ARTICLE

The need for a physical education

Matthew Y.W. Kwan and **Guy Faulkner** on the decline in physical activity during the transition to young adulthood, and the methodological challenges

Physical activity peaks during childhood and adolescence, but drastic declines have taken place by early adulthood. This lapse into physical inactivity has become a critical public health issue. A significant proportion of young adults choose the pathway into post-secondary education, so present a convenient group for research into the reasons for this behaviour change. There are particular challenges and drawbacks working with student populations, but there are also opportunities to intervene.

questions

What can be done to attenuate declines in physical activity behaviours during the transition into post-secondary school?

What is it about this transition that health-risk behaviours tend to change?

resources

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Across a lifespan, children and young people are generally the most active segment in the population. However, as youth moves toward young adulthood, large epidemiological studies indicate an age-related decline in physical activity (Caspersen et al., 2000; Gordon-Larsen et al., 2004). This decline is not necessarily linear, and includes some points in time where large declines in physical activity occur, as well as points where general physical activity levels are sustained or increase slightly (Curtis et al., 2000). One particular period seen to have the most dramatic decline occurs during late adolescence and transition into young adulthood (Zick et al., 2007).

It is perhaps not surprising that young adulthood marks the primary decline in overall levels of physical activity, considering it is a period of increasing assimilation into the adult work world. When students leave school and college they may decide to enter the work world, seek further education, join the armed forces, travel around the world, or do none of the above. Increasingly these days, people choose to continue to higher education at post-secondary institutions. In 2004 the percentage of the 18- to 21-year-old population enrolled in post-secondary education was 29 per cent in the UK, 32 per cent in Canada, 42 per cent in the US, and as high as 62 per cent in Korea (US Department of Education, 2007).

> "Correlates and determinants of physical activity may also vary across the lifespan"

A strong impetus exists for research to address physical activity declines in this college population (Sparling et al., 2000). Evidence suggests that initiation of diseases related to physical inactivity, such as atherosclerosis, obesity and diabetes, is beginning to emerge as early as the second and third decades of life (Leslie et al., 2001). Although there are inconsistencies in the literature, some evidence demonstrates that physical activity patterns established during early adulthood appear to be a somewhat stable indicator of physical activity behaviours during later adulthood. For example, Sparling and Snow (2002) reported that most students who were regular exercisers (85 per cent of them) during their college senior years engaged in physical activity levels at similar or greater levels six years after their graduation. Conversely, those who had been non-exercisers (81 per cent of them) during their college years remained at their low levels of activity or even less. Therefore, because behavioural patterns may stabilise during early young-adulthood, it is important to intervene at this stage to prevent declines in physical activity.

There is a growing recognition that university/college students are an important target population for health promotion – some have even suggested that their health is an 'important and neglected public health problem' (Wells et al., 2003). In this commentary, we review emerging work that has focused on students in terms of physical activity during the transition to university. We conclude that students are an important sample, but not a simple one (Jaffe, 2005).

Focusing on the transition

Declines in physical activity may be most prominent during the transition from high school to the first year of university or college. Canadian studies, based on

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self-report measures and recall, consistently demonstrate steep declines in physical activity behaviours during the transition into university. For example, Kwan et al. (2009) examined average physical activity frequency, and found students engaged in significantly more days of moderate or vigorous physical activity for 30 minutes or more before entering university (3.5 days per week), than they engaged in during their first semester at university (2.9 days per week). What is it about this transition that physical activity levels decline markedly?

A transition period often involves drastic changes in the assumptions about oneself and the world one lives in, thus requiring corresponding adjustments in behaviour and relationships (Schlossberg, 1981). The transition out of high school has been suggested to be the first major life transition individuals make (Brooks & Dubois, 1995), marking the movement from late adolescence to young adulthood, requiring numerous adjustments across several life domains (Gall et al., 2000). Previous inhibitions about a variety of risk behaviours, such as smoking or drug use (and, more speculatively, physical inactivity), may weaken due to reductions in adult supervision and the perception that many risk behaviours are considered adult behaviours (Colder et al., 2008).

In line with a developmental perspective on behaviour, the correlates and determinants of physical activity may also vary across the lifespan. For example, empirical evidence indicates that first-year students report significantly more physical activity barriers, and of a different kind (e.g. new financial stressors, lack of transportation), than they faced during high school (e.g. Gyurcsik et al., 2006). Many of those entering college or university are also moving away from the stability of a home for the first time and adjusting to independent living (see Lafreniere et al., 1997). Kwan and colleagues (2009) used the theory of planned behaviour to examine students' social cognitions about physical activity. Most students entering university had high intentions of being physically active during their first year. However, despite the strong initial desire to be active, the findings indicated that translating those intentions into behaviour proved difficult.

Ajzen and Fishbein (1980) have pointed out that the intention–behaviour relationship tends to decline in strength as soon as people encounter difficulties. It may be the transition itself in not knowing what to expect in a new environment and not having the skills to maintain physical activity in this new environment that prevents young adults from maintaining physical activity levels. Illustratively, Bray et al. (2004) found that students who were living with their families had fewer disruptions in their physical activity patterns, and were less likely to become insufficiently active during the transition than either students who lived on or off campus.

The decline from the high point of physical activity in childhood and youth is not necessarily linear

Interventions tailored to address these population-specific social (e.g. peer influence) and environmental (e.g. moving away from home) conditions are just emerging. Bray and colleagues (2008) presented one of the first interventions that focused on this population. They developed tailored first-year student physical activity guides (pamphlets) for students living in university residences that described strategies to overcome common student-specific barriers. In comparison to students who received either a standard guide to physical activity or no guide, the results showed attenuation in the decline of physical activity for students who received the first-year student guide. Students receiving the first-year guide engaged in greater weekly frequencies of moderate and vigorous physical activity during their first semester.

Caveats

The student population has always been an attractive population for researchers; students are conveniently located, plentiful, and in some cases, available to participate in research in return for course credit. The use of such a convenient sample rightly leads to questions about the external validity of the research.

In an influential paper, Sears (1986) drew attention to the overreliance on college students for social psychology research. For example, more recent research has confirmed that college students are a more homogeneous group than non-students, are more open minded, have stronger cognitive skills, and stronger tendencies to comply with authority (Peterson, 2001). Of course, the sample chosen for any research project depends on the research question – but in this case we may have ended up developing 'a portrait of human nature that describes rather

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accurately the behavior of [American] college students in an academic context but distorts human social behavior more generally' (Sears, 1986, p. 515).

There is also another important factor to consider: that educational attainment is one of the most consistent correlates of physical activity (e.g. Trost et al., 2002). At a population level, student cohorts are more physically active than those who only have a high-school education or less. But they are not necessarily active 'enough', and the decline remains a crucial public health issue. Indeed, Sparling and colleagues (2000) suggested that university graduates are likely to have a disproportionate influence on the population's health through their future roles as policy makers, managers and professionals of the future and based on their health-related lifestyles and their beliefs about health shaped through their college years. This points to the need for longitudinal and experimental research comparing alternative trajectories of young adults, and ultimately adapting our developing conceptual model for attenuating declines in physical activity in university students to those who take alternative vocational pathways.

Intervention can help students bridge the gap between intentions and behaviour

Opportunities

University and college students are a convenient sample, but there is compelling evidence that there is an important public health issue here for physical activity researchers to engage with and intervene on. This population represent a sizeable group of young adults; physical activity levels appear to decline markedly during this time; there are unique challenges in making the transition to higher education, which points to the existence of life-stage specific correlates or determinants of behaviour; and there is tentative evidence that these can be modified through intervention and declines in physical activity curbed in the short-term.

The university or college setting should be considered a critical setting for health promotion for many of the same reasons that schools are (Fox & Harris, 2003). There is potential for exposing university and college students to sustained health messaging through already established knowledge exchange methods and messengers. There is growing diversity in the ethnic and socio-economic fabric of many universities. There are subsidised physical activity facilities, programmes and staffing commonly available. The literature focusing on this population group is still relatively new, and there are many opportunities for novel research in understanding this transitioning population and in developing theoretically informed interventions to promote physical activity, ranging from intrapersonal approaches – for example, helping students to bridge the gap between intentions and behaviour in the context of a new environment (Gollwitzer, 1999) – to environmental approaches – for example, making campuses more walkable (e.g. see Sisson et al., 2008). The key point is that we can intervene: it is time to consider a more physical education for our students.

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