太极拳对大学生压力与睡眠质量的影响研究

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摘要：当前大学生群体面临的心理压力问题日益突出，其负面影响常直接反映于睡眠质量，形成压力与睡眠障碍相互加剧的恶性循环，严重损害学生的身心健康与学业发展。太极拳作为一项融合身体运动与正念调节的中国传统体育项目，具有温和、安全、易推广的特点，被视为有效的健康促进手段。然而，现有研究多集中于老年或临床人群，其成果难以直接适用于大学生群体；针对该群体的系统研究仍然匮乏，限制了太极拳在高校健康促进中的有效应用。**目的：**本研究旨在探讨太极拳对大学生压力水平与睡眠质量的影响，以期为在高校推广行之有效的身心健康干预措施提供严谨的实证依据。**方法：**选取某高校 82 名在校大学生作为研究对象，其中男性 49 人，女性 33 人，随机分为实验组与对照组。采用 16 式太极拳干预实验组，每周干预 3 次，每次 90 分钟，共计干预 12 周。其中每次练习包括 30 分钟的常规体育热身活动（含关节活动及有氧跑），60 分钟太极拳练习。对照组保持原有生活状态不变，未进行有针对性的体育干预。在干预前后，采用压力知觉量表（PSS）和匹兹堡睡眠质量指数量表（PSQI）对所有受试者进行评估。统计分析使用 SPSS 27.0 软件完成。**结果：**1）太极拳对大学生压力知觉的影响。在压力知觉量表得分上，组内比较显示，经过 12 周太极拳干预，实验组 PSS 得分显著降低（配对差值=3.15, t=5.458, P<0.001）；而对照组 PSS 得分在实验后显著上升（配对差值=-6.15, t=-7.427, P<0.001）。干预结束后，实验组的 PSS 得分（32.55±5.57）显著低于对照组（41.45±5.08），组间比较差异具有统计学意义（t=-5.279, P<0.001）；2）在匹兹堡睡眠质量指数量表得分上，组内比较显示，经过 12 周太极拳干预，实验组 PSQI 得分显著降低（配对差值=0.65, t=3.577, P=0.002）；而对照组 PSQI 得分在实验后显著上升（配对差值=-1.40, t=-9.200, P<0.001）。干预结束后，实验组的 PSQI 得分（6.30±1.17）显著低于对照组（7.80±1.24），组间比较差异具有统计学意义（t=-3.929, P<0.001）。**结论：**本研究通过为期 12 周的随机对照试验，系统探讨了太极拳对大学生压力与睡眠质量的干预效果，得出以下主要结论。1）太极拳干预能够显著降低大学生的压力知觉水平。对照组 PSS 得分在实验后显著上升，反映出大学生群体在未受干预情况下，其压力水平可能因学业周期、考试压力等因素影响而自然升高，而太极拳干预则有效逆转了这一趋势，表现出积极的压力缓冲作用；2）太极拳干预对大学生的睡眠质量具有明确的改善效果。实验组在 PSQI 总分及多个维度上的显著改善表明，太极拳不仅能够缓解压力间接促进睡眠，还能通过调节自主神经功能、增强身体放松度等机制，对睡眠质量产生直接促进作用。综上所述，本研究证实太极拳是一种能够有效缓解大学生压力、改善其睡眠质量的身心干预方式，具备在高校环境

中推广应用的价值。

关键词：太极拳；大学生；压力知觉；睡眠质量

The Effect of Tai Chi on College Students' Stress and Sleep Quality

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Abstract: Psychological stress among college students is becoming increasingly prominent, and its adverse effects are often directly reflected in sleep quality. This creates a vicious cycle in which stress and sleep disturbances exacerbate each other, severely compromising students' physical and mental health as well as academic performance. Tai Chi, a traditional Chinese mind-body exercise that integrates physical movement with mental focus, is characterized by its gentle, safe, and accessible nature. It is widely recognized as an effective practice for health promotion. However, existing research has primarily focused on elderly or clinical populations, making its findings difficult to generalize to college students. Systematic studies targeting this demographic remain scarce, which limits the effective implementation of Tai Chi in university health promotion programs. **Objective:** This study aims to investigate the effects of Tai Chi on stress levels and sleep quality among college students, providing rigorous empirical evidence to support the integration of effective mind-body interventions in higher education settings. **Methods:** A total of 82 college students (49 males, 33 females) were recruited and randomly assigned to either an experimental group or a control group. The experimental group received a 12-week Tai Chi (16-form) intervention, consisting of three 90-minute sessions per week. Each session included 30 minutes of conventional warm-up (joint mobility exercises and aerobic running) followed by 60 minutes of Tai Chi practice. The control group maintained their usual lifestyle without any targeted physical intervention. All participants were assessed using the Perceived Stress Scale (PSS) and the Pittsburgh Sleep Quality Index (PSQI) before and after the intervention. Data were analyzed using SPSS 27.0. **Results:** 1) Effects on Perceived Stress: After the 12-week intervention, the experimental group showed a significant decrease in PSS scores (mean difference = 3.15, $t = 5.458$, $p < 0.001$), whereas the control group exhibited a significant increase (mean difference = -6.15, $t = -7.427$, $p < 0.001$). Post-intervention, the experimental group's PSS score (32.55 ± 5.57) was significantly lower than that of the control group (41.45 ± 5.08), with a statistically significant between-group difference ($t = -5.279$, $p < 0.001$). 2) Effects on Sleep Quality: The experimental group demonstrated a significant reduction in PSQI scores (mean difference = 0.65, $t = 3.577$, $p = 0.002$), while the control group showed a significant increase (mean difference = -1.40, $t = -9.200$, $p < 0.001$). After the intervention, the experimental group's PSQI score (6.30 ± 1.17) was significantly lower than that of the control group (7.80 ± 1.24), with a statistically significant intergroup difference ($t = -3.929$, $p < 0.001$). **Conclusion:** This 12-week randomized controlled trial systematically evaluated the effects of Tai Chi on

stress and sleep quality in college students. Key findings include: 1) Tai Chi significantly reduced perceived stress levels. The increase in PSS scores observed in the control group suggests that stress levels in this population may naturally rise due to academic cycles and exam pressures. Tai Chi effectively counteracted this trend, demonstrating positive stress-buffering effects. 2) Tai Chi led to marked improvements in sleep quality. Significant enhancements in the experimental group's total PSQI score and multiple subcomponents indicate that Tai Chi not only alleviates stress to indirectly improve sleep but may also directly enhance sleep quality through mechanisms such as autonomic nervous system regulation and physical relaxation. In summary, this study confirms that Tai Chi is an effective mind-body intervention for reducing stress and improving sleep quality among college students, supporting its promotion and application in higher education contexts.

Keywords: Tai Chi; college students; perceived stress; sleep quality