**"Glued to the tube": the interplay between self-control, evening television viewing, and bedtime procrastination**

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**Rationale** An increasing number of publications in sleep medicine have identified electronic media use as a risk factor for the development of sleep difficulties. Sleep displacement, is one of the most cited effects in this respect. Notwithstanding the empirical evidence on sleep displacement by media use, little is known about the underlying mechanisms: how or why does media use often result in a delay of bedtime?

**Background** A recent study has argued that sleep duration is often limited simply because people go to bed later than they intended, labelled as *bedtime procrastination.* A follow-up study showed that such behavior was associated with self-regulation: people with poor self-regulation skills tend to procrastinate their bedtime more, and subsequently suffer from sleep insufficiency. These studies have left the role of media use in this process out of the picture. The contemporary media landscape can nonetheless be regarded as the perfect climate for sleep procrastination, providing users with a multitude of entertaining distractions before lights out.  By using literature from sleep research, health psychology and communication sciences, this study thus investigates the interrelations between self-control, evening television viewing and bedtime procrastination.

**Method** A random sample of 821 Flemish adults ($M = 45.6$, $SD = 18.01$) participated in a survey study on leisure time activities and sleep behavior. In addition to measures on bedtime procrastination and trait self-control, we measured three television viewing indicators associated with self-control (i.e. evening viewing volume, habitual viewing and deficient self-regulation over television viewing). Mediation analyses were conducted using the PROCESS computation tool.

**Results** Findings confirm that television viewing is related to bedtime procrastination, but that habitual viewing may help to avoid later bedtimes. Mediation analyses showed that all concepts are strongly interwoven and identified self-control as a central mechanism in explaining the association of television viewing and bedtime procrastination (see Figure 1).

**Implications** Although tackling a displacement effect intuitively implies addressing the activity responsible for the displacement, such a strategy might not be a feasible scenario for the contemporary and future media user anymore, given the immense proliferation of media and the experience of being connected 24/7.  It is therefore necessary to explore new areas of intervention. By approaching sleep deprivation in a cross-disciplinary way, we provide new ways to tackle the increasing sleep loss epidemic by using a self-control perspective. As the

interdisciplinary intersections between communication sciences, psychology and sleep medicine research are becoming increasingly common, media scholars should become more involved in sleep research too.
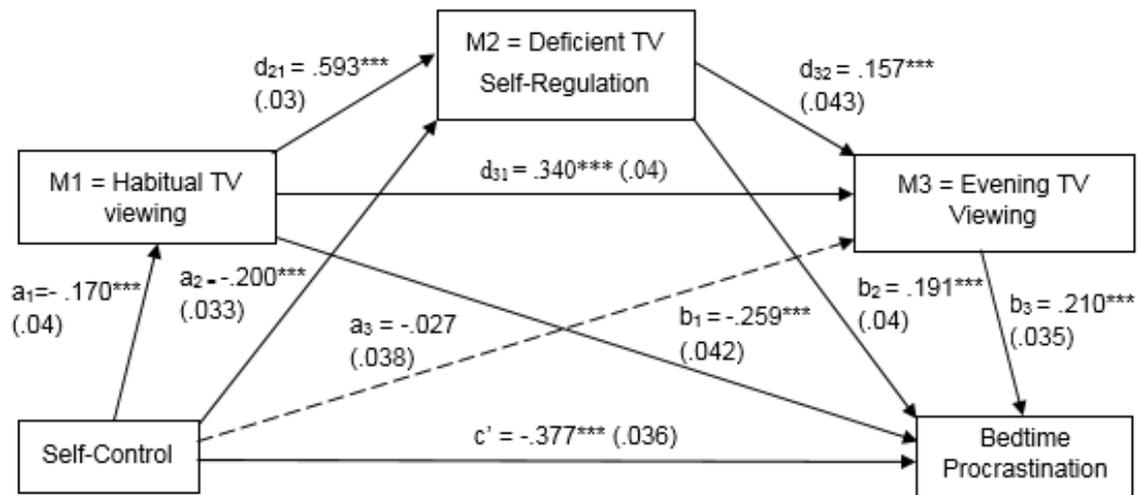


Note. Analyses are based on 5000 bootstrap samples, controlling for gender, age, educational level, shiftwork, clinical history of sleep problems, and self-perceived physical health status. Path coefficients are standardized estimates with standard errors reported in parentheses.
⟶ significant path; ---➤ non-significant path.
Total indirect effect c: $\beta = -.041$, Boot SE = .015, $CI_{95\%}$ [-.072; -.013]
Indirect effect ($a_1 b_1$) through M1 : $\beta = .044$, Boot SE = .013, $CI_{95\%}$ [.022; .075]
Indirect effect ($a_2 b_2$) through M2 : $\beta = -.038$, Boot SE = .01, $CI_{95\%}$ [-.063; -.022]
Indirect effect ($a_3 b_3$) through M3 : $\beta = -.006$, Boot SE = .009, $CI_{95\%}$ [-.025; .010]
Indirect effect ($a_1 d_{21} b_2$) through M1 and M2 : $\beta = -.019$, Boot SE = .006, $CI_{95\%}$ [-.034; -.009]
Indirect effect ($a_1 d_{31} b_3$) through M1 and M3 : $\beta = -.012$, Boot SE = .004, $CI_{95\%}$ [-.023; -.006]
Indirect effect ($a_2 d_{32} b_3$) through M2 and M3 : $\beta = -.007$, Boot SE = .002, $CI_{95\%}$ [-.013; -.003]
Indirect effect ($a_1 d_{21} d_{32} b_3$) through M1, M2, and M3: $\beta = -.003$, Boot SE = .001, $CI_{95\%}$ [-.007; -.001]
***$p < .001$