

June 2004 - Paper of the month

- Paper:** A randomization controlled trial of single versus multiple health behavior change: promoting physical activity and nutrition among adolescents
- Authors:** Prochaska JJ., Sallis JF.
- Source:** Health Psychology 2004; 23(3):314-318

Main findings: Comparing interventions targeting physical activity and nutrition (PAN) concurrently, physical activity (PA) alone and control condition, the authors showed that boys in both intervention groups increased or maintained their physical activity relative to the control group, while girls decreased their physical activity in all groups. Changes in dietary pattern were minimal with boys' fruit and vegetable consumption decreased for the PAN group and increased for the PA group. For girls, marginal increases in fruit and vegetable consumption were observed in both intervention groups.

Commentary: Promoting lifestyle change is the approach that has gained wide acceptance both in research and practice. This trend is based on both scientific and economic rationales, that is, unhealthy behaviours (eg. smoking, poor diet, physical inactivity) tend to cluster and simultaneous modification of these risk factors provide the best use of resources. In clinical settings, the need to intervene on multiple risk factors for which an individual is already at high risk of a chronic ill health like coronary heart disease is clear. Studies involving clinical populations showed that interventions targeting multiple behaviours produce sustained effect on changing dietary behaviour and physical activity patterns in patients classified as being at risk for coronary heart disease.

However, the efficacy of promoting change in all behaviours simultaneously is equivocal with adolescents, at least among those who are either at low or borderline risk for ill health. The premise that change in one behaviour will influence change in the other behaviour is based on the yet to be substantiated assumption that there are common underlying factors influencing multiple risk behaviours. Despite certain limitations, the findings presented in this paper offer readers further insights into the complexity of the psychosocial correlates of physical activity and dietary habits of adolescents. In this study, boys gained substantial physical activity benefits from the PAN condition while adding exercise to the intervention proved to be less efficacious for girls, while adding nutrition to the program did not result in enhanced benefits for both boys and girls. Thus, the inter-relationship that is assumed among different risk factors may not be as closely related when gender differences is considered.

Implications for policy, practice and research: Findings from this paper underscore the continued research need to better understand the interrelationships between multiple health behaviours and which type of interventions, simultaneous or sequential risk reduction, is more effective in adolescent population. If sequential, which behaviour(s) to intervene and in what order and whether adolescents should choose the behaviour that they want to change [this raises further methodological challenges relating to study design and its evaluation].

While robust evidence is being accumulated on the efficacy/effectiveness of either single or multiple health behaviour change, the challenge for programs and policies is to ensure that health promotion initiatives take into account the gender differences in psychosocial correlates of the complex behavioural issues relating to diet and physical activity, especially for adolescents. Environmental and policy interventions alone are necessary but may not be sufficient condition for behaviour change to occur in this population group. Further, mass communication initiatives to promote lifestyle change in adolescents need to move cautiously and carefully consider whether intervening on several behaviours simultaneously for behaviour change – a common-sense approach that still lacks compelling scientific evidence - will increase the magnitude of effects and represent a better use of resources compared to intervening on one behaviour at a time.