

The Impact of Temperature on Physical Activity Levels During a 12-Week Walking Intervention

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Temperature is a commonly reported barrier to obtaining regular physical activity. **PURPOSE:** The purpose of this study was to assess the impact of temperature on physical activity during a 12-week pedometer based intervention. **METHODS:** 541 participants wore a pedometer daily for 12 weeks to monitor their step counts (Fall n=357; Spring n=184). Each week, participants were required to report their daily step counts via email. Participants were also encouraged to complete a pre- and post-survey which questioned their perceived barriers to obtaining regular physical activity. Lastly, average weekly temperatures were recorded through the use of a historical weather database and then correlated to weekly average step counts. **RESULTS:** 269 of the 541 participants who registered for the program completed at least 9 of the 12 weeks (Fall n=172 (48%); Spring n=95 (52%)). Of the completers, there was a significant decrease in step counts between week 1 and week 12 of the fall semester ($p=0.012$). This reduction in step counts was moderately correlated to a reduction in temperature ($r=.513$; $p=0.088$). However, during the spring semester, completers' step counts significantly increased from week 1 to 12 ($p\leq 0.000$). This increase in step counts was strongly correlated to an increase in temperature ($r=.742$; $p=0.006$). It should also be noted that 28% of survey respondents perceived temperature as being a challenging barrier to obtaining regular physical activity. **CONCLUSION:** Temperature had a moderate, positive correlation with physical activity during the fall semester and a strong, positive correlation with physical activity during the spring semester. Even though only 28% of survey respondents reported temperature as a challenging barrier, research shows that temperature may be more of an impact than perceived.