Grip or Let Go: Performance in Two Push-Up Variations Revealed

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Push-ups are known for their effectiveness in building upper body muscles. This study aimed to quantitatively compare push-up performance with and without grips, while also exploring qualitative insights and experiences related to both variations. Employing an embedded mixed-methods research design, the study combined quantitative and qualitative approaches to provide comprehensive insights and minimize bias. The quantitative analysis focused on push-up performance, while qualitative data offered a deeper understanding. A total of 40 Bachelor of Physical Education students, aged 19-35, with equal gender distribution, were selected through purposive and purposeful sampling. The revised push-up test protocol was utilized for data collection, supplemented by follow-up interviews. Results revealed significant differences in push-up performance between conditions for both male and female participants (statistical value, p-value). A paired sample t-test demonstrated a significant decline in push-up performance for male participants using grips ($t[19] = -3.704$, $p = 0.002$), and a Wilcoxon signed-rank test indicated a significant difference for female participants as well ($W[19] = 10$, $p = 0.005$). These findings underscored the impact of grip equipment on push-up execution, highlighting altered mechanics and distinct performance outcomes. The addition of grip equipment led to variations in joint angles and force distribution, influencing individual body mechanics and movement patterns. Participant feedback illuminated challenges associated with grip-enhanced push-ups, including discomfort and instability. Conversely, participants accustomed to standard push-ups demonstrated greater comfort and familiarity. In conclusion, this study emphasizes that the use of grip equipment significantly affects push-up performance, leading to variations in mechanics and outcomes. These insights highlight the importance of tailored training programs considering grip variations, contributing to a better understanding of how resistance exercise mechanics can influence performance outcomes.

Keywords: Push-Up Performance, Push-Up with Grips, Push-Up Without Grips