

A Study on the Intervention Effect of Mindfulness Tai Chi Exercise on Social Anxiety and Emotional Regulation Ability of College Students

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Abstract: Right now, college students are dealing with multiple pressures—schoolwork, interpersonal relationships, job hunting, you name it. Social anxiety is really common among them, and most of them aren't great at managing their emotions. This has become a big problem affecting their physical and mental health, as well as their all-round development. Using just single psychological counseling or regular physical exercise to help them isn't all that effective; there's no efficient way to intervene that combines both body and mind. This study draws on ideas from mindfulness psychology, Tai Chi's body-mind philosophy, and emotional cognitive regulation, and also refers to existing practical research results on physical and mental exercise interventions, to figure out how useful mindfulness Tai Chi is for helping college students with social anxiety and emotional regulation. We selected college students as the research subjects and carried out a systematic mindfulness Tai Chi intervention experiment. The point of this study is to find out how mindfulness Tai Chi eases college students' social anxiety, how it helps improve their ability to regulate emotions, and to put together a mindfulness Tai Chi intervention plan that fits what colleges actually need. It also aims to provide theoretical support and practical ways for the integration of mental health education and physical education in colleges, and fill the gaps in research on physical and mental interventions for college students' social anxiety.

Keywords: Mindfulness Tai Chi; College students; Social anxiety; Emotional regulation ability

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Introduction

Nowadays, society's moving so fast that college students have way more different ways to interact with each other. That's why interpersonal conflicts and people avoiding social situations happen all the time. Stuff like social anxiety and sudden emotional outbursts—these psychological issues are getting more common, and they're not just stopping students from hanging out normally, but also messing with their studies and how they grow as people. Right now, when we try to help students with social anxiety, most of the time we just do simple psychological counseling or regular workouts. The kind of help that combines both body and mind? It's not effective enough, and it doesn't hit the spot. This paper goes over the key theories of Mindfulness Tai Chi, breaks down how it helps with social anxiety and managing emotions, puts together workable plans that colleges can actually use, and checks if those plans really work. This research can give us new ways to fix college students' social anxiety and help them get better at controlling their emotions, and it'll also help make college mental health work better and more efficient.

1.The Core Theoretical Basis of Mindful Tai Chi Intervention

Mindful Tai Chi mixes the body-mind unity concept of traditional Eastern Tai Chi, and it also fits well with the awareness theory of modern mindfulness psychology. This isn't just some regular physical exercise—it actually helps with mental regulation too, so you can call it a practice that tunes both your body and mind. It's backed by theories from different fields, and it matches how college students' bodies and minds naturally develop. The core psychological support here is mindful awareness theory. This theory is all about observing your current physical and mental state without judging yourself. It not only helps you break free from getting stuck in negative thoughts over and over, but also snaps the cognitive loop that causes social anxiety, so you don't overthink or feel scared about bad social situations as much. Tai Chi's body-mind philosophy is its traditional core idea. It sticks to the rule of guiding

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qi with your intention and controlling your movements with qi, aiming for harmony between your body and mind, and a good balance between movement and stillness. Through slow, relaxed body stretches, it adjusts the qi and blood in your body, calms down the restlessness in your heart, and gets both your body and mind into a steady state. Theories related to emotional regulation also prove how useful this practice is. Emotional regulation itself includes key parts like cognitive reappraisal and expressive suppression. Mindful Tai Chi guides practitioners to steady their breath and straighten their posture, which strengthens their ability to do cognitive reappraisal, eases the passive suppression of negative emotions, and slowly builds a healthy way to regulate emotions. Most of the time, college students' social anxiety comes from wrong social perceptions, self-denial, or even a tendency to avoid interacting with others. The process of practicing mindful Tai Chi can just fix these wrong perceptions and ease the psychological stress that comes with getting along with people. Existing practical research also shows that traditional body-mind practices like Tai Chi and its Eight Forms & Five Steps can improve all kinds of negative emotions in college students, regulate brain neural activity, and enhance cognitive executive functions—laying a solid practical foundation for how effective mindful Tai Chi is as an intervention ^[1].

2.The Intervention Mechanism of Mindfulness Tai Chi on Social Anxiety and Emotional Regulation among College Students

2.1 Neurophysiological Intervention Mechanism

Doing regular mind-body practice with mindfulness Tai Chi can actually adjust college students' brain network structure and neural activities in a positive way, which in turn eases their social anxiety and makes their emotional regulation better. From what we've seen in current brain science research, practicing Tai Chi really does help improve how well college students' brain networks connect when they're feeling negative emotions. It also gets the default network and executive control network working in sync, lowers how active the brain areas related to anxiety are, and stops negative emotions from being passed along through neural pathways. Not only that, it can adjust the spontaneous neural activities in students' brains; even a short practice of Tai Chi's eight-step movements can boost their cognitive refreshing ability and make the brain's inhibitory function stronger. The brain nerve disorders caused by social anxiety can be relieved just through this kind of practice ^[2]. When it comes to the body's physical regulation, the abdominal breathing and slow stretching that go with mindfulness Tai Chi can fine-tune the body's endocrine system, cut down on stress hormones like cortisol, and calm down physical reactions like a racing heart or shaky hands that come from social anxiety. It also helps promote the release of feel-good neurotransmitters like serotonin, keeping the whole emotional state steady. There's also special research on female college students—it shows that Tai Chi practice can adjust the levels of inflammatory factors in their blood, ease bad moods like depression and anxiety, and really prove that this practice works well for physical intervention. This kind of subtle neurophysiological adjustment is exactly the key physical support to ease college students' social anxiety and build a solid foundation for their emotional regulation.

2.2 Psychological Cognitive Intervention Mechanism

Mindfulness Tai Chi's core is basically mindfulness awareness. This kind of awareness training can help college students break the negative cognitive cycle that comes with social anxiety, and fix the cognitive biases they have in interpersonal interactions. When you're doing meditation practice, you need to let go of the urge to criticize yourself or judge others, focus on your breathing and the way you move right now, and little by little get rid of those unnecessary worries about social situations and the self-deprecation that comes with those wrong cognitions—this also eases the urge to deliberately avoid socializing. Besides that, mindfulness practice can also tone down that stubborn overthinking, so college students don't keep getting stuck in bad social memories, and it eases the negative effects that build up when anxiety piles on ^[3]. When it comes to emotional regulation, Mindfulness Tai Chi can help college students develop their ability to sense and control their emotions. It lets people notice negative feelings like restlessness or boredom in their hearts right away, instead of forcing them down or avoiding them entirely. Over time,

they'll figure out how to use cognitive reappraisal to adjust their emotions, and face interpersonal conflicts and social pressures calmly. The only way to build a solid psychological and cognitive barrier is through long-term practice—it not only makes students more resilient when dealing with social stress, but also cuts off the root cause of social anxiety at the cognitive level, and helps straighten out the internal logic of emotional regulation.

2.3 Integrated Physical and Mental Intervention Mechanism

The main difference between Mindfulness Tai Chi and just doing simple psychological counseling or regular workouts is that it gets both physiological and psychological regulation working together well. The kind of practice that focuses on keeping your posture straight and your breathing smooth? That's basically the physical training part of traditional Tai Chi. It eases up your tense muscles, loosens your body's tendons and bones, and even slowly gets rid of that stiff, sore feeling you get from sitting too long and being stressed out all the time. On the flip side, mindfulness awareness can clear out the messy thoughts in your head at the same time—it's just right for getting your body, breath, and mind all in sync, no awkwardness at all. For college students, this kind of practice that combines body and mind is perfect. When you're slowly relaxing your body, your mind calms down too. Once your mind is steady, you'll have a better feel for controlling your body. Your body and mind feed off each other, and after a while, it becomes a good cycle. This practice that adjusts both body and mind can gradually sharpen how you feel inside your body. Keep at it, and you'll get better and better at controlling your own physical and mental state. Whenever social anxiety hits out of the blue, just adjust your breathing and calm your mind down. Your anxious feelings will fade fast, and you can keep your emotions in check so they don't get out of hand. This not only eases social anxiety but also helps you build a solid ability to manage your emotions—it really works all around.

3. Implementation Strategies for Mindful Tai Chi Interventions in Universities

3.1 Basic Intervention Strategy: Integrating Mindful Meditation with Tai Chi Fundamentals

This strategy focuses on mindful awareness theory and basic Tai Chi technique principles—we weave mindful meditation into the teaching of the basic movements of Tai Chi's Eight Forms & Five Steps. We go step by step, starting easy and getting more complex: first, we help college students build up their mindful awareness, then we teach them Tai Chi techniques, so their intent and movements work together seamlessly. When actually teaching, we need to guide students to let go of all the messy thoughts around them, focus on their breathing rhythm, how their body feels when moving, and how each movement connects. Practicing in a slow, low-intensity way helps get rid of any resistance they might feel inside, which fits perfectly with what college students' bodies and minds can handle. It works really well in college PE settings—you can just add it to public PE classes, no need for special venues or equipment, so it's super easy to promote ^[4]. In college public PE classes, we schedule 2 basic mindful Tai Chi sessions every week, each 45 minutes long. The first 10 minutes are for mindful breathing meditation: we tell students to close their eyes, sit quietly, calm their breath, and settle down any restlessness they have before class. The remaining 35 minutes are spent refining the basic movements of Tai Chi's Eight Forms & Five Steps. Teachers stay with them the whole time, giving tips to make sure students keep their mindful awareness, adjust their breath as they move, and don't get distracted. For students who struggle a lot with social anxiety, teachers correct their movements one by one and help them calm their minds. Once students master these basic skills, they can start doing mindful breathing and basic Tai Chi movements. Little by little, they'll focus more on their body and mind, feel less stressed every day, develop basic emotional awareness and self-perception, and not react so strongly to social anxiety at first—laying a solid foundation for more in-depth intervention later on.

3.2 Group Tai Chi Practice Strategy Adapted to Social Scenarios

This strategy uses group dynamics theory and social cognition theory—we do mindful Tai Chi training in group settings. The group interaction helps reduce students' desire to avoid social situations, and the group practice atmosphere also makes the mindful training more effective. Group practice has always been about moving together in sync; everyone needs to fit in and stretch at the same time. It's this kind of low-pressure, quiet interaction that

slowly breaks down the barriers between people, and fixes those wrong ideas of being scared of socializing or deliberately keeping people at a distance. Compared to practicing alone, group mindful Tai Chi creates a relaxed social environment, so students don't feel pressured in social situations—it's exactly what college students need for socializing. Colleges can set up mindful Tai Chi interest groups, holding 1 group practice every week, 60 minutes each time. We pick gentle group Tai Chi routines and guide students to practice in lines together. During breaks, we add a part where they can chat quietly, but we make sure there's no loud, unnecessary talking to keep the calm atmosphere of mindful practice. We guide students to experience gentle social interaction while stretching together, so they can slowly get used to being close to others in the same space. This group practice helps college students get used to calm social situations, gradually break the mental barriers of avoiding socializing and being scared of it, and feel less anxious about socializing. What's more, working together in a group helps them develop empathy and the ability to get along with others, build a steady rhythm for emotional regulation, and form positive, healthy social perceptions.

3.3 Emotional Solidification Strategy for Regularized Closed-loop Training

This strategy is basically built on behavior formation and emotional solidification theories. We've put together a regularized closed-loop training model that's made up of "classroom practice + after-class self-practice + regular assessment". Doing consistent, long-term practice helps lock in the effects of Mindfulness Tai Chi, turning the temporary emotional regulation skills into steady psychological traits—so social anxiety doesn't come back. You've got to do regular special assessments for social anxiety and emotional regulation, too. Then, based on how those assessments turn out, tweak the practice intensity and content just right, and do personalized intervention to make sure the effect lasts ^[5]. Don't slack off on after-class self-practice, either—twice a week, 20 minutes each time, with simple mindfulness breathing and basic Tai Chi moves is enough. Every month, do a psychological scale assessment to keep track of how students' anxiety and emotional regulation skills are changing. If a student's anxiety keeps flaring up, just give them targeted guidance and adjust the practice plan a little. This regular closed-loop practice is the key to keeping the intervention working long-term. Our end goal is to help college students get into the habit of adjusting their body and mind regularly, shake off social anxiety for good, build up their emotional perception and control skills, and keep a calm, steady state of mind.

4. Empirical Analysis of the Effectiveness of Mindfulness Tai Chi Intervention

We picked a group of college students from a certain university—they all have mild to moderate social anxiety—to be the subjects of this study. Then we split them into two groups: the experimental group and the control group. The experimental group did 12 weeks of regular, systematic mindfulness Tai Chi practice, while the control group just did their usual physical activities. Before and after we did the intervention, we used specific scales to check their status, and used statistical methods to see how the two groups differed. Looking at the data, you can tell the experimental group's social anxiety scores dropped a lot—those issues like negative thoughts about socializing and avoiding interactions got way better too. Their ability to regulate emotions and control their brain's cognitive functions also got better, which makes it clear that mindfulness Tai Chi works way better than regular physical exercise. Actually, how well this intervention works mostly depends on whether you practice regularly and stay focused. If you practice on and off, or just do it casually, you won't get the results you want. If colleges want to use this and promote it, they need to set up a regular practice system—only then can we make sure the intervention keeps working and really makes a difference.

5. Conclusion and Outlook

Through this study, we've actually found that the mindfulness Tai Chi exercise—combining the benefits of mindfulness emotional regulation and Tai Chi physical and mental training—can really help college students ease their social anxiety. It also fixes those biased social thoughts and makes their emotional control better overall. This

way of intervening fits well with how universities actually teach, is easy to promote and carry out, and can make up for the gaps of those single intervention methods we used before. It also lets physical education and mental health education work together better. Looking ahead, we can make the study sample bigger, dig deeper into how the brain works during this practice, and adjust the intervention plans to fit different grades and genders better. We can also make the mindfulness Tai Chi intervention system even better, so it can be more widely used in university mental health work.

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