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## ***From the President***

The preparations for the 15th Biennial Conference of EARA in La Barrosa/Andalusia are well underway. As already stated in another part of the newsletter by our Conference Chair Marion Kloep, La Barrosa seems to be an exciting site for the conference thanks to its perfect weather, the delicious local food, drinks and its impressive culture. So, I think that even whether we will be busy with challenging and stimulating presentations and discussions during the conference days, the conference site will offer many opportunities to relax in the evenings. Our hosts Marion, Leo and their team have worked really hard for making the conference great. They provided a considerable discount for the costs of trains RENFE, which is very helpful for all the attendees.

I would like to thank you for the interest in the conference testified demonstrated by the good number of papers that have been submitted. Moreover, The conference scientific program offers a bunch of interesting keynotes held by Saskia Kunnen, John Schulenberg, Lisa Diamond and Carles Feixa on hot topics for the study of adolescence. In addition, we will have a podium discussion on "Adolescent Brain" with the contribution of Howard Sercombe and Peter Uhlhaas and a round table discussion by leading researchers such as Hakan Stattin, Rainer Silbereisen, Ingrid Schoon and Wim Meeus. Furthermore, we will have 5 invited symposia on various

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topics and a special panel session on “Refugee, immigrant & minority young people in Europe: Challenges and Opportunities” organized by Dagmar Strohmeier and Martyn Barret. Also, very interesting preconference workshops on various issues are run with the help of many young researchers and offer great opportunities for learning and interaction. In general the conference covers includes important and exciting presentations about important relevant issues for the contemporary study of adolescence such as adolescent brain, from generation@ to generation#, immigrant and refugee issues, terrorism etc. Finally, the conference offers many organized events, such as SECnet meeting and other social events, where you can take the chance to meet and discuss with colleagues from all over the world. I am excited to meet you all at the conference in September.

Unfortunately, we don't have any good news yet regarding the finances of EARA-SRA summer schools. In spite of the efforts made by our colleague Jeff Kiesner, EARA-SRA summer school chair, the EARA-SRA summer school which was supposed to be held in Finland in 2016, had to be canceled due to the decision of Jacobs Foundation of stopping financial support of summer schools. However, this issue is highly prioritized in the agenda of the EARA council and we are trying to explore other solutions together with other societies. I hope to give members you good news soon. Journal of Adolescence new special issue on “Shedding light on the dark side of identity” based on 2014 EARA Çeşme presentations came out <http://www.sciencedirect.com/science/journal/01401971/47> with interesting papers. This issue poses the emphasis of dark side of identity, which is a quite original angle. . Wim Beyers and Elizabetta Crocetti worked really hard to make this issue really good. I would like to thank Wim and Elizabetta as well as all of the contributors.

On November 30 and December 1 2015, the European Symposium on Adolescent

Research & Research Method Workshop was organized in London, Roemphthon University Centre for Applied Research and Assessment in Child and Adolescent Wellbeing (CARACAW). This workshop was organized by Cecilia Essau and her colleagues and students jointly with EARA. Many EARA members from and connected with Great Britain presented papers and Loes Keijsers run a full day workshop on “New methods of analysing longitudinal data: Within- and Between-person modelling”. Those have been two very productive and great days!! Thank you to all the contributors! You will read about the event in detail in other part of the newsletter.

In order to increase the involvement and to avoid some practical difficulties during the conference, EARA elections will be made before the conference as announced earlier. EARA members will get invitations to vote soon. I hope the participation will be high. Finally, I would like to make a video on the EARA history. Please look at the announcement below. In this regard, it would be great if you could share your personal photos, memories, documents. Thank you very much in advance Hope to see you soon in Spain!!! Kind regards

Figen Çok  
EARA President  
TED University, Ankara, Turkey.

**INVITATION for sharing your photographs, documents and memories for a short video on EARA history to be sent by June 15 2016.**

**Documents from EARA conferences, summer schools, network meetings etc are welcomed.**

**Thank you for the contribution...**

*Please send email attachments to [figen.cok@gmail.com](mailto:figen.cok@gmail.com) and if it is limited, an invitation for dropbox may be provided.*

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# ***Special Issue: Drug use among adolescents: Multifaceted problem and methodological perspectives***

***Cécile Mathys***

(University of Liège, Belgium)

Adolescence is a developmental period characterized by increased risk-taking behavior, including the initiation of, and persistence in, substance use. Drug use is connected with health, social, and economic concerns. For example, early initiation of cannabis use is often associated with higher levels of cannabis use later in life and with problems such as alcohol abuse, distortion of brain development, psychosomatic symptoms, and school dissatisfaction or dropout. Studies have shown that drug use is influenced by a broad range of variables, such as genetic factors, individual traits and attitudes (e.g., psychopathological symptoms, personal expectancies and motives, comorbidity with other substances), social relationships and bonds (family and peers), or environmental and situational contexts (community, parties and music, presence of rules/legislation). Understanding these factors and their relationships with adolescent consumption remains a major societal goal so that preventive and therapeutic strategies can be successfully implemented.

The relevant question is, why do adolescents take risks? And an underlying, second question is, should risky behaviors be viewed only as deviant and counterproductive? Research has shown that adolescence is a period associated with

high sensitivity to reward and greater impulsivity, both of which may precipitate greater risk taking, especially substance use experimentation. The work of Steinberg (e.g., 2009) has demonstrated that basic cognitive competence matures by the time individuals reach age 16 and that many of the social and emotional capacities that influence adolescents' judgment and decision making endure until late adolescence and beyond (up to 25 years old). Furthermore, the developmental "maturity gap" theory described by Moffit (1993) argues that affirmation of maturity is exerted by engagement in "adult" behaviors, such as substance use and sexual activity. These behaviors, which are reinforced among peers groups, reflect values and attitudes exhibited by adults and are viewed by adolescents as attractive in terms of achieving high status. Indeed, among some native cultures the consumption of psychotropic plants and alcohol is perceived as an initiation rite that helps one transition from childhood to adulthood. Consistent with this perception, evolutionary theories point out that risky behaviors are not maladaptive if the expected benefits outweigh the expected costs (Ellis et al., 2012). For example, if smoking cannabis helps the adolescent to feel accepted by his peers or helps him to impress the girl he likes, two major goals common to adolescence, no one would say that this behavior is only dysfunctional or is too risky. In this sense, understanding motivations is necessary not only at a conceptual level, but also for developing interventions that are relevant and that "stick" to youths' needs. Therefore, considering the function of substance use from adolescents' point of view is fundamental. To achieve this objective, researchers should adopt complementary approaches in order to develop accurate concepts, sensitive measures, and tailored interventions.

This special issue features five contributions from across Belgium, Netherlands, and Switzerland that include original and empirical studies associated

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with risky behaviors, and substance use in particular. With the aim of better understanding the phenomenon of adolescent drug use, the research described in the papers targeted populations ranging from adolescents to young emerging adults and used multiple methodologies from quantitative data, including longitudinal design, randomized trials, and implicit measures, as well as experimental tasks and qualitative measures. Taken together, the five empirical studies investigated multiple predictors in an attempt to achieve a multilevel view of risky behaviors and substance use in adolescence. As pointed out earlier in this introduction, researchers must innovate and use various methodological techniques to identify mechanisms underlying substance use in adolescence, such as subjective motives and the function of these behaviors in daily life, and translate them into effective interventions and partnerships with policy makers, community members, and practitioners.

The first paper examines cannabis use initiation and its relationships with psychopathology traits (defined as social anxiety) and personal and social variables (as personal expectancies and peer substance use) among Belgian adolescents. In this longitudinal study, social anxiety appears to be a promotive factor of cannabis use initiation and challenges the tension-reduction model. Although according to some studies, cannabis is used more commonly as a coping mechanism for socially anxious adults, this paper suggests that cannabis use serves an adaptive function for adolescents with social anxiety.

The second contribution discusses two studies about risky behaviors, including alcohol use, in samples of Belgian and Swiss youths and their mothers. It first examines a possible association between social factors (described as parental prohibition and communication style with regard to moral and friendship domains), risky behaviors, and legitimacy vs defiance perceived by youths. In particular, which parental messages are productive and which are

counterproductive in terms of preserving healthy adolescent trajectories? In the second study, authors used an attractive measure, such as a vignette describing a hypothetical maternal reaction to an adolescent episode of alcohol abuse.

The third paper describes two studies that aimed to examine relationships between environmental factors (nightlife and music venues) and drug use (including alcohol, MDMA, cannabis, cocaine, and amphetamines). The studies confirmed that music is an important aspect of youth culture and that the preference for certain music genres is associated with the use of illegal drugs. These two surveys, administered to young adults in Belgium (mean age from 22 to 25 years), used quantitative and qualitative data. The use of qualitative data through in depth-interview was particularly suitable as this population, goa party attendees, was a sensitive one. The researchers recruited participants with a snowball sampling method and began by using nonparticipant observation to build contact and trust with youths. This approach may facilitate a deeper understanding of youths' motivations for using harm reduction strategies regarding drug use and could enlighten interventions and policies.

The fourth study aimed to assess implicit/explicit expectancies related to cannabis use among Belgian adolescent users and nonusers. Cannabis use expectancies constitute a central factor in understanding cannabis consumption. However, most previous studies have used self-report questionnaires, which are associated with a wide range of biases. Implicit measures based on experimental tasks were therefore developed in this study to overcome these limitations and present new ways to measure and understand cannabis use and expectancies.

Finally, the last study specifically attempted to operationalize and test for the effects of the Healthy School and Drugs program on alcohol, tobacco, and marijuana use among more than 3,000 Dutch early adolescents. Two intervention conditions

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were used (i.e., e-learning, integral), plus a control condition. This large study sought to present a universal preventive program related to drug use among adolescents, including multicomponents such as individual education, home, and school environments. The nonsignificant impact of this program on incidences of alcohol, tobacco, and marijuana use encourages researchers to question the content and the implementation components. This type of research is helpful to guide future adapted and adaptive interventions (August, Gewirtz, & Realmuto, 2010) in the area of risky behaviors and drug consumption during adolescence.

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## ***1. Social anxiety and cannabis use initiation: Are socially anxious adolescents more susceptible to consume cannabis or to avoid it?***

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### Introduction

The developmental period of adolescence is characterized by a stressful shift from immaturity to maturity, including behavioral and cognitive changes. Teenagers may have problems coping with these transitions. As such, anxiety disorders may emerge, 15 years being the approximate median age of onset (Grant et al., 2005), and a potential response to these stressors could be substance use (Comeau, Stewart, & Loba, 2001). Consistent with Conger's (1956) tension-reduction model, research has shown that cannabis use increases in adolescents when they attempt to cope with and reduce negative affects (Bonn-Miller, Zvolensky, & Bernstein, 2007). The self-medication theory suggests that negative affects are predictors of use and abuse because cannabis has an anxiolytic effect. Furthermore, the use of cannabis to self-medicate anxiety seems to occur more frequently among late adolescents and adults with social anxiety than among those with other anxiety disorders, probably because this population commonly seeks to cope with social anxiety provoked by social interactions (Buckner, Ecker, & Vinci, 2013). However, in middle adolescence, the relationship between social anxiety and drug use remains unclear, including the initiation stage of consumption. Some research has found that general anxiety, especially when associated with comorbid depression, increases the risk of consumption at this age, but the same pattern of results has been not observed for social anxiety (Frojd, Ranta, Kaltiala-Heino, & Marttunen, 2011).

To clarify the nature of the relationship between anxiety and cannabis use, recent studies investigated possible mediating and moderating variables (e.g.,

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Foster, Ecker, Zvolensky, & Buckner, 2015), such as the subjective motives for consuming cannabis and the expectancies about cannabis effects. For example, enjoyment, fun, experimentation, social enhancement, boredom, relaxation, and coping with stress and anxiety are the most frequently reported, explicit reasons for using cannabis. Foster and colleagues (2015) surveyed a sample of young adults who were current cannabis users (18 to 36 years old) and found that social anxiety was associated with greater cannabis craving when expectancies about relaxation and tension reduction were greater, and this effect was even stronger for individuals with perceptions of greater parental approval of cannabis use. Therefore, the degree to which individuals rate their family's approval or disapproval of cannabis use behavior and the degree to which individuals perceive others' use (reporting a greater number of friends who use cannabis, for example) are linked to cannabis use, in particular among those who are socially anxious (Ecker & Buckner, 2014). It could be hypothesized that people attempt to reduce their social anxiety by making decisions and adjusting their behaviors on the basis of others' norms and behaviors. We know that compared with adults, adolescents respond quite differently to stressors (Spear, 2000). Moreover, social context, particularly peer and familial influence, is crucial for adolescent development and learning. Thus, the role of social anxiety, in association with personal expectancies and social influences, is a relevant variable for better understanding cannabis use initiation and underlying mechanisms during adolescence.

This article presents the main results of a recent longitudinal study about adolescent substance use (Schmits, Mathys, & Quertemont, 2015). In this study, researchers investigated the relationship between social anxiety and cannabis use initiation and used longitudinal data to test, among other variables, if social anxiety may be a risk or a protective factor with regard to cannabis use initiation. The researchers also

examined some of the factors that might mediate or modulate this relationship, especially cannabis effect expectancies as mediators of the relationship between social anxiety and cannabis use initiation, as well as perceived peer use and alcohol use as moderators of the relationship.

### Methodology

Participants. A sample of 1,343 adolescents (50% female;  $M$  age = 15.70; age range 14–18 years;  $SD$  = 0.88) was recruited from 11 secondary schools representing all educational and socioeconomic networks in the French-speaking region of Belgium. Initial phone contact was made with a large number of randomly selected schools (52 schools) to retain at least 10 schools in the final sample. At the start of the study, all students from Grade 10 in the selected schools were included. Approximately 85% of the participants were Belgians and the remainder were Italians, Moroccans, Turks, or other minorities. Participants were not compensated for their contribution. The sample was drawn from a recent longitudinal investigation of adolescent substance use from 2012 to 2014. Wave 1 (T1) and Wave 2 (T2) data were obtained from students from Grade 10 to Grade 11. Statistical analyses were performed on the 877 students (50% female;  $M$  age = 15.61;  $SD$  = 0.81) who completed both waves. Among the 877 participants in the eligible sample, 693 (79%) had never used cannabis at baseline, whereas 184 (21%) had already tried cannabis. At T2, 297 participants (34%) reported that they had never used cannabis, whereas 580 participants (66%) reported having used cannabis at least once in their life. Therefore, during the 1-year follow-up, 113 participants (13% of the sample) had initiated cannabis use. The participants who comprised the eligible sample were therefore classified into three groups: “nonusers” who had never used cannabis at T2 ( $n$  = 580, 66%), “users at baseline” ( $n$  = 184, 21%), and “new users” ( $n$  = 113, 13%).

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**Measures.** Data were obtained using a self-report questionnaire that was administered collectively in class under the supervision of trainee researchers and in the absence of the teachers. For all validated scales, French versions were used (e.g., Schmits, Heeren, & Quertemont, 2014), and scales demonstrated acceptable to good internal consistency reliability. For more details about the measure, see the related studies.

### Results and Discussion

Main results of the study are presented and discussed here. STATISTICA 10 software and SPSS 18 software were used to perform statistical analyses. Mediation and moderated mediation models were tested with multiple regression analyses and a bootstrapping method. Statistical significance was set at  $p < .05$ .

Cannabis initiation (nonusers at T2 vs. new users at T2) was defined as the outcome, while social anxiety at T1 was the main predictor. Because social anxiety is often associated with anxiety and depression, these two variables were used as controls. Social anxiety was associated with cannabis initiation, showing that higher levels of social anxiety at T1 reduced the probability of cannabis initiation at T2 ( $\beta = -.01$ ;  $p = .02$ ; OR = .98). Cannabis effect expectancies at T1 were then included in the model as mediators. However, for the sake of parsimony, cannabis expectancies that were not significantly related to cannabis use at T2 were not included in the analyses (including cognitive impairment and negative effects expectancies, relaxation and social facilitation effects expectancies). The results of these separate mediation analyses (with standardized data) indicated that only perceptual enhancement and craving expectancies significantly mediated the relationship between social anxiety and cannabis initiation ( $\beta = -.04$  [-.11, -.001];  $SE = .03$ ). These were partial mediations in that the direct effect of social anxiety was reduced but remained statistically significant after the introduction of the mediators ( $\beta = -.38$  [-.65, -.11];  $SE = .14$ ). In

contrast, negative behavior expectancies did not significantly mediate the relationship between social anxiety and cannabis initiation ( $\beta = .006$  [-.02, .04];  $SE = .01$ ). In addition, alcohol use and the number of peer cannabis users were included as moderators to test a path model in which these variables might alter the mediating effects of cannabis expectancies. The results of this moderated mediation analysis showed that the interactions between the two moderators (alcohol use and number of peer cannabis users) and both social anxiety and the mediators were statistically nonsignificant, meaning that alcohol use and the number of peer cannabis users did not moderate the mediation (for example, Perceptual Enhancement and Craving Effects Expectancies  $\times$  Perceived Peer Use:  $\beta = -.12$ ;  $SE = .86$ ;  $p = .17$ ).

During a 1-year period, 13% of sampled adolescents had initiated cannabis use, and several factors significantly predicted the probability of initiation: alcohol use and perceived peer use for social context variables; perceptual enhancement and craving expectancies, negative behavior expectancies, and social anxiety related to personal factors. In the tested model, social anxiety significantly protected from cannabis use initiation, particularly through the mediating role of perceptual enhancement and craving expectancies (e.g., smoking cannabis increases my immediate desire for things), whatever the number of perceived peer users and the levels of alcohol use. This study revealed that social anxiety is a negative predictor of the risk of cannabis initiation. This result was also demonstrated by a related study from this longitudinal dataset (Schmits, Mathys, & Quertemont, 2016) and could therefore be considered as a promotive factor (Frojd et al., 2011), meaning that this factor directly decreases the risk of cannabis initiation. It might be hypothesized that the promotive effect of social anxiety would therefore derive from the avoidance behaviors and limited social interactions specific to this disorder. If the perceived number of peer

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cannabis users shows no association with the promotive effect of social anxiety, it may be because youths with this disorder generally have fewer friends or affiliate with more introverted peers who are less likely to initiate them to cannabis use. Moreover, the partial mediating role of perceptual enhancement and craving expectancies in the relationship between social anxiety and cannabis initiation is also a relevant finding. In contrast, the analyses showed no significant effects from other expectancies. These findings challenge the tension-reduction model according to which anxious individuals use substances to calm their negative and anxious thoughts, to feel more comfortable in social contexts, or to give the impression that their impairment is caused by cannabis use (Buckner & Schmidt, 2008). It may be assumed that social anxiety evolves with age. Thus, tension-reduction expectancies might become beneficial in later developmental stages, as in adult life, in terms of coping or hiding changes in mental or emotional states.

### Theoretical and Practical Implications

This study provides new insights about personal and social factors related to social anxiety and cannabis use initiation in middle adolescence, specifically with respect to the role of cannabis effect expectancies, perceived peer use, and alcohol use. In previous studies involving older populations, social anxiety was frequently reported as a risk factor, especially for problems related to regular cannabis use, which were increased by injunctive norms and personal expectancies. Therefore, because we know that cannabis is the most commonly used illicit drug and that almost one third of individuals with cannabis use disorders also demonstrate social anxiety disorder (Ecker & Buckner, 2014), these discrepancies highlight the need to study the relationships between social anxiety and cannabis use in a developmental context. In particular, associations between personal expectancies and social influences should be examined in the sense of unilateral or

bilateral relationships. For example, parental education could affect positive or negative expectancies about cannabis use, not only their behavior. Moreover, several studies have shown that selection and socialization are major mechanisms for understanding peer influence on risky behaviors, but little has been revealed about the relevance of these mechanisms for cognitive processes, such as personal expectancies and motives. Findings from future studies hopefully will be helpful in the design of prevention programs with regard to cannabis use initiation, through their impact on family and peer contexts.

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## ***2. Preparing for the inevitable: From what to prohibit to how to prohibit***

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### Introduction

When your child enters adolescence, as a parent, you hope that he/she won't engage in risk-taking behaviors and won't get too much into trouble by, for instance, getting involved with drug-using friends, drinking massive amounts of alcohol, and/or getting involved in fights. Generally, parents think that the major challenge with adolescents is how to affect the teenagers' behaviors when in fact parents should also prepare themselves to adapt and adjust their parental attitudes and expectations. Socialization researchers generally agree that an important role for parents is to set clear rules and guidelines about behaviors that are appropriate and allowed and about behaviors that are undesirable or even forbidden (e.g., Maccoby, 2007). Effective socialization then would involve children's internalization (i.e., endorsement) of the introduced limits and of the associated social norms and values, whereas failure of socialization would be reflected in children's rejection of these limits and in the perception of illegitimate authority. However, one may wonder whether it is always wise for parents to prohibit undesirable behaviors; indeed, certain regulations and prohibitions possibly only may backfire, thereby eliciting oppositional defiance, which involves a blunt rejection of the imposed rules and a tendency to do the opposite of what is expected (Vansteenkiste, Soenens, Van Petegem, & Duriez, 2014). In the present contribution, we tested whether the effectiveness of parental rule-setting depends upon *what* is prohibited or regulated, as well as on *how* such regulations are communicated.

According to social domain theory (Smetana, 2011), children construct different types of social knowledge systems

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(or social domains) from early childhood on, which they apply in their interpretation of the social world. Depending upon the social domain at stake, children would reason fundamentally differently about obedience, transgression, and legitimate jurisdiction. For instance, the moral domain pertains to prescriptive rules and norms about rights, justice and others' welfare (e.g., whether one can lie or hit others), whereas the personal domain comprises private aspects of one's life (e.g., choice of clothes, peer relationships). Whereas both parents and children agree that parents have the legitimacy to regulate moral issues, adolescents increasingly claim that personal issues would be regulated by themselves rather than by their parents. Hence, parental rule-setting in the personal domain especially would be perceived as illegitimate, and therefore would relate to more oppositional defiance.

Moreover, according to self-determination theory (Ryan & Deci, 2000), the effectiveness of rule-setting also would depend upon parents' communication style, which pertains to the way in which rules and prohibitions are introduced. An autonomy-supportive communication style would involve empathizing with the child's perspective, offering choice about how certain expectations can be met, and providing a meaningful explanation for rules and prohibitions. A controlling communication style, on the other hand, would involve forcing the child to comply with the parental demands, for instance through the use of forceful language, guilt induction and threats with punishment (Soenens & Vansteenkiste, 2010). According to self-determination theory, a controlling (vs. autonomy-supportive) style would be ineffective (vs. effective) because such a style would thwart (vs. satisfy) children's basic psychological needs – that is, the need for autonomy (i.e., experiencing volition and psychological freedom), relatedness (i.e., experiencing belongingness and connectedness with important others), and

competence (i.e., feeling effective in one's actions; Ryan & Deci, 2000).

Herein, we briefly present the results of two submitted studies. In Study I, we tested whether associations between parental prohibitions and legitimacy perceptions and oppositional defiance depended upon the social domain (contrasting friendship vs. moral prohibitions) and upon the communication style (contrasting an autonomy-supportive vs. a controlling style). In Study II, we focused specifically on parental responses to an episode of excessive alcohol use. More exactly, we tested for the association between maternal communication style and adolescents' motivation to change alcohol use, as well as for the intervening role of experienced need frustration (i.e., autonomy and relatedness frustration) and their reactions to the situation of rule-setting (i.e., oppositional defiance and submission).

### Study I

The first study was a multi-informant study, in which 196 Belgian adolescents (64% girls; mean age = 13.9 years) and their mothers participated. Using a procedure reported in Vansteenkiste et al. (2014), participants rated the degree to which mothers prohibited specific friendships, as well as the style in which these prohibitions were communicated, assessing an autonomy-supportive and a controlling style. Moreover, we also assessed adolescents' ratings of the perceived legitimacy of these prohibitions, as well their oppositional defiance to these prohibitions. Then, the same questionnaire administered again, though now with a focus on mothers' prohibition of morally inappropriate behavior.

We first examined mean-level differences between the domains, using repeated measures ANOVAs. In general, we found clear evidence for greater maternal involvement in the moral domain, with a higher frequency of moral prohibitions and in a more frequent use of a controlling style in the moral domain, as reported by both

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adolescents and mothers. Moreover, adolescents reported less perceived legitimacy and more oppositional defiance to friendship prohibitions, indicating that adolescents believe that these issues rather fall under their personal jurisdiction.

Then, we performed a series of hierarchical regression analyses, as to test for the relations between mothers degree and style of prohibitions, and adolescents' perceived legitimacy and oppositional defiance. Associations of degree of prohibition largely depended upon the domain. Across informants, we found that a higher degree of moral prohibitions related to stronger legitimacy beliefs, whereas a higher degree of friendship prohibitions was associated with more oppositional defiance. By contrast, the correlates of communication style were more similar across domains, with an autonomy-supportive style relating to stronger legitimacy perceptions and less oppositional defiance, and a controlling style showing the opposite pattern of results.

## Study II

In the second study, we also examined whether the effectiveness of parental rule-setting depended upon the communication style. However, in this study, we focused on mothers' reactions to an episode of excessive alcohol use – a parental intervention that may be rather challenging, as adolescents often see alcohol use (usually in the company of peers) as falling under their personal jurisdiction (Smetana, 2011). Specifically, the aim of the present vignette-based study, inspired from Van Petegem, et al. (2015), was to test whether maternal communication style related to adolescents' motivation to change alcohol use patterns, as well as to examine the underlying role of adolescents' need frustration (i.e., relatedness and autonomy) and of different types of coping responses (i.e., oppositional defiance and submission) in this association. The sample consisted of 134 Swiss adolescents (53% women;  $M_{age} = 17.46$  years) from a high school of the

French-speaking part of Switzerland. Participants were offered a vignette describing a hypothetical maternal reaction (either controlling or autonomy-supportive) to an adolescent alcohol abuse episode, which involved a request to manage alcohol consumption. They were then asked to fill out questionnaires that assess their reactions to the situation. More exactly, we assessed experienced need frustration (in terms of autonomy and relatedness), oppositional defiance and submissive obedience to the parental request, and their motivation to change alcohol use (in terms of moderation and abstention).

SEM analyses revealed that adolescents in the controlling condition reported more frustration regarding their relatedness and autonomy needs. Interestingly, we found that relatedness and autonomy were related differentially to the coping reactions. On one hand, relatedness frustration related to more oppositional defiance to the maternal request, which, in turn, was negatively related to adolescents' motivation to change. On the other hand, autonomy frustration related to more submission to the maternal request, which, in turn, was positively related to change motivation. In others words, our results showed that a controlling maternal communication style is related to two distinct mediational processes that have opposing effects on adolescents' change motivation.

## Conclusion

A difficult question for parents is whether it is always wise to prohibit undesirable behaviors to their adolescent children particularly in order to deter them from engaging in risk-taking behaviors. Many parents experience that prohibitions are sometimes risky and may turn out counterproductive. Drawing upon social domain theory (Smetana, 2011) and self-determination theory (Ryan & Deci, 2000), the present findings suggest that the effectiveness of parental prohibition depends both on *what* is prohibited and on

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how prohibitions are communicated. Prohibitions about personal issues (such as friendships) seem more challenging to communicate. However, this does not imply that parents should refrain from setting rules when confronted with a difficult situation, such as bad friends or child alcohol abuse; what is more important, then, is to refrain from using a controlling style when setting rules. Indeed, this style of communication is suboptimal for adolescent development, as it is perceived as illegitimate and relates to more oppositional defiance, and, in general, thwarts the internalization of rules (Vansteenkiste, et al., 2014).

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### **3. Drug use and nightlife: More than just dance music**

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Epidemiological studies have shown that so-called party people (a global term for people who visit clubs, parties of all kinds, music festivals and dance events) are more experienced with illegal drugs than other groups of young people who “go out” (eg. Chen, Miller, Grube, & Waiters, 2006). However, over the last decade, such research has focused almost exclusively on the correlation between electronic music and ecstasy or other stimulant drug use. In our studies (Van Havere et al., 2011; Van Havere et al., 2015) we examined a broader spectrum of nightlife, beyond dance music. Therefore, we questioned 775 visitors of clubs, dance events and rock festivals on their patterns of going out and drug use in a quantitative study (mean age: 22, sd 8y) and conducted 17 interviews with 19 participants in a qualitative study (mean age: 25 (18-31)). Six out of ten survey respondents were male, as were 17 of the 19 interviewees.

#### Dance music, dance events and clubs

Legal and illegal substances were reportedly used at all nightlife venues and were associated with all music preferences in the survey. However, as expected the use of illegal drugs was more common at dance music venues than other nightlife venues. Illegal drug users (defined as those who have used an illegal drug during the past year) are more likely to report that they like dance music (OR = 2.47, 95% CI [1.61 – 3.78]) and frequently “go clubbing” (OR = 1.79, 95% CI [1.33 – 2.42]). More specifically, individuals who report liking dance music are more likely to use ecstasy and cocaine frequently, two typical “club drugs”, as well

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as cannabis (cannabis OR = 2.25, 95% CI [1.36, 3.72]; MDMA OR = 3.19, 95% CI [1.12, 9.09], cocaine OR = 3.46, 95% CI [1.08, 11.07]). Respondents recruited at dance events reported higher ecstasy and cocaine use (ecstasy OR = 1.63, 95% CI [1.19, 2.23]; cocaine OR = 1.69, 95% CI [1.22, 2.35]) and those recruited at clubs higher ecstasy use (OR = 1.48, 95% CI [1.04, 2.11]).

Furthermore, frequent club visits (number of visits during the last month) were positively associated with the use of ecstasy (OR = 1.11, 95% CI [1.05, 1.17]) and cocaine (OR = 1.11, 95% CI [1.05, 1.18]). However, the frequency of club visits during the last month was negatively associated with alcohol consumption (OR = 0.95, 95% CI [0.90, 1.00]).

#### Goa parties

Even though the notion of distinct subcultures may be outdated, there are still some sub scenes in which drug use plays a more prominent role, and in which a greater proportion of attendees use illegal drugs. In the survey, participants who reported attending goa parties within the last month appeared to have had even more experiences with drugs than those who reported liking dance music. In fact, 8 out of 10 goa partygoers had used an illegal drug during the last year and were nearly five times more likely to be illegal drug users (OR = 2.41, 95% CI [2.41 – 9.77]). More specifically, going to goa parties was found to be a predictor of more frequent use of cannabis (OR = 1.28, 95% CI [1.09, 1.51]), amphetamines (OR = 1.10, 95% CI [1.02, 1.19]) and cocaine (OR = 1.23, 95% CI [1.07, 1.42]). Attendees of goa parties were interviewed face-to-face to explore harm reduction strategies (see further).

#### A more expanded nightlife environment

The use of substances was not linked exclusively with the reported frequency of visiting clubs or preference for dance music, but it was associated with a more expanded nightlife environment. In addition to more frequent alcohol use (OR = 1.08, 95% CI

[1.05, 1.11]), going to pubs in the last month was associated with more frequent use of illegal substances, including cannabis (OR = 1.02, 95% CI [1.00, 1.04]), ecstasy (OR = 1.05, 95% CI [1.02, 1.08]) and cocaine (OR = 1.04, 95% CI [1.01, 1.07]).

#### The influence of rock music

Interestingly, reported preferences for rock music and being recruited at a rock festival, in contrast with other music styles or venues, appeared to be protective factors against substance use. Our results show that people who say they like rock music use cocaine less frequently than people who say they do not like rock music (OR = 0.47, 95% CI [0.29 – 0.76]). In addition, compared to the average, attendees of rock festivals were less likely to use illegal drugs such as ecstasy (OR = 0.41, 95% CI [0.26, 0.65]), amphetamines (OR = 0.50, 95% CI [0.29, 0.87]) and cocaine (OR = 0.51, 95% CI [0.31, 0.81]), although no clear association with alcohol use was observed.

It remains unclear whether taking drugs makes an individual more likely to listen to certain types of music or whether preferring certain types of music makes an individual more likely to use drugs (Lim, et al., 2008). Party people use illicit drugs in recreational settings to enhance their musical and other social experiences (Lim, et al., 2008). Respondents in a study by Moore & Miles (2004) reported differences in the types of substances consumed, depending primarily on musical preference and venue. Thus, it appears more likely that adolescent substance users identify themselves according to their choice of music, while listening to music seems less likely to encourage drug use among this age group. The problem is not, therefore, that young people fall victim to bad influences because they have other options. It is, rather, a matter of a two-dimensional dialectic: individual identity development as opposed to the prevailing culture (Calafat et al., 2001; Golub, Johnson, & Dunlap, 2005).

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### Implications for prevention

Places where young people go out (from rock festivals, to clubs and pubs) offer an excellent opportunity for health promotion, as it is possible to reach a large number of at-risk people in a short period of time.

Substance use prevention at rock festivals should focus on the use of alcohol and cannabis. Based on our results, going to rock festivals or listening to rock music does not appear to be directly linked to the use of other illegal drugs.

With the cooperation of pub owners, bartenders and bathroom personnel, very structured prevention and safety measures (e.g. staff training programmes) can be used to reach pub visitors. Such targeted interventions for reducing alcohol-related harm have been positively evaluated (eg. Van Beurden, Reilly, Dight, Mitchell, & Beard, 2000), and could be extended to illegal drug users. Also, providing health education materials at nightlife venues may be more effective than spreading anti-drug use messages.

Looking at one specific sub-scene like the Goa trance scene by in depth-interviews provided us insights in strategies that drug users take to minimize drug-related harm or control potential problems. The communitarian ethos and related solidarity are original and central characteristics of the Goa scene which offer several options for new harm reduction directions. Also, strong neo-liberal influences were seen in underground rave settings. More individualism and pursuing controlled drug consumption are also part of contemporary rave settings which are increasingly commercialised. Harm reduction initiatives, like pill-testing, peer support interventions, messages about acute and sub acute problems, but also strategies to prevent adverse long-term drug use effects should be part of multi-component prevention strategies towards drug users.

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#### **4. Implicit and Explicit Expectancies of Cannabis Use in Adolescence**

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##### Introduction

Adolescence is a critical period for initiating a trajectory of cannabis use in adulthood. Personal expectancies about the effects of cannabis use play a crucial role in consumption. Explicit expectancies are specifically associated with the frequency and severity of use (Hayaki et al., 2010). Positive effect expectancies (e.g., euphoric effects, relaxation, stress reduction) are related to increased frequency of cannabis use (Kristjansson et al., 2012), while negative effect expectancies (e.g., harmful effects) are associated with reduced frequency (Simons & Arens, 2007).

Cannabis use expectancies thus constitute a central factor in understanding cannabis consumption. Earlier results were exclusively based on self-report questionnaires, which may be subjected to biases, such as self-representation, introspective limits and social desirability. Implicit measures based on experimental tasks have therefore been developed to overcome the limitations of explicit measures. These implicit measures are used in addiction research to assess several cognitive processes such as attentional bias, memory association and substance-related action tendencies (Stacy & Wiers, 2010). The combination of both explicit and implicit methods is essential to efficiently evaluate cannabis use expectancies, and then to predict consumption. Among the implicit experimental measures, the Single-Category Implicit Association Test (SC-IAT) is used to assess memory associations, constituting good predictors of consumer behaviors (Steinman & Karpinski, 2008). Indeed, among young adults, cannabis users have less negative associations for cannabis-related words (Field et al., 2004) and heavy cannabis users have stronger implicit

positive-arousal associations (Beraha et al., 2013). Concerning adolescence, Ames et al. (2007) showed that an implicit association with excitation significantly predicted cannabis use, whereas among explicit beliefs, relaxation and negative effects predicted use.

In sum, expectancies could be considered in two ways: (1) explicit expectancies, namely the effects that individuals (users or not) consciously expect to feel when the substance is consumed, usually evaluated through self-report questionnaires; (2) implicit expectancies, namely the attitude that individuals (user or not) automatically manifest towards the substance-related stimuli, usually assessed through implicit measures. Whereas implicit and explicit expectancies did not necessarily have the same predictive role in cannabis use (no systematic correlation between them), the nature of the association seems rather established among all levels of use: positive expectancies are associated with cannabis use, while negative expectancies with non-use. However, far less is known regarding both explicit and implicit measures when the cannabis use is sporadic. As implicit expectancies constitute a crucial factor for cannabis consumption and as adolescence is the key period for developing cannabis use, this paper presents a combined exploration of implicit and explicit cannabis effect expectancies among non-clinical adolescents, who may be at an early consumption stage (Schmits, Maurage, Thirion & Quertemont, 2015).

##### Methodology

Participants. One hundred and thirty teenagers (55 girls) attending school from the French-speaking region of Belgium (Liège) were enrolled in the study. All educational networks from secondary schools were represented. Participants were between 14 and 21 years of age ( $M = 16.40$  years,  $SD = 1.16$ ); 43.84% had never used cannabis (33 men; 24 women) and were classified as “non-users”; 56.16% had

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already used cannabis (42 men; 31 women) and were classified as “users”.

**Procedure and Measures.** After providing their informed consent, participants performed individually the three cannabis SC-IATs (relaxation, excitation and negative) on a computer to evaluate implicit associations (described as “implicit expectancies”). Then, a self-report questionnaire was administered to collect sociodemographic data, along with the questionnaires on cannabis use (MUF), problems related to cannabis use (CPQ-A-S), cannabis use effect expectancies (MEEQ), alcohol use (AUDIT), trait anxiety (STAIC-T), social anxiety (LSAS-CA-SR) and depression (CES-D). For more details on the measures, see the related study.

### Results and discussion

Main results are presented and discussed here. Pearson’s, Spearman’s, partial correlations and two-way mixed ANOVAs with repeated measures were performed, using Statistica 10 (StatSoft, Inc., Maisons-Alfort, France), with the  $\alpha$  level set at 0.05. After controlling for age, alcohol use and social anxiety (introduced in covariates as they significantly differ between users and non-users, see the published paper for all results), implicit measures (SC-IAT effects) were not significantly associated with explicit measures (MEEQ subscales) for the whole and users’ samples (each  $p > .05$ ).

A 2 x 3 repeated measures ANOVA with group (users, non-users) as a between-subject variable and MEEQ score (relaxation, enhancement, negative) as a within-subject variable was conducted. Both a significant group effect [ $F(1,127) = 19.29, p < 0.001$ ] and a significant MEEQ score effect [ $F(2,254) = 56.33, p < 0.001$ ] were found. Considering each MEEQ subscale separately, Relaxation MEEQ and Enhancement MEEQ did not differ significantly according to group (non-users vs. users), whereas Negative MEEQ was higher among non-users [ $F(1,127) = 81.93, p < 0.001$ ]. Moreover, a post hoc test was

conducted, which revealed a significant difference between all MEEQ subscales, with Relaxation MEEQ (Mean = 3.50) > Enhancement MEEQ (Mean = 3.03) > Negative MEEQ (Mean = 2.65). The interaction between lifetime cannabis use and MEEQ subscales was also significant [ $F(2,254) = 29.84, p < 0.001$ ]. Non-users had the following MEEQ subscale scores: Relaxation MEEQ (Mean = 3.61) > Negative MEEQ (Mean = 3.24) > Enhancement MEEQ (Mean = 2.99). On the other hand, cannabis users had the following scores: Relaxation MEEQ (Mean = 3.41) > Enhancement MEEQ (Mean = 3.06) > Negative MEEQ (Mean = 2.20).

A 2 x 3 repeated measures ANOVA with group (users, non-users) as a between-subject variable and SC-IAT score (relaxation, excitation, negative) as a within-subject variable was conducted. No significant group effect was found [ $F(1,128) = 3.02, p = 0.08$ ], nor was there a significant SC-IAT score effect [ $F(2,256) = 2.70, p = 0.07$ ]. As the SC-IAT score effect was nearly significant ( $p = 0.07$ ), each SC-IAT was considered separately. Whereas the excitation and negative SC-IATs did not differ significantly according to group (non-users or users), the relaxation SC-IAT effect was higher among cannabis users [ $F(1,128) = 3.93, p = 0.04$ ]. The interaction between lifetime cannabis use and SC-IAT effects was not significant [ $F(2,256) = 0.78, p = 0.46$ ]. Non-users and users presented the same hierarchy of SC-IAT mean scores: Excitation SC-IAT effect > Relaxation SC-IAT effect > Negative SC-IAT effect, with a significant difference only between the mean score for excitation and the mean score of negative SC-IAT.

As shown in the Table, all frequencies of use, as well as the problems related with cannabis use, were significantly positively correlated with the relaxation and enhancement MEEQs. Frequency of use over the lifetime and in the past three months was negatively correlated with Negative MEEQ. The same significant results were found when explicit

expectancies were controlled. No correlation was found between the Relaxation and Excitation SC-IATs and frequencies and problems related to cannabis use. However, the Negative SC-IAT was negatively correlated with lifetime frequency of use and with problems related to cannabis use.

	<b>Relaxation SC-IAT</b>	<b>Excitation SC-IAT</b>	<b>Negative SC-IAT</b>	<b>Relaxation MEEQ</b>	<b>Enhancement MEEQ</b>	<b>Negative MEEQ</b>
Lifetime frequency	r=0.02 p=0.86	r=-0.18 p=0.13	r=-0.30 p=0.001	r=0.34 p=0.003	r=0.35 p=0.02	r=-0.38 p=0.001
Frequency in the past 3 months	r=0.06 p=0.61	r=-0.06 p=0.61	r=-0.14 p=0.23	r=0.27 p=0.02	r=0.28 p=0.01	r=-0.27 p=0.01
Frequency in the past 2 weeks	r=0.04 p=0.71	r=-0.06 p=0.58	r=-0.17 p=0.12	r=0.37 p=0.001	r=0.32 p=0.05	r=-0.22 p=0.05
Problems	r=0.02 p=0.91	r=-0.12 p=0.42	r=-0.30 p=0.01	r=0.34 p=0.008	r=0.43 p<0.01	r=-0.17 p=0.17

Note. Relaxation MEEQ = Relaxation and social facilitation subscale of the MEEQ; Enhancement MEEQ = Perceptual Enhancement and Craving subscale of the MEEQ; Negative MEEQ = Negative Behavioral Effects subscale of the MEEQ.

Regarding correlations between implicit (SC-IAT) and explicit (MEEQ) measures, no significant relationship was identified, either for the whole sample or for cannabis users. We can consider that both explicit and implicit measures are two complementary ways to assess the same construct. The absence of relationship might also reflect a gap in the construct validity. However, our results suggest a clear discrepancy between implicit and explicit

measures, suggesting that they assess divergent constructs. Implicit and explicit measures could rely on different motivational processes.

The results also indicated that cannabis users had more relaxation-related implicit expectancies, while non-users experienced more negative explicit expectancies. No differences were found for the other indices. Adolescents who had already tried cannabis reported more relaxation implicit expectancies and less negative explicit expectancies. Similar results had been reported for adult heavy cannabis users. Our results thus generalize this observation to the onset of cannabis use in adolescence. However, contrasting with other findings (Beraha et al., 2013; Field et al., 2004), non-users did not show higher negative implicit associations, but only higher negative explicit expectancies. Moreover, implicit and explicit expectancies regarding excitation or enhancement did not differ between users and non-users, contrasting with previous studies (Ames et al., 2007). It might be suggested that positive expectancies gradually develop as a consequence of substance use and are not strongly present at the early consumption stages. Users reported their explicit expectancies after they had already tried cannabis, probably based on the experienced sensations, whereas non-users relied on their subjective feelings. Despite that, their expectancies did not differ, suggesting that, at the early stages of use, both users and non-users expect positive effects.

Third, frequency and associated problems were positively correlated with explicit relaxation and enhancement expectancies, and negatively correlated with negative implicit and explicit ones. Positive explicit expectancies might be a stronger predictor of increased use. Conversely, frequency of use may have influenced these expectancies by reinforcing positive ones and decreasing negative ones due to the actual experience of cannabis effects, in contrast with Beraha et al. (2013) study. This inconsistency can be explained by the

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fact that these authors assessed young adults who were heavy cannabis users, whereas our study focused on adolescents starting cannabis use and thus not facing serious cannabis-related problems yet. Expectancies may change during the consumption trajectory, ranging from occasional use to abuse or dependence, when the substance is no longer used for its positive effects (as for occasional adolescent users) but rather to avoid its negative effects (e.g. withdrawal found in heavy users).

### Theoretical and practical implications

While future studies should extend the present results to heavy cannabis users, particularly in longitudinal designs exploring the changes in expectancies during the successive addiction stages, our findings indicated that cannabis users not only reported more positive implicit expectancies than non-users, but their positive explicit expectancies were related to the frequency of use and related problems. Conversely, explicit negative expectancies were associated with a decrease in the frequency of use. Considering both implicit and explicit ones would allow an integrative approach to cannabis use. Attentional retraining programs could also be considered. Moreover, according to other studies, the influence of explicit and implicit expectancies seems to evolve with age and the stage of use, suggesting that they could change according to use and highlighting the need to properly contextualize assessment and intervention.

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## 5. *The effectiveness of the Healthy School and Drugs program*

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### Introduction

Prevention programs are often implemented as tools to reduce prevalence rates of substance use among adolescents. The ‘Healthy School and Drugs (HSD)’ program is one of the most popular and widely used Dutch prevention programs and aims to prevent, postpone, or reduce excessive substance use among early adolescents. Approximately 75% of all Dutch secondary schools annually carry out (parts of) the HSD program. The program consists of four components, namely: information lessons (i.e., e-learning modules), parental participation, regulation of substance use, and monitoring and counseling of students’ substance use. The primary goal of the current study (Malmberg et al., 2014; Malmberg et al., 2015) was to stringently test the effectiveness of the HSD program on adolescents’ substance use with a randomized clustered trial (RCT).

Many Dutch schools direct their preventive efforts mainly at students (i.e., through education and information). A previous Dutch prevention trial (PAS: Koning et al., 2009) has shown that a multi-component approach is more effective than a single-component approach in reducing adolescent alcohol use. However, a review on universal multi-component prevention programs for alcohol misuse concluded that except for PAS there is little evidence that multi-component programs are more effective than single-component programs (Foxcroft & Tsertsvadze, 2011). To examine if solely educating adolescents is enough for preventive effects, or that the multi-component approach of the HSD program is necessary to obtain preventive effects, the present RCT compared two intervention conditions (i.e., e-learning and integral condition) to a control condition. It was expected that adolescents in the intervention

conditions, relative to controls, would be less likely to engage in alcohol, tobacco and marijuana use at 32 months follow-up. Moreover, it was anticipated that HSD effects would be more pronounced in the integral condition (i.e., multi-component) than in the e-learning condition (i.e., single-component).

Such an incidence-based approach is commonly used when assessing program effectiveness in RCTs. Yet, when estimating the effect of a prevention program at a certain measurement wave, the dynamics in the development of the outcome variable over time are unknown. With latent growth curve modeling it is possible to examine the HSD program effects while accounting for the developmental nature of substance use over time (Duncan & Duncan, 1995). Therefore, post-hoc analyses of HSD program effects were conducted by applying latent growth curve modeling. It was hypothesized that the HSD program would lead to a slower increase of substance use development.

### Methods

#### Procedure and participants

Of 123 eligible secondary schools that were invited, 23 schools including 3784 adolescents agreed to participate. An independent statistician randomly assigned these 23 schools to one of the three study conditions. The baseline data were collected among all first grade students between January and March 2009, before the intervention was carried out. Follow-ups were carried out after 8, 20, and 32 months. At all assessments, adolescents filled out a digital questionnaire during school hours in the presence of a teacher and a research assistant.

At baseline, a total of 3542 first-grade students took part in the study; 229 adolescents (6.1%) were absent during data-collection and 13 participants (0.3%) were declined participation by their parents. The baseline sample (N = 3542) included 49.4% boys (n = 1750). Participants ranged in age from 11 to 15 years (M = 13.01, SD = .49). In

total, 24.6% of these adolescents received pre-university education (n = 871), 18.9% received higher general education (n = 668), 9.7% received a combination of pre-university education and higher general education (n = 343), 24.1% received lower general education (n = 855), and 22.7% received lower vocational education (n = 805). The majority of the participants were of Dutch descent (96%).

### Intervention

**E-learning condition.** The participants in this condition received e-learning modules about alcohol (4 lessons), tobacco (3 lessons), and marijuana (3 lessons). The lessons focused on increasing knowledge about substances, aim to tutor adolescents about risks concerning substance use, and preparing adolescents for coping with group pressure by training their refusal skills (i.e., increasing self-efficacy). The lessons consist of small films, animations, and several types of interactive tasks. Also, adolescents are able to discuss relevant topics or to exchange their opinions through chatrooms and forums. The lessons are designed to gradually increase adolescents' skills in responsibly dealing with substances.

**Integral condition.** As well as the e-learning modules, the participants in the integral condition received three additional intervention components. First, the parental participation component consists of a plenary parental meeting in which characteristics and risks of substance use, opinions on substance use, and education in the home setting with respect to substance use were discussed. Second, the regulation component concerned the school standard and subsequent rules regarding substance use behaviors of students and school personnel. Finally, the monitoring and counseling component consisted of a training session for school personnel on signaling and guiding problematic substance use among individual adolescents. During this training session, practical information was provided on how to recognize

problematic use in adolescents and on how to efficiently support these adolescents in and outside the school setting.

**Control condition.** The schools in the control condition agreed not to start any substance-related interventions in our target group throughout the study period. Because many schools in the Netherlands have employed basic initiatives to decrease or prevent substance use, they were allowed to continue their 'business as usual' activities.

### Measures

The primary outcomes were lifetime prevalence of alcohol, tobacco, and marijuana use ('yes' = 1 and 'no' = 0). Other outcomes of interest were 1-month prevalence of alcohol and tobacco use ('yes' = 1 and 'no' = 0), overall alcohol use (1-5), binge drinking (1-4), and overall tobacco use (1-5).

### Results

Program effects on drinking, smoking, and marijuana use

Table 1 presents the results of the intervention on the substance use outcomes for both intervention conditions. No significant effects for either of the intervention conditions on any of the outcomes for drinking, smoking, and marijuana use were found.

Table 1. Effects of the intervention conditions on substance use outcomes at the final follow-up among never users at baseline.

	E-learning		Integral	
	B	p	B	p
Alcohol use				
Lifetime	.102	.549	-.157	.351
1-month	.191	.288	-.140	.445
Tobacco use				
Lifetime	.164	.444	.160	.119
1-month	.088	.746	.261	.093
Marijuana use				
Lifetime	.070	.732	.186	.214

Reference group = control condition. Adjusted for sex, age, education, ethnicity and cluster effects. B = standardized logistic regression coefficient.

Predicting substance use increases by condition

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The results show that, after controlling for sex, education level, ethnicity and age, condition was neither related to the intercepts nor the slopes in all substance use behaviors. These results indicate that the initial level of substance use and the increases in substance use across follow-ups did not differ between intervention conditions and control condition.

### Discussion

Neither the e-learning nor the integral condition prevented the onset of alcohol, tobacco, or marijuana use. When the dynamics of substance use development were taken into account, there were also no effects of the HSD program. These findings indicate that the HSD program, as it is currently implemented, is ineffective. However, based on this study, we cannot infer whether the content, the implementation, or both the content and implementation of the HSD program need adjustment.

The content of the HSD program might profit from a more intense and skill-focused intervention method in order to effectively lower substance use in early adolescence (e.g., Foxcroft & Tsertsvadze, 2011). It might also benefit from attention for the rule-setting behavior in the family context (Koning et al., 2009). Next, there are indications that selective prevention programs targeting 'at risk' populations produce more effect than universal programs like the HSD program (e.g., Conrod, Castellanos, & Mackie, 2008). This might indicate that the program could benefit from a more selective approach. Finally, given that cognitive abilities and the corresponding capability to make responsible decisions are only fully developed in late adolescence (e.g., Carver, Johnson, & Joormann, 2009), one might wonder whether cognitive methods, such as the ones that are included in the e-learning modules of the HSD program, adequately match the cognitive development of early adolescents.

For the implementation of the prevention program, intervention schools were asked to implement prevention activities according to the study protocol. Yet, the actual activities were implemented by different prevention workers, different teachers, and in different school cultures. It is important to note that Dutch schools mainly implement prevention programs on a voluntary basis and that they are often incorporated as extra curriculum activities in already stacked school programs. It seems likely that schools, teachers, and professionals involved in the implementation might adjusted (parts of) the HSD program due to personal interests, time pressure or organizational issues (e.g., Durlak & DuPre, 2008). Also, the wide dissemination of the HSD prevention program might easily lead to insufficient implementation, resulting in loss of program effectiveness (e.g., Ennett et al., 2011). A good assessment of the implementation is important in order to assess possible efficacy effects of (parts of) the HSD program.

Conclusively, the non-significant impact of the HSD program on (the development of) substance use suggests that the program should not be delivered as it is currently implemented. Careful consideration is necessary in order to decide if the program should be replaced by another strategy or that it should be redeveloped and renewed.

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## ***XV EARA conference in La Barrosa***

**EARA 2016 – SOME WORDS FROM THE ORGANIZERS TO LURE EVERYONE – AND ESPECIALLY ANYONE YET UNDECIDED ABOUT COMING - TO THE EARA CONFERENCE IN LA BARROSA:**

***Submitted by Marion Kloep***

Hola todos:

May is the second most beautiful month in Andalusia. So, the good news is that the sun is shining almost every day, the water in private swimming-pools and in the sea on the Costa de la Luz gets warm, flowers bloom and birds are singing.

The bad news is, that *we* do not have a lot of time for the pool or the sun right now, because we are sorting 182 submitted entries into individual-paper symposia, and then blending them with 48 thematic symposia in order to fill 88 slots on the programme (together with 130 posters arranged into 6 poster sessions). However, this is only achieved after having checked that at least one author of each entry has registered and paid the fees (which is quite a laborious process right now).

We believe the programme looks really exciting, and at the time of writing this, the dead-line for early registration is still two weeks away, yet we have registrations from delegates from 38 different countries and all five continents. What a chance for global net-working!

As the President will write about the interesting scientific programme, we want to encourage you to give some thought to the social programme – and participate in it! After many decades as researchers and writers on adolescence, we can ensure you that one of the greatest values in going to conferences is to meet colleagues from all over the world, discuss ideas, and design co-operative projects, in short: net-working. And this is why we want you to get involved in the social programme. Have a look at our web site [www.eara2016.com](http://www.eara2016.com) and check out

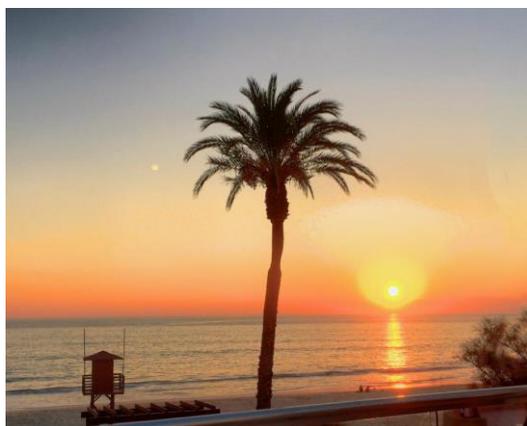
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what is on offer. There will be the opening ceremony, which we promise you will be entertaining, followed by a reception, where you can find out, who's who.

Then there is the conference dinner in the romantic surroundings of a former stud farm and equestrian training finca for Andalusian horses, La Chaparral, where we will enjoy a star-spangled Spanish night, with a typical Andalusian menu and wines, Spanish guitar, and many opportunities for you to get to know each other in a relaxed atmosphere.

For our young researchers there will be a low cost SecNet dinner, where they can lay the foundations of a life-time of working together on international projects.

And if you want to combine work and play, why not book one of the available excursions through beautiful Andalusia, where, in small groups, you will have time to initiate and plan inspired joint-projects as you travel, while enjoying the amazing sights this region of Spain has to offer (see <http://www.eara2016.com/excursions/>).



Are you a golf player? Go together with some colleagues and take advantage of our special offers for golf enthusiasts, on Sancti Petri Hills golf course (designed by **MANUEL PIÑERO**, see details on <http://www.eara2016.com/leisure/>.)

For getting to La Barrosa, check out tour operators in your own country: the conference hotel and other accommodation in La Barrosa/Novo Sancti Petri are included in many of their offers, and you might find that a week's accommodation,

flight, transfer and breakfast can be booked cheaper that way than if you put together all these items on your own.

And who would not like to stay for an extra day or two (and several of you are doing just that, we have heard). To co-ordinate all this with colleagues, please use the Forum on our web page <http://www.eara2016.com/forum/eara-forum/eara2016/>.

Use the lunch breaks to stroll with your favourite colleagues along the beach or the promenade to find some tapas to eat while you make future plans, and relax with some summer wine or one of the sherries of the region as the sun goes down.

In case you need to book a train journey, wait with the booking. Once we have registered you and received payment, we will send you a 30 % discount voucher for train journeys to and from the conference in Spain, a gift from the Spanish railway company RENFE.

Contact us if you need any further information.

To conclude, with one further bit of good news: September in Andalusia is even more beautiful than May!

Looking forward to meeting you in La Barrosa in September:  
Bienvenidos!

Marion & LEO

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# ***From the Student and Early Career Network (SECNet): Students and Early Career Network (SECNet) Activities at the EARA conference***

***Submitted by Elisabetta Crocetti,  
Utrecht University (The Netherlands)***

Dear EARA members,

We would like to give you an update about the SECNet, the young section of the EARA that comprises young researchers, doctoral students, post-docs, and young assistant professors.

We really look forward to the next EARA conference in Spain! During the conference you will find several SECNet activities that we hope you will join:

- A Conversation with the Editors
- The SECNet community meeting
- The SECNet Social Dinner
- And the SECNet Best Poster Award Competition

We are also extremely pleased that several young scholars networked together to organize conference symposia. Symposia submitted by young scholars really covered a wide range of interesting topics, such as prosocial behaviors, identity and self-development, problem behaviors, parental and peer relationships, and transition to adulthood, to list some examples.

Last but not least, we invite you to continuously look at our EMERGING SCHOLAR SPOTLIGHT (<http://earasecnet.weebly.com/emerging-scholar-spotlight.html>). Every month a young scholar writes a new spotlight in which he/she presents his/her latest

publication that appeared in a high-ranking international journal. This is the sign of a new generation of vibrant young scholars!

If you are interested to find out more information about the SECNet, our future activities, and/or to be in touch with us, please visit our website: <http://earasecnet.weebly.com/>

We look forward meeting you at the EARA Conference!

Your SECNet Committee,  
Elisabetta Crocetti (representative)  
Jolien van der Graaff (deputy representative)  
Katharina Eckstein (secretary)  
Constantina Demetriou (communication team)  
Aysenur Ataman (communication team/members team)

## ***Report on the European Symposium on Adolescent Research & Research Method Workshop 30th November 2015 - 1st December 2015 in London, UK***

***Submitted by Blossom Fernandes***  
*(University of Roehampton)*

The European Symposium on Adolescent Research & Research Method Workshop took place at Whitelands College (University of Roehampton), London, UK on November 30 and December 1, 2015. Within the College sits the grade I listed Georgian villa, Parkstead House, which was built in the early 1760's for the 2nd Earl of Bessborough by Sir William Chambers – who was also the

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architect for Somerset House and the Pagoda at Kew Gardens.

This 2-day European Symposium was organized by Cecilia Essau (University of Roehampton, London) in collaboration with Figen Çok (EARA President, TED University, Ankara, Turkey).

The first day included seven presentations by key scholars in adolescent research:

1. Prof Figen Çok (TED University Faculty of Education, Ankara, Turkey)  
“Contemporary Adolescence Research and European Association for Research on Adolescence”
2. Prof Inge Seiffge-Krencke (Johannes Gutenberg-Universität Mainz, Germany)  
“Identity Stress Across the Globe: Challenges not only for migrant youth”
3. Prof Nick Emler (Surrey University, UK)  
“Studying the mundane details of everyday life”
4. Prof Martyn Barrett (University of Surrey, UK)  
“Competences for democratic culture: A new Council of Europe initiative on youth citizenship education”
5. Prof Marion Kloep & Prof Leo Hendry (University of Glamorgan & University of Aberdeen)  
“Demonising the demagogues: A critical look at some recent trends in adolescent research”
6. Dr Olympia Palikara (University of Roehampton, UK)  
“Academic achievement in adolescents with language impairment: Factors supporting positive adjustment?”
7. Prof Cecilia Essau (University of Roehampton, UK)  
“Anxiety and depression in adolescents”

These presentations were followed by a poster session, where red and white wine was also served.

Approximately 70 participants registered for the seminar, coming not only from British universities, but also from other European countries such as from University of the Balearic Islands (Spain), Dublin City University (Ireland), Eastern Mediterranean University (North Cyprus), Mykolas Romeris University (Lithuania).

The second day was a one-day workshop which was delivered by Loes Keijsers; approximately 20 participants took part in this workshop.

Loes began her workshop by explaining the background and details of statistical techniques, such as latent growth curve modeling to study development, and multi-level structural equation modeling to assess within-person associations. Ample opportunity was given to practice techniques in Mplus or R. Both students and staff members were very impressive by the way Loes conducted this workshop!

From the very positive responses we received from all the participants, this European Symposium on Adolescent Research & Research Method Workshop was a great success and we felt very honoured to have been invited to co-organize this event.



We thank Figen Çok for the co-organization, and Inge Seiffge-Krencke, Nick Emler, Martyn Barrett, Marion Kloep, Leo Hendry, Olympia Palikara, and Loes Keijsers, for their involvement in making these scientific EARA days a great success.

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