

Chinese Indigenous Intervention on Internet Gaming Disorder: A Review of Traditional Chinese Therapies

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ABSTRACT

Internet Gaming Disorder (IGD) was categorized as a mental disorder by ICD-11 in 2018; increasing studies explored the effects of interventions and possible factors that correlated to etiology. Although Western therapies have advanced globally, native Chinese therapies provided a unique perspective to analyze and treat gaming disorders. This study reviewed and elaborated in-depth to introduce traditional Chinese therapies, including Traditional Chinese Medicine (TCM) and Buddhist approaches. This study systematically summarized the principles of therapies of TCM and Buddhist approaches and how they work for IGD. By reviewing the Chinese perspective's etiology and pathogenesis, traditional Chinese pharmacology, dialectical diagnosis, acupuncture and physical therapies, psychotherapies, and Buddhist approaches, this study pointed out the differences between Chinese indigenous therapies and Western therapies. In addition, we discussed the uniqueness of oriental philosophic interventions for building a bridge between Western and Chinese conversation in the development of clinical cross-cultural practice.

Keywords: *Chinese indigenous intervention, therapies of Traditional Chinese Medicine, internet gaming disorder, internet addiction*

1. INTRODUCTION

Many people deal with time by gaming, and a Chinese survey found out that the prevalence of epidemiology of gaming disorder reached 17% in China [1]. The game industry has developed rapidly during the pandemic due to travel restrictions and limited face-to-face social interaction [2]. Due to much time being quarantined at home; people are isolated from familiar social interaction and support; this makes people turn to connect on the internet. What might be the problem is that isolating for a long time may cause depression and behavioral dysfunction. Tras found that lonely individuals are at high risk for Internet Gaming Disorder (IGD) [3]. Gaming gives lonely individuals a way for self-soothing and shifting attention, but it is also a way of narrowing cognition on the game. Although some individuals play games in their spare time with functional life, others find it difficult to distract from gaming, even though they have noticed the negative

consequence of impairment of social functioning. Whether gaming is a problem in our life?

This study only discussed pathological gaming that people are addicted to the internet. Internet Gaming Disorder (IGD) is a pathological gaming behavioral pattern characterized by loss of self-control for gaming, loss of interest for previous hobbies, avoidance of distress or negative emotions, withdrawal, and tolerance symptoms [4]. ICD-11 defines gaming disorder as impairment of control for gaming, increasing priorities for gaming than other hobbies and daily activities, continuing gaming despite negative outcomes [5]. In the dialectical diagnosis of TCM theory, behavioral addiction is caused by an imbalance of five organs, e.g., *Xin* (heart), *Gan* (liver), *Pi* (spleen), *Fei* (lung), *Shen* (kidney), and dysfunctional Qi, and imbalanced blood dynamic [6]. This unique philosophic thinking differs from Western clinical interventions, and Western psychology has little progress in exploring how TCM affects IGD. In addition, most Chinese native studies either intervenes IGD by practicing Western

approaches, such as Cognitive Behavioral Therapy (CBT), dialect behavioral therapy (DBT), behavioral therapies, etc. or practicing TCM without comparing Western approaches. As a result, researchers do not know if there are overlaps between the two streams. It only makes sense that either Western intervention or Chinese intervention can treat IGD, but we do not understand if they have connections, similarities, or differences in practice.

Given the fact above, it is important to figure out how traditional Chinese therapies work for IGD. This study summarizes previous Chinese interventions' studies to elaborate on Chinese interpretations of IGD's mechanism and the effect of different therapies. This study reviewed the mechanism of IGD in traditional Chinese thinking, traditional Chinese pharmacology (including herbal decoction, formula or prescription), traditional Chinese physical therapies and psychotherapies, and traditional Buddhist therapies trying to discuss how Chinese indigenous therapies treat IGD patients. This study also compared each part with some of the current Western interventions to distinguish differences between Chinese understanding of etiology and Western beliefs in modern medical science, which builds a bridge to the Western clinical conversation on IGD and broaden the holistic perspective of cross-cultural interventions to future studies.

2. METHODOLOGY

This study was conducted by using database of Web of Science, National Knowledge Infrastructure (CNKI), and Google Scholar. The terms and derivative keywords were searched around the topic of "Internet Gaming Disorder", "internet addiction", "game addiction", "traditional Chinese intervention", "Chinese therapy", "multicultural treatments of IGD". Sources were screened by the following criteria, (i) filter studies that have been published after 2010, but studies that TCM is related to IGD are hard to be found in recent years. Therefore, traditional Chinese therapy-related studies are the exception. (ii) contain clinical experiments and interventions; studies should be based on either data-based experiments and trials or clinical cased studies and interventions with aftereffects. (iii) for traditional Chinese therapy, it has to be that Chinese clinical interventions can be repeated in other studies that some other Chinese researchers retested the results. Through all processes, this study reviewed 44 sources for this exploration.

3. MECHANISM AND CHARACTERISTICS OF IGD

3.1. Biological Mechanism

There is a unique difference in interpretation of pathology between traditional Chinese medical science

and Western medical science. The thinking pattern and medical philosophy derive in two distinct ways: traditional Chinese medical science is based on macro-perspective of natural and universal science, while Western medical science is based on micro dialectical logic. Western medical science pays more attention to the development of the science of experiment, microchemistry, and anatomy, which attributes etiology to a biological and constructivist perspective [7]. By contrast, traditional Chinese medical science categorizes and summarizes the universal and natural experience from long-term observation and medical attempts. Therefore, it is an experienced science that connects the Tao of body-science to the philosophical system of the macro universe, which forms its unique theoretical system [8]. As is known that genetic issues may trigger gaming addiction, but this study excludes genetic factors to discuss IGD.

Biological view interprets Western understanding for etiology. The biological mechanism of internet addiction and the biological basis of drug addiction have many overlaps [9]. The reward system in the brain includes the prefrontal cortex, nucleus accumbent, amygdala, hippocampus, striatum, midbrain, etc. Those are considered important areas for the production and maintenance of addictive behavior [10]. This system can strengthen people's learning behavior, enhance the response to the cues of a specific stimulus, and guide future behavior trends [11]. Researchers did Functional Magnetic Resonance Imaging (fMRI) test and found that when addicts watch video games, the brain area of the reward pathways showed stronger activation than normal individuals [12]. The reward mechanism of game addicts is activated due to the euphoria that got from gaming addicted behavior. This experience promotes the midbrain limbic system to produce more dopamine, which makes addicts crave addictive behaviors. At the same time, in the reward system, gamma-aminobutyric acid (GABA), which is responsible for inhibiting dopamine neurons, is inhibited by the effects of long-term addictive behavior.

Meanwhile, dopamine secretion in the midbrain limbic system is sensitized and causes addicts to have a stronger impulse to engage in addictive behaviors. This impairs addicts' ability to control addictive behaviors and their craving to binge in addictive behaviors [13]. According to the research [14], 5-hydroxytryptamine (5-HT) hormone levels in addicts are reduced. Therefore, the imbalance of 5-HT may also trigger IGD, and the imbalance of norepinephrine gives rise to anxiety and depression. Depression is also positively correlated with IGD [15], which means that people with imbalanced norepinephrine are more likely to become internet game addicts. Besides, many Event-Related Potential (ERP) tests have shown that game addicts have a cognitive impairment, suggesting that dysfunctional cognitive

mechanisms can cause addictive behaviors and have a problematic impact on the brain in the long term [16].

Traditional Chinese view interprets the etiology of IGD. In the theoretical system of TCM, the cause of IGD is the imbalance of emotions mainly from the excessive pursuit of *Xi* (manic rejoicing or over-joy). The imbalance of emotions will cause dysfunctional metabolism of internal organs, which believes TCM is that physical illnesses originate from the dissonance of emotions. Thus, this imbalance will trigger dysfunction of decision-making and mental disorders. "Once *Shen* (spirit) is impaired and depressed, the mind will be in disorder" is one belief of TCM, which means disordered individuals do not have functional dynamics in brain circuits due to the lack of endogenous spirit to regulate the physical systems, which exacerbates addictive behaviors [17]. There is overlap in IGD between Chinese and Western medical views that the effect of excessive *Xi* in Chinese medical science is equivalent to what Western medical science believed. The concentration of dopamine is too high to affect maladjustment. The concept of "Weaken *Shen* (spirit) causes mental disorder", originated from TCM, is similar to the cognitive impairment in the brain dysfunction of addictive behavior in Western understanding.

3.2. Personality Perspectives

Some personality and traits' views of TCM and Western science are the same, which depressive personality causes internet addiction. Chinese and Western medical science has explored the connection between specific psychological traits and internet addiction behaviors. According to Kim et al. [18], people with evasive psychological traits are highly associated with depression. Avoidant personality has a higher probability of internet addiction, which gives rise to a dysfunctional coping pattern for the inability to deal with negative feelings functionally. Traditional Chinese medical science has its unique method of classification. In the theoretical system of TCM, the depressive trait is similar to the Western personality classification. Song, Wang, Tan, & Zhang [19] discussed the traditional Chinese emotional theory of *Qing-Zhi* (five main emotions) and found out that people with depressive characteristics and traits are more likely to present internet addiction due to a lack of alternative coping strategies.

Some personality and characteristics' opinions of TCM and Western science are opposite. Western studies found that people with traits of aggression, self-controlled and narcissistic personalities are more likely to become internet addicts [20]. However, TCM has its unique theory of the category of traits and characteristics. Chinese researchers abstracted the perspective of TCM that internet addicted patients

usually have emotional regulation problems [19] because their *Qi* is stuck in latent metabolism, which causes stagnation of *Qi*. In Chinese beliefs, Dysfunctional *Qi* is a type of personality that is partially born as a depressive pattern of traits, which TCM called "the trait of blood-stasis". This trait presented that individual easily feel agitated and irritable, but they tend to express their emotions to social networks [21], surprisingly, less likely to become IGD. According to Song, Wang, Tan, & Zhang [19], this trait does not present a higher tendency for game addiction. There is no concrete explanation for this phenomenon.

3.3. Social Interactions

Family relationships and social skills are important causes for IGD. Interpersonal communication and family relationships both play a vital role in IGD. According to Zhang et al. [22], there is a negative correlation between family relationships and game addiction, and children are born in families that have tensions in surrounding are more likely to addict to gaming. Meanwhile, loneliness is another factor that indirectly affects game addiction. Children who live in a tense environment are more likely to indulge in gaming due to depression and loneliness [22]. Similar to family relationships, the ability of functional social interaction is also highly correlated with internet addiction. A study has shown that individuals who lack social support and have social anxiety tend to present a higher tendency to develop IGD, and the higher level of social anxiety, the higher the tendency individuals will have internet addiction [23].

Internet addiction also exacerbates social phobia and avoidant behavior, which worsens a behavioral circular back and forth. According to Wang, Wang & Duan [24], internet addicts have a high degree of social avoidance, which makes them isolated and avoid social networks in real and causes a higher tendency for IGD due to lack of social support, social skills, and interpersonal flexibility. Thus, family relationships and social flexibility can be seen as important aspects highly related to IGD.

4. TRADITIONAL CHINESE THERAPIES

4.1. Chinese Psychopharmacology

Chinese decoctions, formulas and prescriptions are effective in the intervention of IGD. Studies showed that a reward system in the brain is composed of many neurotransmitters, such as dopamine, acetylcholine, and endorphins. The main purpose of medication is to treat dependent behaviors, calm the clue of sensing the euphoria, and disconnect the craving from previous addictive experiences, limiting and decreasing the imbalance of physiological, endocrine hormone levels from reward mechanism and maladaptation [25]. There

was a patent of herbal decoction approved by the China National Intellectual Property Administration (CNIPA) in 2010. It is to treat internet addiction specifically, is made of “Yunling, Qingbanxia, Zhuru, Danshen, Muli, Gouteng, Shigao, Dannanxing, Dangshen, Longgu, Gancao, Chenpi, Zhiqiao, and Qingmengshi”, has 1000 internet-addicted patients’ data to prove that Chinese herbal decoction and formula can treat internet addiction effectively and mitigate the obsessive impulse for relapse [26]. Liu et al. believed that “Dansha”, “Fuling” and “Baiziren” not only can nourish the internal metabolic kinetic systems but also help for sedation [27], which wise mind will help IGD patients to get rid of rigid behavioral gaming patterns and narrow cognition from the game.

Substances and drugs are different between Chinese and Western medications. The effect of scopolamine is well-practiced in China, which is to inhibit cerebral cortex over-excited reactions that the obsessive gaming behaviors are decreased by effect of sedation. Liu et al. did a study that they collected 40 cases for testing the clinical efficacy of drug intervention of Internet addiction syndrome. Forty patients are diagnosed with Internet Addiction Disorder according to Kimberly S. Young’s criteria scale, and the sampling was randomly selected for medication. The target medicine was scopolamine, which taking a dose of scopolamine (0.02 ~ 0.03 mg/kg) once a day and kept taking 3-5 days, the results showed that the physical condition of the 40 patients was significantly improved after the treatment, and their dependence of gaming was reduced [25]. Western typical medications are in a stream that either takes antidepressants, such as SSRI, SNRI, some atypical agents, or ADHD medicines for treating IGD, such as methylphenidate, atomoxetine, etc. Zajac, Ginley, & Chang found out that bupropion, escitalopram, atomoxetine, and methylphenidate are significantly effective in decreasing preoccupation time of playing games and symptoms of IGD [28]. Although both Chinese and Western pharmacology has proof that their clinical treatments are effective in realistic practice, TCM is unique in that herbal ingredient of TCM have complicated interactions with metabolic enzymes and transporters. The targeted connection between herbs and receptors is also more complicated in pharmacokinetics [29, 30].

4.2. Traditional Acupuncture and Electroshock

Traditional acupuncture and electroshock are effective in the intervention of IGD. Acupuncture is a traditional Chinese intervention that has made a scientific basis in clinical trials for the treatment of IGD. Acupoints, such as Baihui, Shenting, Neiguan, Hegu, Zusanli, Sanyinjiao, Taichong are used in TCM to invigorate and calm the mind from IGD [31]. One of the meanings of using acupuncture to stimulate these

acupoints is to eliminate the discomfort after treatments. In the map of acupoints, Baihui is essential. Zhang and Liu only placed Baihui and its series of points for the clinical intervention of internet addiction, and they found that it is significantly effective in relieving the desire and craving [32], which helps relieve anxiety and nervous tension and promote mood and promote mood concentration. Although few studies focus on correlations between acupuncture and withdrawal regulation, nervous tensions once relieved, it is reasonable to indicate that intervention of IGD with Baihui related acupoints may be helpful to mitigate IGD.

The effect of the point of Baihui is core in traditional electroshock. The original use of the Baihui series of points was found in *Huangdi Neijing* [33]. Researches screened 20 adolescent patients by the Kimberly S. Young Internet Addiction Scale (KSYID) to treat Baihui series of acupoints and proved Baihui point’s intervention [31]. Zhang and Liu repeated Baihui and its related acupoints for the retest. Researchers recruited 68 participants for the experiment and divided them into two groups, 34 internet addicts for treatment of Baihui series of acupoints and 34 internet addicts for other acupoints without Baihui and its related points. According to the test results, the effectiveness of Baihui and its series of points of the treatment group was 94.1%, and it is greatly higher than the control group (effectiveness 76.5%), which group did not place Baihui series of acupoints [32]. The Baihui related acupoints’ experiment showed that acupuncture electroshock is an effective intervention and has feasibility for treating IGD.

4.3. Traditional Chinese Psychotherapies

4.3.1. Psychotherapy of TCM

The psychotherapy of TCM is one of the traditional Chinese psychotherapies. It has been recorded in many famous ancient books such as *Huangdi Neijing* [6], which can be retrospective to 3000 years ago. The original name of psychotherapy of TCM is “Zhu-you-shu”. According to the theory of TCM, psychological factors played a critical role in the development of physical diseases. TCM developed some valuable psychotherapies, but this article only discussed two typical psychotherapies that clinicians usually practice, which are “Emotion Predominating over Emotion Therapy” and “Five-element Music Therapy of TCM”. Generally, psychotherapies of TCM are based on human spiritual developments and traditional Chinese culture. It explained the causes and treatments of several mental disorders. Compared to the Western psychotherapies, those psychotherapies stand in Taoist and healthy holistic perspective to heal and correct covered mental problems, which those hidden roots of psychopathology

make individuals feel somewhere not comfortable. However, the etiology is not clear. For example, no significant physical illnesses are tested to be aware of, or they are not yet presented to influence social functions. TCM psychotherapies play an important role in adjusting those not comfortable feelings for help when those situations happen. Psychotherapies of TCM combine body and mind, regulate and nourish the body and mind, and alleviate mental disorders from mind changing, cognitive and emotional therapy (cognition and emotion changing), and volition enhancement therapy (improving adaptability and social functioning).

4.3.1.1. Therapy of “Emotion Predominating over Emotion Therapy” of TCM

Therapy of “Emotion Predominating over Emotion” is a therapeutic method that five emotions interact to control and eliminate morbid emotional changes, which is an effective therapy in psychotherapies of TCM. This therapy is using for treating psychosomatic disease and mental disorders due to excessive changes of emotions. The theory of “Yin and Yang” and “five elements” proposed that individuals who achieved “Harmony of Man and Nature” showed that they are in a higher state of internal and external balance, and illness and disorders will not be triggered [34]. This method suggested that it is important to modify pathological behaviors by treating excessive and harmful emotions, and it contains five main categories of dysfunctional emotions of human beings: manic rejoicing or over-joy, anger, anxiety or worry (including grief and sorrow), contemplation or pensiveness, terror or fear (including fright). Those five main categories of dysfunctional emotions restrict and emotive each other, such as grief prevailing over anger, anger prevailing over contemplation, contemplation prevailing over fear, fear prevailing over over-joy, which the imbalanced five emotions are interacted and can be treated by each other in some way. The essence of “Emotion Predominating over Emotion Therapy” is the Huo-Tao technique, which uses immediate positive events to make patients transfer negative thoughts to supportive strength that helps broaden the range of attention and distract obsessive behaviors. This approach is proved effective for intervening in internet addictive behavior [35]. Li reported a case study about “Emotion Predominating over Emotion Therapy” of TCM and conducted the Huo-Tao technique in a 14-year-old adolescent, and found it was effective in calming down this patient and helped him focus on social routine rather than social routine gaming [36].

4.3.1.2. Five-element Music Therapy of TCM

The five-element music therapy is another therapy in psychotherapies of TCM. It is also called “Wu-xing music” that is based on the ancient theory of “five tones

treat disorders” from *Huangdi Neijing* [6]. In this theory, five unique tones correspond with five emotions and five organs’ functions [37]. This therapeutic method is to soothe and refresh the mind and diffuse and unblock the flow of “Qi” and “blood”. Researchers introduced that the tone of *Gong* symbolizes “soil” and “*Pi* (spleen)”, which *Gong* affects the *Pi* and helps the metabolism and digestion, while Western medical science only regards spleen as a lymph organ; the tone of *Shang* symbolizes “metal” and “*Fei* (lung)”, which is responsible for maintaining *Fei* function, protecting kidney, soothing liver, purging dryness-heat of spleen and stomach, and strengthening the internal dynamic of “Qi”; the tone of *Jiao* symbolizes “wood” and “*Gan* (liver)” which *Jiao* affects *Gan* function, and it helps to alleviate depression, ceasing anger and furious mood; the tone of *Zhi* symbolizes “fire” and “*Xin* (heart)” that *Zhi* touches *Xin*, which it helps nourishing heart, invigorating spleen, benefiting lung, and it also helps to not only control the circulation of “blood” but also control functional “thinking” for regulation of “blood”, purging liver’s dryness-heat, which means that TCM suggested that *Xin* has part of brain’s function that assist assignment of circulation, but Western medical science does not have this concept for heart; the tone of *Yu* symbolizes “water” and “*Shen* (kidney)”, which has reproductive function and inspiration-promoting function, and it helps to nourish the mind and to calm, and to promote wise awareness [38, 39], while Western medical science does not include such explanation.

This therapy is controversial. Although little research showed the direct impact of this therapy in treating IGD, there is a study showing effectiveness that five-element music plays an important role in treating mood disorders and negative emotions [40]. Therefore, it is reasonable to indicate that this method can treat emotion-impaired IGD. Compared with Western music, this systematical music is composed of five scales, while Western melody composes seven heptachords. Five-element music has five scales that are “*Gong, Shang, Jiao, Zhi, Yu*” [38], which syntax and rhythm of the music are from classical indigenous Chinese instruments. It arouses the resonance of sound waves to act on the cerebral limbic system and the brain reticular structure. There is evidence from EEG study that Chinese classical music can well-regulated the activities of brain neurons and relieve anxiety and other negative emotions by reversing excessive harmful negative emotions (the value of α_2 on the EEG spectrum of Chinese traditional music is significantly higher than the value of normal Western music group) [41]. To summarize, although little data-based research showed concrete reports about the effects, it is still valuable to explore how this therapy works for IGD patients who suffered uncontrolled negative emotions and intrusive negative thoughts.

4.3.2. Buddhist Approaches

Buddhist Approaches are another stream of traditional therapies used in China, and it includes meditations, such as mindfulness, Naikan Therapy, and Samatha-vipassana, etc. Buddhist approaches are traditional, which shares the same idea of “Harmony of Man and Nature” by using another language system, called “nurturing mind into healthy emptiness without dualist thoughts” [34]. Groves proposed that Buddhism has approached, such as Mindfulness, Dialectical Behavioral Therapy (DBT), Acceptance and Commitment Therapy (ACT), and Mindfulness-Based Cognitive Therapy (MBCT), etc, for treating addiction and relapse prevention [42]. It is valuable to claim that DBT, ACT, and MBCT are Western therapeutic approaches not rooted in China. However, mindfulness is the oriental core among Western therapies above and Chinese indigenous therapies. Although a basic understanding of the importance of Buddhist therapies is to build compassion and awareness for wise mind, mindfulness is unique and essential to lots of Chinese psychotherapies.

Mindfulness is effective in the intervention of IGD. There is no significant difference in this skill use between Chinese and Western mindfulness’ approaches. It is an important component in Buddhist practice, from the principle of “Eightfold path”. It is also a technique that some Western psychotherapies practice by non-judgmentally focusing on the present to patiently feel and be aware of intrusive thoughts and obsessive behaviors at the moment. Of course, this observation helps for calming down and letting distress go. Mindfulness effectively treats IGD patients by decreasing the maladaptation in gaming cognitions and cravings for video games [43]. Chen & Xiang drew the same conclusion about the significant effectiveness of mindfulness for treating IGD [44]. Vadivale and Sathiyaseelan also proved that mindfulness’ efficiency for relapse prevention of addiction [45].

Naikan Therapy and the “Samatha-vipassana” approach of Buddhist meditation are other methods in the intervention of IGD. Zhou et al. did an implicit association test on internet addicts [46], which research found out that Naikan Therapy significantly helped patients to focus on their feeling to observe complicated ambivalence, intrusive desire, and obsessive gaming behaviors, and their symptoms of IGD are significantly mitigated comparing to the control group of the experiment after 12 weeks’ intervention. There is a technique called “Samatha-vipassana (stop thinking and rumination)” in Buddhist meditation for sedation. This technique is to pay attention and contemplate thoughts non-judgmentally and obsessive behaviors patiently, which attention is focusing on thoughts and behaviors without thinking and rumination so that individuals feel

every moment like “stop”. Due to its systematic procedures of practice, individuals have to establish self-discipline to maintain the routine of the practice, which is a strong reinforcement for self-control that patients can shift attention to important life activities rather than rigid gaming behavior. This method is different from mindfulness, because mindfulness relies on building awareness and insights by focusing on the present, while “Samatha-vipassana” is stop-thinking and paying attention to one object for declining uncontrolled craving and desire of gaming. However, “Samatha-vipassana” related researches are still in development. Some studies combined this method to associate it with image therapy [47].

5. CONCLUSION

This study summarized the mechanism of IGD in the traditional Chinese view and elaborated overlaps and uniqueness of Chinese psychopharmacology, therapy of traditional acupuncture and electroshock, traditional psychotherapies of TCM, and Buddhist approaches. This study discussed Chinese clinical thinking and logic, the reasoning of pathological gaming behavior, and how traditional Chinese therapies effectively work for internet addicts. Although Western therapies are developed in clinical practice, China has unique theories and interventions for treating IGD. Traditional Chinese therapies are well-known and popular using in China. Exploration of Chinese indigenous therapies helps building a bridge between Chinese approaches to Western approaches. Discussing the uniqueness of oriental and philosophic interventions improves the conversation for holistic intervention in the IGD field, which refers to more clinicians to gain insights into multicultural aspects.

There are some limitations that this study did not cover, including, a) this study only reviewed 44 sources, and meta-analysis for this title may have more weight for critical impact. b) Traditional Chinese philosophy is hard to explain by Western modern science’s logics and techniques, which it has barriers to prove and examine equally to the same case. The reason is that traditional Chinese therapies are experienced science based on observation and macro perspective of natural science. However, modern Western science focuses on micro-scientific exploration, in which differences of thinking and cognition of etiology between Chinese and Western clinical fields form obstacles that are hard to conquer. Although Western logic and examination should understand it, this study builds the connection between traditional Chinese clinical thinking and Western experimental modern scientific thinking. c) Pharmacology of Chinese decoction has to be proved by more clinical trials in terms of molecular biology, but this study introduced little about the mechanism of cytology and the microcosm, pharmacokinetics, and

pharmacodynamics. d) This study only discussed experiments and retests for traditional Chinese therapies. Most examinations are conducted in China. The results should be retested in Western individual groups in other countries to improve reliability and prove effectiveness in a larger range.

Although this study has limitations, the advantages outweigh the limitations. It introduced the uniqueness of Chinese approaches and unveiled new possible areas of future research. For example, individuals should be aware that professional gaming as a career is not regarded as IAD. Though this is a new occupation in the career category and job market, it exists for making life rather than pure pursuit of craving. It is valuable to explore whether professional gaming can cause gaming disorder or internet addiction and harms social function and psychological flexibility. This field still needs more clinical experiments and data to support. More research is still needed to investigate whether Western game addicts have cultural and cognitive differences compared with Chinese addicts. Whether traditional therapies are effective for Western patients, it is still unknown.

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