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RISK COMMUNICATION CONCERNING DIETARY SUPPLEMENTS WITH TWO-SIDED HEALTH EFFECTS  
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**Introduction:** Twenty percent of the Dutch population uses multivitamin and mineral supplements. Although dietary supplements can improve health, they might have negative side-effects as well. It is important that these two-sided health effects are communicated to consumers in such a way that they will use this information when making a decision about the use of the product in question. Since research on communication concerning supplements with two-sided effects is scarce, the goal of this study was to investigate how these effects can be communicated effectively in order to improve informed decision making.

**Method:** Experts from a variety of fields were invited to participate in a systematic three-round Delphi study. Their opinion and agreement were assessed on the importance of factors related to communication concerning dietary supplements with two-sided effects.

**Results:** Data collection was completed at the end of June 2014. It was expected that agreement among experts would be reached on the importance of factors such as the lay-out and content of the message, the recipient's ability and motivation to process the message, risk perception and the degree to which the message was tailored to individual needs.

**Conclusion:** A list of important factors related to communication concerning dietary supplements with two-sided effects was identified. These factors can be used in experimental studies, in which their effects on informed decision making can be tested.

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DEVELOPING A TAILORED NUTRITION AND PHYSICAL ACTIVITY INTERVENTION FOR LOW-EDUCATED WOMEN FROM VARIOUS ETHNIC BACKGROUNDS

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**Introduction:** Unhealthy nutrition and physical activity (PA) behaviors are prevalent among Dutch, Turkish and Moroccan women in the Netherlands, having a low socioeconomic status (LSES). This project aims to develop two versions of a computer-tailored intervention to improve dietary and PA behavior among Dutch, Turkish and Moroccan LSES women. One version is tailored to cognitive variables, while the other is additionally tailored to ethnic identity (EI), i.e. to which degree someone identifies with an ethnic group. It is hypothesized that additional EI-tailoring will result in a superior effect and higher acceptance among the target group. **Methods:** Using the Intervention Mapping protocol, two evidence- and theory-based interventions were developed, based on self-regulation models. **Results:** Both interventions consisted of a sequence of printed brochures. In intervention 1, messages were tailored on participants' health behavior, attitude and self-efficacy (SE). Methods used to address these factors were: behavioral feedback to increase awareness of risk behavior, arguments to improve attitude and goal setting to improve SE. In intervention 2, messages and lay-out were additionally tailored on EI. Several EI-categories were distinguished: Turkish/Moroccan traditional, Turkish/Moroccan adjusted to Dutch culture, Turkish/Moroccan in-between (partly traditional, partly adjusted to Dutch culture), Dutch traditional and Dutch modern. Brochures per category differ in lay-out, colors, use of symbols and patterns, role models and advice messages (e.g. referring to food or cultural customs important in the particular EI group). **Conclusions:** The systematic process of Intervention Mapping

resulted in two interventions for the target group. The interventions will be evaluated in an RCT.

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USING PREVENTION SUBTYPES TO PREDICT FUTURE SMOKING AND ALCOHOL STATUS

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**Introduction.** Substance abuse interventions tailored to the individual level have produced effective outcomes for a wide variety of behaviors. One approach employs cluster analysis to identify prevention subtypes. In this study, prevention subgroups were tested for their ability to predict future substance use. **Method.** Analyses were performed on a baseline sample of 6th graders from 20 Rhode Island middle schools involved in a 36-month intervention. Most adolescents (>95%) reported being in the Acquisition Precontemplation (aPC) stage: not smoking or not drinking and not planning to start in the next six months. For both smoking and alcohol, the baseline aPC sample (N=4158) was randomly split into five subsamples. Cluster analysis was performed within each subsample based on three substance acquisition variables: Pros, Cons, and Situational Temptations. **Results.** Across all subsamples for both smoking and alcohol, four clusters were identified: (1) Most Protected; (2) Ambivalent; (3) Risk Denial; and (4) High Risk. Baseline cluster membership was used to predict smoking and alcohol status at 12, 24, and 36 months. At all time points, for both smoking and alcohol, the proportion remaining in aPC was consistently the highest for Most Protected, and lowest for High Risk. **Conclusions.** The ability of the prevention subgroups to predict future smoking and alcohol use provides evidence of the utility of these subtypes for tailoring interventions.

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I LIKE IT BUT I DON'T: ATTITUDINAL AMBIVALENCE AND ADDICTIVE BEHAVIOURS

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**Introduction:** Attitudinal ambivalence occurs when individuals endorse both positive and negative attitudes toward the same target object. Ambivalent attitudes are particularly relevant for addictive behaviours, as these behaviours may have both positive and negative evaluations associated with them. For example, drinking alcohol may make someone relaxed but can also produce feelings of nausea. Despite this, the majority of research focused on attitudes toward addictive behaviours assume that these attitudes are either positive *or* negative, not positive *and* negative. By assessing ambivalence toward addictive behaviours, a greater understanding of the nature of attitudes underlying these behaviours can be realised. **Method:** A total of 247 participants (M= 28.76 years) took part in this study. A measure of potential ambivalence, which asks participants to indicate their positive and negative evaluations on split semantic differential scales, was completed for five different health behaviours: drinking on a weekday and a weekend, exercising, increasing fruit and vegetable intake and smoking. **Results:** Attitudes toward alcohol consumption were found to be the most ambivalent. When examining drinking behaviour, a pattern emerged suggesting that the greater the quantity of alcohol consumed, the more ambivalent participants were toward drinking. Similar patterns were found for smoking. **Conclusions:** The results suggest that attitudinal ambivalence is an important aspect of addictive behaviours, as participants engaging in greater levels of these behaviours also reported higher levels of ambivalence. This indicates that

individuals are aware of the positives *and* negatives of addictive behaviours but continue to perform them anyway.

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EVALUATING SMOKING TREATMENT SERVICES IN THE UK: WHAT FACTORS INFLUENCE QUIT ATTEMPTS?

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**Introduction:** A number of countries now offer smoking treatment services. One example is the UK. Here, these services have existed as part of the National Health Service since 1999 and involve a wide range of providers, different types of behavioural support and pharmacotherapy. Services are required to assess the smoking status of their clients at four weeks post quit date and validate this using exhaled CO.

**Methods:** Prospective, longitudinal, cohort study of 3,000 service users in eight parts of England who had made a quit attempt, followed-up at 4 weeks and 1 year. This paper presents short term (4 week) outcomes.

**Results:** The services, at 4 weeks, achieved an overall CO validated quit rate of 44%, rising to 57% when all self-report quitters were included. Interim findings suggest that the most effective support was open groups (which were delivered by specialist stop smoking service advisors) and the least effective support was provided by practice staff in primary care. Age and affluence predicted quitting. Clients who were highly nicotine dependent were less likely to quit but low dependence did not predict quitting.

**Conclusion:** UK treatment services were last evaluated in a prospective study a decade ago (Judge et al, 2005). Our results for short term outcomes are strikingly similar to this earlier study, suggesting that at the national level, these services are still delivering effective treatment for UK smokers. However, there is variation between individual providers and behavioural support types that requires further research.

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EFFECTS OF A REDUCTION-TO-QUIT PROGRAM FOR SMOKING COPD OUTPATIENTS: THE REDUQ STUDY

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**Introduction.** Smoking cessation is the most effective means of favourably modifying the progression of COPD. However, due to several failed quit attempts, smoking COPD patients often give up trying. A novel strategy to re-motivate these smokers may be a reduced smoking intervention, enabling them to rebuild self-control and improve their cognitions towards quitting. The REDUQ study evaluates such a reduction-to-quit intervention.

**Methods**

In a multi-center RCT 130 COPD outpatients (smoking  $\geq 10$  cigarettes per day; with at least two recent failed quit attempts; unwilling to quit but motivated to reduce their smoking) were enrolled. Patients in the REDUQ intervention group received small-group behavioural counselling (8 sessions in 18 months + 4 telephone contacts) delivered by trained pulmonary nurses and free nicotine replacement therapy (NRT). Patients in the self-help control group attended a single information session and received a self-help manual with reduction strategies. As soon as patients expressed readiness to quit, they were referred to the smoking cessation program offered by the outpatient clinic.

**Results.** No difference in self-reported 7-days point-prevalence abstinence were observed at both 6 months (REDUQ 9.3%; control 7.1%) and 12 months (REDUQ 14.8%; 12.5% Control). An intervention effect was found on the average reduction in cigarettes per day from baseline to 6 months (48.5% vs. 21.6%;  $F=8.4$ ;  $N=77$ ;  $P<.01$ ), but not at 12 months (53.2% vs. 41.3%).

**Discussion.** Although the reduction-to-quit intervention was effective in considerably reducing tobacco exposure at 6 months, this effect was not sustained and did not result in additional abstinence.

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ADOLESCENT TOBACCO, ALCOHOL AND ILLICIT DRUG USE: DOES RESILIENCE MATTER?

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**Introduction:** Substance use contributes significantly to the global burden of disease, with initiation primarily occurring during adolescence. Research suggests multiple individual and environmental factors may be protective of adolescent substance use. Such factors have been summarised under the concept of resilience, where individual factors constitute internal resilience (eg. self-esteem) and environmental factors constitute external resilience (eg. family connection). Given the lack of comprehensive peer reviewed evidence regarding the association between resilience and substance use a study was conducted to determine the association between adolescent resilience and substance use.

**Method:** A cross sectional study in 32 Australian secondary schools was conducted. Students in Grade 7 (12-13 years) to Grade 10 (15-16 years) completed an anonymous web-based survey regarding their resilience (overall, internal, external, 14 resilience subscales) and substance use (tobacco, alcohol, marijuana, other illicit substances). Logistic regression analyses were conducted to examine associations between all measures of resilience and substance use. **Results:** The survey was completed by 9,987 students (participation rate 89.8%). Excluding recent tobacco use, significant associations were found between all but one resilience and substance use relationship tested (101/102). Adolescents with low resilience had significantly greater odds of reporting tobacco [OR range: 1.6 (95%CI:1.3-2.0)-4.6 (95%CI:3.6-5.8)], alcohol [OR range:1.3 (95%CI:1.1-1.6)-4.4 (95%CI:3.3-6.1)], marijuana (OR range:1.9 (95%CI:1.5-2.5)-6.8 (95%CI:4.9-9.3)] and other illicit drugs use (OR range:2.4 (95%CI:1.8-3.2)-12.3 (95%CI:8.4-18.0)] than those with moderate/high resilience.

**Conclusions:** The pervasiveness of the association found between resilience and substance use suggests enhancing the resilience of adolescents has the potential to reduce adolescent substance use.

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META-ANALYSIS OF THE IMPACT OF DEPRESSION ON SUBSEQUENT SMOKING CESSATION IN CARDIAC PATIENTS

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**Introduction.** Smoking cessation is crucial for patients with coronary heart disease (CHD), yet depression may impede cessation success. We