BMC Public Health

RESEARCH Open Access

Whose autonomy support is more e□ective in promoting exercise adherence in higher vocational college students - based on self-determined theory

Jie Yan[1,3†], Ting Zhang[2†], Xuezheng Zhou[1*] and Hongbo Li[4]

Abstract

Objective Based on the self-determination theory, the three types of autonomy support of parents, teachers and peers as a whole were included in the same research system to explore their e□ects on exercise adherence of higher vocational college students and their internal mechanisms.

Methods The study used the exercise autonomy support scale, autonomous motivation scale and exercise adherence scale to construct and test the hypothesised pathways for promoting exercise adherence among students in higher vocational college. Using the data obtained from a survey of 436 higher vocational college students as the unit of analysis, and taking into account the variable of students' self-determined motivation. The three types of autonomy support of parents, teachers and peers were simultaneously incorporated into the same research system to explore their e□ects on higher vocational college students' exercise adherence and their internal mechanisms.

Results Except for parent autonomy support, neither teacher nor peer autonomy support had a signi□cant positive e□ect on exercise adherence of higher vocational college students. Unlike the role played by teacher autonomy support, neither parent nor peer autonomy support was able to positively predict exercise autonomous motivation among higher vocational college students.

Conclusion Parent autonomy support can positively in□uence the exercise adherence of higher vocational college students, neither teacher nor peer autonomy support can signi□cantly positively in□uence the exercise adherence of higher vocational college students. Teacher autonomy support can signi□cantly and indirectly in□uence higher vocational college students' exercise adherence through autonomous motivation, while parent and peer autonomy support cannot indirectly in□uence higher vocational college students' exercise adherence through autonomous motivation.

Keywords Parent autonomy support, Teacher autonomy support, Peer autonomy support, Exercise adherence, Autonomous motivation

†Jie Yan and Ting Zhang contributed equally to this work.

*Correspondence:
Xuezheng Zhou
517975267@qq.com
[1]The school of Marxism, Beijing Sport University, Beijing 100084, China
[2]Physical Education College, Jiangxi Normal University, No.437, West Beijing Road, Nanchang 330027, China
[3]Physical Education Department, Jiangsu Urban and Rural Construction Vocational College, Changzhou 213147, China
[4]Faculty of Physical Education and Health, Lin yi University, Lin yi 276006, China

indirectly a ect exercise adherence, and autonomous

Table 2 Goodness of □t of the study model and its criteria

trails	Non-standardized coe□cient	standard error	t	*P*	S/ActualTexrJ ET EMC /P<</Lang(en-US)

students' exercise adherence (β = 0.262, $p < 0.01$); teacher autonomy support cannot signi cantly in uence higher vocational college students' exercise adherence (β = 0. 110, $p > 0.05$); peer autonomy support cannot signi - cantly in uence higher vocational college students' exercise adherence (β = −0.138, $p > 0.05$); parent autonomy support could not signi cantly in uence higher vocational college students' autonomous motivation (β = 0.006, $p > 0.05$); teacher autonomy support could signi cantly and positively in uence higher vocational college students' autonomous motivation (β = 0.210, $p < 0.05$); peer autonomy support could not signi cantly in uence higher vocational college students' autonomous motivation (β = 0.144, $p > 0.05$); and higher vocational college students' autonomous motivation could signi cantly in uence their exercise adherence (β = 0.568, $p < 0.001$).

e above results show that except for H2, H1 and H3 were not tested.

Indirect e□ects

As can be seen in Table 3, rstly, the indirect e ect of parent autonomy support on exercise adherence through autonomous motivation was non-signi cant (e.g., 95% CI [−0.157, 0.186]), thus lacking support for Hypothesis 1; secondly, the indirect e ect of peer autonomy support on exercise adherence through autonomous motivation was non-signi cant (e.g., 95% CI [−0.040, 0.321]), thereby not supporting Hypothesis 1; nally, the indirect e ect of teacher autonomy support on exercise adherence through autonomous motivation was signi cant (e.g., 95% CI [0.040, 0.450]), thus supporting Hypothesis 4. Furthermore, the direct e ect of teacher autonomy support on exercise adherence was non-signi cant (e.g., 95% CI [−0.074, 0.441]) suggesting that autonomous motivation fully mediates the relationship between teacher autonomy support and exercise adherence among higher vocational college students. Its indirect e ect was 0.203, accounting for 52.05 per cent of the total e ect.

Discussion

Analysis of the relationship between parent, teacher and peer autonomy supports and exercise adherence among higher vocational college students

e present study found that when other factors were not considered, parent, teacher and peer autonomy supports in the social support of higher vocational college students were positively correlated with their exercise adherence, which is consistent with the ndings of Wen Lu et al. [34], Xiaoqing Hu et al. [35], Ting Zhang [36] and Xinyu Chu et al. [37]. If we put these three types of autonomy supports in a dynamic system to study the e ects of these elements on the exercise adherence of higher vocational college students, we found the following: except for parent autonomy support, teacher and peer autonomy supports lacked a signi cant positive e ect on the exercise adherence of higher vocational college students (see Table 1), which indicates that parent autonomy support is better than teacher and peer autonomy supports on the

accuracy in revealing the e ects of the three types of autonomy support on the exercise adherence of higher vocational college students. Fourthly, China lacks a scale that considers the autonomy support of parents, teachers and peers. Accordingly, this study can only draw on the scales of related foreign studies. Owing to the differences between Chinese and foreign cultures, some of the questions in the scale inevitably cannot be applied in China. Moreover, fully considering the current situation of education in di erent countries remains necessary in future research. Finally, the questionnaire does not fully re ect the participants' objective exercise adherence but only their subjective tendency or intention to

Union University as an Example. International Conference on Education Reform and Modern Management. 2014:102.
9. Li J, Tang X. Obstacles, Opportunities and Practical Roadmaps for High-Quality Development of Secondary Vocational Education–Guided by the Newly Revised Vocational Education Law of the People's Republic of China. Vocat Educ Newsl. 2023(07):24–31.
10. Weina Liu C, Zhou J. The e□ect of adolescents' outdoor exercise motivation on exercise adherence: the mediating role of exercise climate. Sport Sci. 2011;31(10):41–7. https://doi.org/10.16469/j.css.2011.10.006.
11. Zeng J, Qiu N, Leitzelar BN, Fu J, Wang Y, Liang F, et al. Parental support is Associated with moderate to vigorous physical activity among Chinese adolescents through the availability of physical activity resources in the Home Environment and Autonomous Motivation. Child (Basel). 2022;9(9). https://doi.org/10.3390/children9091309.
12. Holding A, Moore A, Verner-Filion J, Kachano□ F, Koestner R. Choosing to lose it: the role of autonomous motivation in goal disengagement. Motivation Emot. 2022;46(6):769–89. https://doi.org/10.1007/s11031-022-09952-3.
13. Bureau JS, Howard JL, Chong JXY, Guay F. Pathways to Student Motivation: a Meta-Analysis of antecedents of Autonomous and controlled motivations. Rev Educ Res. 2022;92(1):46–72. https://doi.org/10.3102/00346543211042426.
14. Latorre-Cosculluela C, Sierra-Sanchez V, Rivera-Torres P, Liesa-Orus M. Emotional well-being and social reinforcement as predictors of motivation and academic expectations. Int J Educational Res. 2022;115. https://doi.org/10.1016/j.ijer.2022.102043.
15. Deci E, Ryan. RM. Self-determination theory: a macrotheory of human motivation, development, and health. Can Psychol. 2008.
16. Fin G, Moreno-Murcia JA, León J, Baretta E, Júnior RJN. Interpersonal autonomy support style and its consequences in physical education classes. PLoS ONE. 2019;14(5):e0216609. https://doi.org/10.1371/journal.pone.0216609.
17. Deci EL, Ryan RM. The what and why of goal pursuits: human needs and the self-determination of Behavior. Psychol Inq. 2000;11(4):227–68. https://doi.org/10.1207/S15327965PLI1104_01.
18. Fubaihui Wang. Family capital and parenting styles: family class di□erences in adolescent physical activity. Sport Sci. 2019;39(03):48–57. https://doi.org/10.16469/j.css.201903006.
19. J R. Self-determination theory applied to educational settings. NY: The University of Rochester 2002:183–203.
20. Intention-behaviorrdlations S P. A concetpual and empirical review. EurRevSocpsy. 2002;12:1–36.
21. Teixeira PJCE, Markland D. Exercise, physical activity, and self-determination theory: a systematic review. Int J Behav Nutr Phys Activity. 2012.
22. Standage M, Gillison FB, Ntoumanis N, Treasure DC. Predicting students' physical activity and health-related well-being: a prospective cross-domain investigation of motivation across school physical education and exercise settings. J Sport Exerc Psychol. 2012;34(1):37–60. https://doi.org/10.1123/jsep.34.1.37.
23. Van den Berghe LVM, Cardon G. Re•search on self-determination in physical education: key □ndings and proposals for future research. Phys Edu Sport Pedag. 2012;19(4):97–121.
24. Yu K, Lu Y, Wu Y. Structural equation modelling analysis of factors in□uencing college students' exercise behaviour. J Phys Educ. 2021;28(02):103–10. https://doi.org/10.16237/j.cnki.cn44-1404/g8.2021.02.017.
25. Chenglong Li. The relationship between social support and college students' online sports learning engagement: the chain-mediated role of self-e□cacy and autonomous motivation. J Shandong Inst Phys Educ. 2022;38(05):111–8. https://doi.org/10.14104/j.cnki.1006-2076.2022.05.014.
26. Keating X, Shangguan R, Lambdin D, Subramanian R, Guan J, Chen L. Analyses of Student-Perceived Social Support for Exercise. Res Q Exerc Sport. 2014;85:30.
27. Li L, Ji L. Exploring the motivation and excitement of college students in physical education. Sports Sci. 2004(03):73–6.
28. Rui Fang ZH, Wang X, Zhang YT, Guo. Antecedent mechanisms of perceived self-support a□ecting college students' exercise adherence: a moderated mediation model. J Beijing Sport Univ. 2020;43(08):111–9. https://doi.org/10.19582/j.cnki.11-3785/g8.2020.08.011.
29. Yunfeng Li. Pathways of Exercise goal internalisation on the Exercise Behaviour of higher vocational students and its gender di□erences. J Guangzhou