It has been shown that the acculturation process is longer and more difficult for international students from East Asia, especially China, due to greater cultural differences than for those

from Europe and the United States(2,14). According to the *Open Doors Report 2023* published by the *Institute of International Education* (IIE), there were about 87,000 Chinese students in the United States. However, from the latest figures released by the UK's *Higher Education Statistics Agency* (HESA), it has shown that there were more than 154,260 international students from mainland China studying in the UK in 2023, the number of which is almost double that of the US. Despite this, little research has focused on Chinese international students in the UK(CISU), whose mental health has been neglected for a long time. Meanwhile, existing research findings based on the US context are not entirely applicable to the UK, likely, cultural traditions and social contexts that are not the same in the two countries would have very different impacts on acculturation strategies and processes as well as informal psychological interventions for international students in the two countries(15,16). This gap is not only important for us to explore the current state of mental health of CISUs but also crucial to the implementation of effective psychological and non-psychological interventions for this group.

Therefore, our research determines to fill this gap by investigating the current mental health of CISUs and exploring accessible informal psychological intervention strategies, particularly the effect of SSL on their depression.

Methods

Research design

The aim of this research is to investigate the current state of mental health of CISUs and their subjective opinions of the influence of SSL on their depressive emotions. Existing research has shown that depression, anxiety and other negative mental problems are not uncommon among Chinese international students (5,10,14). When considering which research method would be more appropriate, although quantitative research methods can tell us the probability

of depressive emotions in this group and the measures used by them to cope with those negative moods, they cannot reveal the impact of the social, cultural, or historical context behind this phenomenon. For example, as mentioned before, previous quantitative studies have told us that 30-40 percent of Chinese students suffer from depressive emotions and rarely seek mental health help services. However, what quantitative research cannot reveal to us is that these students' culture and traditional medicine define somatization symptoms caused by psychological problems as physical health problems, which leads them to prefer to seek treatment from a doctor rather than a counselor(10). Moreover, our research focuses more on participants' subjective feelings and perceptions of depressive emotions and SSL, so we finally decided to use the semi-structured interview, a qualitative research method. The reasons for adopting semi-structured interviews rather than other qualitative research methods are as follows: Firstly, the research issue is relatively private, and a multi-participant method such as the focus group is likely to result in participants avoiding sharing their feelings in public thus making it difficult to collect useful information, so the semi-structured interview is preferred. Secondly, it can delve deeper into participants' feelings about their study abroad careers and their perceptions of the relationship between SSL and depressive emotions and can uncover the reasons behind this response by following the interview outline and asking follow-up questions(17,18). Finally, our research involves complex factors such as acculturation, culture shocks, etc., and the semi-structured interview can provide a more comprehensive perspective(19).

In addition, it is decided that both sides of the interviews in this research would communicate in Chinese for the following reasons: For one thing, in a research based on the Chinese cultural background like this one, communication in Chinese has the advantage of collecting the data required faster and more comprehensive. The dialogue between the two sides of the interview is not

simply an ask-and-answer session, the expression of delicate emotions and the capture of details are very important, communicate in their mother language (Chinese) rather than English allows both to express themselves more fluently and accurately(20). For another thing, the use of the mother language (Chinese) can bring both closer together more quickly and build trust more smoothly(21).

Participant

The whole research is expected to recruit 12 participants by the “snowball” recruitment method based on the theory named “Purposeful Sampling”. The sampling method of having acquaintances recommend new participants for the interview increases participants' sense of security and trust and improves recruitment success(21,22), which is very suitable for this research. Recruitment requirements are below: 1. International students aged 18-25 from China; 2. Currently being a student in the UK; 3. Have one or more SSL habits and keep it up to date; 4. Have suffered from negative emotions after studying abroad. The recruitment process will be conducted strictly in accordance with the criteria above, be transparent, and fair, and ensure the right of informed consent of the participants.

The recruitment process for this interview followed the requirements above, and a CISU was recruited through the social media platform "Rednote". He is 23 years old, has long experience of badminton exercise, and has suffered from depression emotions during his studies in the UK.

Data Collection and Analysis

This research conducts online interviews via Zoom, which are recorded throughout the process. Once the video is transcribed into a transcript, the transcript as well as the video will be uploaded to the researcher's P-drive at the University of Manchester with the participant's information blurred, and the

local archive will be deleted.

Data collected from interviews, in other words, transcripts, will be analyzed based on the Grounded Theory(23). First, is the familiarization phase. After the repeated reading of transcripts, researchers will identify concepts that appear with high frequency, such as “releasing stress”, “loneliness”, etc. Then, the open coding phase is performed. For example, "I felt the stress was released after playing badminton" - "stress release". This phase will be followed by the classification of the open coding and axial coding phase. For example, "depression relief", "stress release", "acculturation", etc. might be categorized into "effects of exercise". Finally, the Selective coding phase will be carried out to summarise the core theory related to the research questions: SSL can improve depressive emotions among CISUs by facilitating social support, but its utility is limited by cultural background and depth of negative feelings, and it is particularly less effective when a depressed emotion is high. What needs to be mentioned is that the above conclusion is not the result of real research, but is a reasonable assumption based on existing literature.

Ethics

To ensure that informed consent is considered, the interviewee will receive and be asked to carefully read the Participant Consent Form and the Participant Information Sheet three days before the interview and will need to sign to confirm their participation after fully understanding the purpose and significance of the research, as well as the potential harm to them (e.g., depressed emotions due to flashbacks of recalling the negative experience). Participants will be informed in advance that they have the right to end the interview at any time and that the interview will be recorded and uploaded to the school's P-drive, but will be strictly protected and anonymized, thus no need to worry about data leakage. The data will be kept for 10 years and will be automatically destroyed

after the expiry date.

The highest risk to participants in this research is the arousal of depression, anxiety, etc. The core issue of this research is to explore the alleviation of depressed emotions by SSL for CISUs, therefore it will inevitably arouse unpleasant memories in participants during the interview process and, to some extent, evoke negative emotions associated with them. To solve this problem, the approaches taken by the researcher are: Firstly, inform potential risks in advance, so that the participants can be mentally prepared. Secondly, pay close attention to participants' movements and expressions during interviews to ensure that they feel comfortable and are in a healthy state of mind. After the interviews are over, ask participants how they currently feel and whether they need mental health help services like consulting. The interviewee did not appear any significant adverse emotions during this interview and said that he did not need counseling, indicating that the study did not harm him throughout.

Finally, the sampling method chosen for this research, "Snowball", may lead to privacy issues and the potential for involuntary participation. "Snowball recruits new participants through referrals from existing participants, so the identity of the referrer is likely to be revealed. To solve this problem, the approach adopted in this study is for the referrer to provide the referee's email address and for the researcher to send recruitment adverts to the latter via email. In this way, there is no direct contact between the referrer and the referee, which not only protects the personal information of the referrer but also effectively avoids involuntary participation due to social etiquette or obligations arising from mutual acquaintance.

Interview Questions

The interview outline for this research is based on Berry's "Acculturation

Theory”(4), which suggests that when people belonging to one cultural group move into another cultural group, cultural integration, conflict, and other phenomena will occur. Individuals will adjust their behaviors and psychological states to adapt to changes in the new cultural context and finally reach a balance between the two sides: psychological adaptation, the changes in emotional stability and different levels of emotions, and social adaptation, the formation of new social networks and new achievements. The first question is posed based on the theory above: "During your time living in the UK, have you generally felt comfortable? What were the aspects that you found go well or more difficult?". This easy-to-answer open-ended question is designed to quickly build trust and prepare for a deeper discussion, in line with the step-by-step approach of qualitative interviewing(18). At the same time, the interviewer is also able to assess the interviewee's level of psychological adaptation based on what the interviewee tells him or her. However, at this moment the interviewee may avoid talking about his or her bad experiences and feelings for reasons of social etiquette and wariness. The second question, "What kind of sports or activities do you often attend in your daily life?", is used to determine whether the interviewee is engaged in SSL or not, and then logically asking question 3, "When doing this activity, did you feel more connected to others? Did this connection help you in your study abroad career?". This question stems from the impact of social support on acculturation, where Berry suggested that social support significantly reduces acculturation stress. Meanwhile, this question can further explore whether the interviewee is actively engaged in integration, i.e., embracing new cultures while retaining his or her own. Question 4, "When you were feeling down, did exercise help you to relieve that emotion? Is this different from other methods (e.g., resting or talking with friends)?", explores whether SSL can improve the mental health of interviewees, and if it can, what is its mechanism of action and how does it differ from other ways of release negative moods. The fifth question is "Some people hold such

a view that 'When you feel unhappy, go exercise,' what do you think of this opinion?". By discussing a quote with the interviewees, question 5 aims to take a sideways perspective at the interviewees' views of SSL and depressed emotion to enrich the perspective of the interviews. In the end, use a summary question to end this interview: When summing up your experience, what do you think has been the most helpful aspect of this activity to your study abroad career? The last question captures the interviewee's perception of the relationship between SSL and mental health from a holistic perspective and provides the possibility of theoretical integration into this study through a reflective response(17).

Critical reflection

In short, this interview went well overall, but there are still some aspects that could be improved, which are as follows: firstly, the interviewee's body language was not well observed. This is because this interview was conducted through Zoom, and the interviewer forgot to emphasize the importance of the camera angle beforehand, which resulted in the interviewee's camera being on the high side and not being able to observe his hand movements well, and may have led to some of the information conveyed by his body being ignored. One experience that can be concluded from this shortcoming is that before the interview formally starts, the interviewer must make sure that the interviewee's camera can capture his or her upper body in full when conducting an online interview. Secondly, the interviewee initially avoided talking about depressive emotions and started to share his feelings about them until the second half of this interview. However, due to the time limitation, depression-related topics were not thoroughly explored. In subsequent interviews, the interviewer has to find ways to build a trusting relationship as quickly as possible to explore the research's main issue in more depth. Last but not least, the interviewer's shy and introverted personality led to several opportunities for in-depth questioning

being missed. For example, the interviewee had mentioned things that had been difficult for him since coming to the UK, both interpersonally and academically. And because he had avoided similar negative topics many times before, the interviewer's first reaction was to comfort him instead of probing the issue. In hindsight, the interviewee's expression at that time was not reluctant, and if the interviewer had pursued the question in time, this interview might have been able to get to the main issue more quickly, digging deeper into the impact of badminton (SSL) on the interviewee and how it could have eased negative emotions for him.

Fortunately, apart from the slightly regrettable points above, this interview has completed the data collection of the required information: (1) The sport (badminton) that the interviewee plays belongs to SSL, as he has been playing badminton for a long time, and deliberately trains his skills to enhance his strength. (2) Currently, he is in a good mental health state but still has occasional depressed emotions and mild depressive symptoms in his life (not formally diagnosed). (3) He thinks that playing badminton does help him to release bad emotions, but if he encounters emotions or events that are extremely bad that he can't get rid of them, he usually feels so tired that the only thing he wants to do is lying in bed and having a deep rest, and it's difficult for him to have the energy to relieve himself play badminton. The successful collection of these materials was made by thorough pre-interview preparation and the flexible but rigorous feature of the semi-structured interviews: The interview outline (the structured section) helps the interviewer to keep the conversation on topic throughout the interview and to efficiently obtain the information needed while the unstructured section allows the interviewer to follow up with questions that often related to more subjective and more in-depth information.

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Appendix

Interview Questions

1. 在英国生活的这段时间，您总体感到适应吗？有哪些方面让您觉得比较顺利或者比较困难？

During your time living in the UK, have you generally felt comfortable? What were the aspects that you found go well or more difficult?

2. 在平时你会参加什么样的运动？

What kind of sport or activity do you often attend in your daily life?

追问：您是否有固定搭档？您的搭档们的文化背景是什么？您是否有计划性地提高自己的运动水平？

Follow-up question: Do you have fixed partners? What are the cultural backgrounds of your partners? Do you have a plan to improve your skills?

3. 在参与运动的过程中，您是否感到与他人的联系增强了？这种联系对您的留学生活有帮助吗？

When doing this activity, did you feel more connected to others? Did this connection help you in your study abroad career?

（追问）文化背景对您在国外参与这项运动有怎样的影响？

Follow-up question: How has cultural background affected your participation in this activity in a foreign country?

4. 在您感到情绪低落时，运动是否帮助您缓解了这种情绪？这是否与其他方法（如休息或与朋友聊天）有所不同？

When you were feeling down, did exercise help you to relieve that emotion? Is this different from other methods (e.g., resting or talking with friends)?

5. 很多人都说, '不开心的时候就去运动一下', 你对这句话怎么看?

Some people hold such a view that 'When you feel unhappy, go exercise,'
what do you think of this opinion?

(追问) 在什么情境下您更愿意选择运动? 哪些情绪或压力通过运动更容易缓解?

Follow-up questions: In what situation are you more likely to choose this
activity to release your bad moods? What emotions or stresses are more
easily relieved by it?

6. 在总结您的经历时, 您认为这些运动对您的留学生活的最大帮助是什么?

When summing up your experience, what do you think has been the most
helpful aspect of this activity to your study abroad career?