

Effects of the Saluda prevention program: a review of controlled evaluation studies

José P. Espada-Sánchez¹, & Olga Hernández-Serrano²

¹ Departamento de Psicología de la Salud, Universidad Miguel Hernández, Elche

² Departamento de Fisioterapia, Escola Universitària de la Salut i l'Esport.
Universitat de Girona, Girona

Spain

Correspondence: Dra. Olga Hernández Serrano. Escola Universitària de la Salut i l'Esport. Universitat de Girona. Departament de Fisioterapia. Campus de Salt. Carrer Francesc Macià, 65 – 17190. Salt (Girona). Spain.
E-mail: olga.hernandez@cadscrits.udg.edu; ohernandez@euses.cat

© Education & Psychology I+D+i and Ilustre Colegio Oficial de Psicología de Andalucía Oriental (Spain)

Abstract

The objective of the present study is to review the evidence on the effectiveness concerning the Saluda program, a school-based substance use prevention protocol used amongst adolescents. We provide a description of the program content and the results from nine controlled trials evaluating the program effectiveness. Participants were Spanish students aged between 12 and 16 years old. The program was created on the basis of the results from a quantitative review focused on Spanish programs, in which the most effective components were identified. Early trials compared their results with respect to a proven-effectiveness program and an unspecific health-promotion intervention, showing positive effects. Subsequent studies focused on the effects of the program according to the type of applicant, the age of participants, and attitudinal and cognitive aspects. Recent studies focused on analysing the program components effectiveness, as well as the contribution of the assigned tasks. This study summarizes strong empiric evidence concerning the program effectiveness on both risk and protective variables, at the time that further lines to improve the program effectiveness and efficiency are established.

Keywords: drug abuse, school-based prevention, adolescence, prevention program.

Reception: 10/20/14

Initial acceptance: 11/25/14

Final acceptance: 03/03/15

Efectos del programa de prevención Saluda: Una revisión de estudios controlados de evaluación

Resumen

El objetivo del presente estudio es revisar las evidencias sobre la eficacia del programa *Saluda*, un protocolo de prevención escolar del consumo de drogas dirigido a adolescentes. Se describen los contenidos del programa y se revisan los resultados de nueve ensayos controlados que evaluaron los efectos del programa. Los participantes fueron estudiantes españoles con edades de 12 a 16 años. El programa fue elaborado a partir de los resultados de una revisión cuantitativa de programas españoles, donde se identificaron los componentes más eficaces. Los primeros ensayos compararon sus resultados respecto a un programa de eficacia probada y una intervención inespecífica de promoción de la salud, mostrando efectos positivos. Estudios posteriores evaluaron los efectos del programa según el tipo de aplicador, la edad de los participantes, y los efectos sobre aspectos actitudinales y cognitivos. Los estudios más recientes se han centrado en analizar la eficacia de los componentes del programa y la contribución de las tareas asignadas. En este estudio se sintetizan las evidencias empíricas sobre los efectos del programa para modificar variables de riesgo y protección y se plantean líneas de futuro para mejorar la eficacia y eficiencia del programa.

Palabras Clave: abuso de drogas, prevención escolar, adolescencia, programa de prevención.

Recibido: 20/10/14

Aceptación Inicial: 25/11/14

Aceptación final: 03/03/15

Introduction

Adolescence is the stage in which the onset of drug use is typically introduced due to the increased presence of risk factors (Sussman, Unger & Dent, 2004). The Spanish Observatory for Drugs and Substance Use (OEDT, 2013) shows that alcohol, tobacco and cannabis are the most frequently consumed substances among school adolescents aged 14 to 18 years old, with 83.9%, 43.8% and 33.6% of consumers over the past years, respectively. Currently, alcohol in Spain is linked to leisure, as consumption is more extensive during the weekend. Although the implementation of preventive actions has been intensified, substance use usually begins before 14 years of age concerning legal drugs such as alcohol and tobacco, whilst a slightly delayed initiation (15 years of age) is stated regarding substances as cocaine, ecstasy, amphetamines and hallucinogens (OEDT, 2013).

Recent data in Spanish adolescents indicate that 64% of participants reported having had an acute intoxication episode in the last year (González, 2014). The pattern of abusive consumption includes possible interference in the neurological development, memory, learning and task planning (Brown, 2008; Masten & Faden, 2008). Binge alcohol use has been associated with troubled behaviors such as school absenteeism, sexual and intimate partner violence, or greater risk of alcohol abuse (Miller, Naimi, Brewer & Everett, 2007).

The need for effective prevention programs for substance use is still stated within the current framework. Systematic review studies provide evidence on the effectiveness of school-based prevention programs to reduce substance use (Faggiano et al., 2008; Karki et al., 2012). However, despite the efforts to reduce consumption, the impact of the programs is still limited. Many of these interventions have a small effect size (Espada, González, Orgilés, Lloret & Guillén-Riquelme, 2015) and find difficulties in maintaining their impact over time (Canning, Millward, Raj & Warm, 2004; Gázquez, García & Espada, 2009).

Taking into account the factors that determine the effectiveness of the different programs, and regardless of the importance of assessing their overall effect, some systematic reviews (Karki et al., 2012) and meta-analyses (ej. Tobler et al., 2000) have intended to identify which active components are responsible for the effects of interventions. Another strategy for

identifying these elements is the experimental manipulation of intervention components through a full or partial dismantling strategy of the program. However, in Spain, few dismantling studies have been conducted.

Another aspect that can significantly influence the results of preventive actions is the agent responsible for the implementation of the program. Some authors believe that teachers have sufficient knowledge of the content (Hunter & Elias, 2000), and others perceive the external agent as an expert on the subject (Espada, Rosa & Méndez, 2003). From a more practical perspective, some authors suggest the need to analyze the skill requirements for an effective agent (Cuijpers, 2002).

Objective

The main source of information to improve the prevention programs lies in the results of studies based on the effectiveness and the efficiency of the interventions, as they make it possible to distinguish between effective and non-effective aspects, improving the cost/benefit ratio of interventions. This paper reviews studies focusing on the *Saluda* Program (Espada & Méndez, 2003) by analyzing nine controlled trials conducted among adolescents in Spain across a period of twelve years. The aim of this paper is to describe the development of the program and to present a synthesis of the existing effectiveness-proven research, along with future works.

Saluda Program

Program development

The *Saluda* program (Espada & Méndez, 2003) focuses on the prevention of alcohol and other recreational drugs in the field of leisure. It was developed for students between 12 and 14 years old either not having started consumption yet or in early stages, as it is framed within primary prevention programs. It is a skill-development program, and it is theoretically based on both the Social Learning Model and the Theory of Reasoned Action. The objectives of the program are to delay the age of the first alcohol consumption and to reduce the abuse of alcohol and other drugs, especially in the context of the weekend. Table 1 summarizes the ten sessions comprised in the program with their respective phases, and some examples of activities (group/individual) are also presented.

Table 1. The Saluda program: phases, general structure of the sessions and examples of activities

Phases	Sessions	Examples of activities
Educative	1. General information	Individual and group activity: Sorting drugs
	2. Information about risk factors	Group activity: Risk factors for alcohol and synthesis drugs
	3. Normative perception	Group activity: Perception rules
	4. The influence of advertising	Individual activity: Analysis of advertisements
	5. Healthy leisure activities	Individual activity: What do I spend my time on?
Skills Training	6. General social skills	Individual activity: Who's who? The Good, the Bad and the Ugly
	7. Social skills focused on substance use	Group activity: Staging, ability to say no
	8. General problems solving	Group activity: The method of troubleshooting
	9. General problems (focused on drug use) solving	Individual activity: Taking decisions
Maintenance	10. Maintenance strategies	Individual activity: Public engagement: consumption yes / no consumption

Initial studies

Based on the results from a meta-analysis on the effectiveness of programs to prevent drug abuse in the school setting, applied in Spain between 1985 and 2002 (Espada et al., 2002), the most effective components were selected, along with an analysis of the new consumer trends. By using the pilot version of the program, a study involving the components having shown more positive results was conducted. The preliminary version of the program was evaluated in 2001 under the name “Greet the weekend” and responded to the challenge of facing new patterns of youth substance use, as the social “botellón” and pills consumption. It was intended to provide data on the relationship of risk factors for alcohol and synthetic drugs, especially on the preventive effects of the program. This study provided the first data on program effectiveness, by finding positive results in a significant modification of the mediating variables for specific and nonspecific consumption.

Program effects on cognitive factors

Espada, Orgilés, Méndez, García-Fernández & Inglés (2008) conducted an analysis on the effects of the *Saluda* program in relation to three cognitive risk factors: knowledge about drugs, risk perception and policy about consumption. Participants were students from third year of secondary school education. Each one of the groups (classrooms) was randomly assigned to one of the following five conditions: *Saluda* program, placebo intervention, nonspecific intervention (Health-Education program), a proven program (*Life Skills Training*) and a control group that received no intervention. A quasi-experimental design was used and the results were assessed at pretest, posttest and follow-up (after 3 and 6 months post-implementation).

Results showed that any of the interventions was more effective than no-intervention, concerning the protective cognitive variables. When comparing the two main treatments (*Saluda* and *Life Skills Training*), both of them managed to improve the cognitive abilities of protection against drug use. Nevertheless, when comparing both of them with the nonspecific intervention (hereinafter named “Health-Education program”), greater changes were observed on the controlled variables concerning the specific interventions. At the same time, the *Saluda* program turned out to be more effective on the knowledge about alcohol and synthetic drugs, compared to any of the other interventions or the non-intervention group.

The comparative analysis of the three active programs with respect to the placebo group showed superior results in all of the three interventions with respect to consumption decrease. However, the *Saluda* program was the most effective to increase the perceived risk of alcohol consumption in both the posttest assessment (after the intervention) and follow-up (at 3 months and 6 months).

Effectiveness by age of participants

Pereira and García-Fernández (2009) conducted a study on the effects of the *Saluda* program according to the age of the participants. The sample consisted of students from two secondary schools, through a design with two experimental conditions [group 1: Early adolescence (11-13 years old); group 2: Middle adolescence (14-16 years old)] and two control

groups without intervention [group 3: Early adolescence (11-13 years old); and group 4: Middle adolescence (14-16 years old)]. A stratified random sampling was conducted in which the different layers were composed of approximately the same number of participants. The program was effective in reducing the frequency of drinking, the perceived norms and the consumption intention, and this impact was higher in early adolescence for all these variables. However, no positive effects were found when comparing the groups receiving intervention versus the control groups in relation to the influence on the perception of the risk of substance use.

Effectiveness based on the deployment agent

Gázquez (2010) analyzed the effects of the program depending on the agent. With this aim, the program was implemented by teachers from schools and external psychologists. The study involved a total of 3 secondary schools randomly assigned to different experimental conditions (group 1: *Saluda* program implemented by teachers, and group 2: *Saluda* program implemented by external psychologists) and a waiting-list as the control group. A quasi-experimental design was used across three measurements: pretest, posttest and follow-up (after 12 months of implementation). The difficulty degree of the program was evaluated according to the number of sessions, the standardization in the structure of the sessions and the presence of cognitive-behavioral techniques. This fact led to the initial assumption that it was a medium-complexity intervention and therefore similar results would be obtained, whether the program was implemented by psychologists or teachers from the school. The results from this study showed that smaller increases in alcohol consumption in the short term were found when the program was implemented by teachers, and smaller cannabis long term increases were observed when the program was applied by an external psychologist. In the follow-up assessment, the program implemented by teachers achieved greater effect sizes across all the dimensions. Also, despite the *Saluda* program was not specifically designed for the prevention in tobacco use, the results of this study obtained positive effects in terms of reducing consumption when applied by teachers. Teachers were, thus, the most effective agents for the implementation of the *Saluda* program.

Effects of the program on attitudes towards drugs

Espada, Hernández, Orgilés & Méndez (2010) presented a study in which they analyzed the effect of the *Saluda* program on attitudes toward drugs in an adolescent sample. Participants were third-year students from secondary education. The groups (classrooms) were randomly assigned to one of the following conditions: *Saluda* program, placebo intervention, nonspecific intervention (Health-Education program), a proven program (Life Skills Training) and a control group that received no intervention. A quasi-experimental design was used across three measurements: pretest, posttest and follow-up (3 and 6 months after implementation).

After analyzing both the intention to consume and the attitude towards drugs, the *Saluda* program showed greater effects than the other programs on the intention in reducing alcohol intake and the promotion of attitudes against drugs. No differences were found between the group Health Education and the Placebo group in decreasing alcohol consumption. Finally, any form of intervention was more effective than no intervention.

Contribution of nuclear components

In 2012, Espada, Griffin, Pereira, García-Fernández and Orgilés published the first study to focus on the partial dismantling of the *Saluda* program, with an aim of analyzing the specific contribution of the two components “social-skill training” and “problem-solving training”. The authors hypothesized that the contribution of both components would be important. Participants were students from two secondary schools. The groups (classrooms) were randomly assigned to one of the four following conditions: full program, program without the component social-skill training, program without the component problem-solving training, and a control group that received no intervention. A quasi-experimental design was used across three measurements: pretest, post-test, and follow-up (12 months after the implementation). Results from this study highlight the efficacy of the entire program with respect to the group having received no intervention, showing lower consumption rates and significant positive changes concerning the risk variables. Furthermore, the fully-performed program showed better results than the program without one of its components. Moreover, specific effects were found in the two incomplete versions of the program.

Incomplete versions of the program (without social-skill or problem-solving training) revealed changes in these specific skills. However the program without the problem-solving component showed better results compared to the waiting-list group even though the results were not as good as when applying the full *Saluda* program. These findings support the existence of an additive effect between the components social-skill training and problem-solving training, so that the deficit or abundance of one of them has effects on the other, concerning mediating and outcome variables in the *Saluda* program.

Contribution of homework

González, Espada, Carballo, Orgilés and Piqueras (2012) analyzed whether the homework from the program produced a positive effect on self-efficacy, intention for consumption and risk perception. Participants were students from secondary school education. Each one of the groups (classrooms) was randomly assigned to one of the following two conditions: standard program, and program without homework activities. After pretest and posttest measurements, no significant differences were found between groups. These data suggest that the effects of a preventive intervention do not decrease when not including homework within the intervention program.

Contribution of the secondary components

To analyze the contribution of the components “public commitment”, “resistance to advertising” and “promotion of healthy leisure”, a study was conducted, involving a total of 5 secondary education centers randomly assigned to four experimental conditions (full *Saluda* program, program *Saluda* without the component “public commitment”, program *Saluda* without the component “resistance to advertising”, *Saluda* without the component “promotion of healthy leisure”) and a control group on the waiting-list (Hernández, Griffin, García-Fernández, Orgilés & Espada, 2013). A quasi-experimental design was used across pretest, posttest and follow-up (after 6 months of application) measurements. Results showed that all the interventions were more effective than no-intervention, concerning the protective variables and the number of episodes of drunkenness. Considering the effectiveness of the three components, the *Saluda* program shows no loss of efficacy in reducing substance use and other variables of protection when removing the component of promotion of healthy leisure, while public commitment and resistance to advertising improve the effectiveness of the

aforementioned program. Therefore, it is possible to improve the balance between intervention and costs by implementing the program with the basic components and subcomponents public commitment and resistance to advertising, and the exclusion of the promotion of healthy leisure.

Evaluation of a reduced version

A final exploratory study was conducted, in order to evaluate the effects of a new version of the *Saluda* program, in which the components promotion of healthy leisure and homework are not included (Hernández, Espada, Piqueras, Orgilés & García-Fernández, 2013). This shortened version was applied in a sample of secondary education students. It was a pilot study with a pre-post design of a single group. This study concluded that a reduced version of the *Saluda* program (ignoring the components promotion healthy leisure and homework) has positive effects in reducing the percentage of drunkenness, and it also shows a significant impact on the protective variables of consumption.

Conclusions

This article reviews several controlled studies evaluating the *Saluda* program, with the aim of analyzing the evidence and determining several aspects surrounding this program. For this purpose, the history of the program over the past twelve years is described, and evidence of its efficacy is provided. After the evaluation of a pilot program, and meeting inclusion criteria, the *Saluda* program was included, in 2004, in the database EDDRA from the European Monitoring Centre for Drugs and Drug Abuse (in its English name "*Weekend coming*"), with a rating of 2 on its quality (one of the highest amongst the Spanish programs). Since then, several longitudinal studies have been developed, providing quantitative data on its effectiveness (see Table 2).

Table 2. Studies focusing on the effectiveness of the Saluda program

Author/s (year)	n	Age	Intervention groups	Objective	Results
Espada, Orgilés, Méndez, García-Fernández & Inglés (2008)	133	13-15	1. PS 2. Life Skills Training 3. Health education 4. Placebo 5. GC	To assess the effects on cognitive risk factors.	The level of information on alcohol and synthetic drugs increases.
Pereira & García-Fernández (2009)	543	11-16	1. Early adolescence 2. Middle adolescence 3. GC (early adolescence) 4. GC (middle adolescence)	To determine the efficacy according to the age of the participants.	Early adolescence in intention and frequency of alcohol consumption, and perceived norm.
Espada, Griffin, Pereira & García-Fernández (2010)	341	12-15	1. PS 2. PS-EHS 3. PS-ERP 4. LE	To analyze the contribution of the components social skills training and problem solving.	Component impact on mediating variables and results. Synergistic effect.
Espada, Hernández, Orgilés & Méndez (2010)	133	13-15	1. PS 2. Life Skills Training 3. Health education 4. Placebo 5. GC	To assess the effects on attitudes toward drugs.	The intention of drinking decreases; the pro-health attitude on drugs increases.
Gázquez (2010)	280	11-12	1. PS by teachers 2. PS by psychologists 3. LE	To determine the efficacy according to the applicator (teacher / psychologist).	Teachers > Psychologists.
Gonzálvez, Espada, Carballo, Orgilés & Piqueras (2012)	205	10-15	1. PS standard 2. PS with complementary activities	To check the effect of including homework.	The exclusion of homework does not diminish the effect of the intervention.
Hernández, Espada, Piqueras, Orgilés & García-Fernández (2013)	106	14-17	1. PS- (OS and AC)	To assess the effects of the program on drug use and protective variables.	Reduction in the percentage of students showing episodes of drunkenness, as well as a significant improvement effect on the protective variables of consumption.
Hernández, Griffin, García-Fernández, Orgilés & Espada (2013)	567	14-16	1. PS 2. PS-CP 3. PS-AP 4. PS-OS 5. LE	To analyze the contribution of the components public engagement, advertising and promotion of healthy leisure.	Non including the promotion of healthy leisure can improve the balance cost / benefit of the intervention.

PS= Saluda Program; PS-CP= Saluda Program without Public Engagement; PS-AP= Saluda Program without Resistance to Advertising; PS-OS= Saluda Program without Healthy Leisure; LE= Waiting List Control Group; PS-EHS= Saluda Program without Social Skills Training; PS-ERP= Saluda Program without Problem Solving; PS-AC= Saluda Program without Homework; GC= Control Group without intervention.

The results of these studies confirm the effectiveness of the program to improve the cognitive abilities of protection against drug use, by increasing the level of information on alcohol and synthesis drugs, as well as the perceived norms on consumption. After assessing the effects on attitudes towards drugs, the program reduces the intention of drinking and increases the development of healthy attitudes towards drugs. This latter result is consistent with the data found in a recent meta-analysis, which provides evidence on the effectiveness, to change attitudes towards drugs, of school prevention programs on drug abuse in Spain (Espada et al., 2015).

The program has shown greater effects to reduce alcohol use in early adolescence. These data are supported by the results from other studies (Chassin, Pitts & Prost, 2002; Gómez-Fraguela, Luengo & Romero, 2002; Gottfredson & Wilson, 2003; Oliva, Parra & Sánchez-Queija, 2008; Resnicow & Botvin, 1993). Based on the positive effects of the program on early adolescence versus middle adolescence, a future challenge would be to analyze the effects on late adolescence and to observe any changes on synthetic drugs, as these are the most prevalent consumed drugs at more advanced ages (between 17-18 years) taking into account the most recent data from the OEDT (2013).

Regarding the agent responsible for implementing the program, the teacher was the most effective agent, improving and influencing most of the variables. Along with these findings, other studies highlight the decrease in consumption whenever the teacher implements the program (Alonso & del Barrio, 1997; Bruvold, 1993). However, other studies highlight the importance of programs being implemented by professionals and teachers jointly (Espada et al., 2015). Although there is no current consensus as to the most appropriate type of applicator, the fundamental role as a moderator of the effects of the program (Gottfredson & Wilson, 2003) seems clear. In this sense, further studies should be performed assessing the specific characteristics of the evaluators, in order to identify what skills are best suited to the implementation of drug prevention programs (Cuijpers, 2002).

Referring to alcohol, data indicated a reduction in the number of participants experiencing episodes of intoxication (binge). This result is justified by the specificity of the *Saluda* program to influence the abuse. However, considering that the follow-up of most of the studies focusing on the program *Saluda* corresponds to three, six, and twelve months, it would be

recommendable to replicate these studies with longer follow-up periods, in order to observe changes in the incidence and frequency of consumption.

Furthermore, recent studies on the analysis of the components of the *Saluda* program reveal a greater impact when the program includes the components of social skill training and problem solving training showing, in addition, a cumulative effect. However, other studies on this last skill highlight the need to clarify the factors that determine the existence or nonexistence of relations between the ability on problem-solving and the drug use in the adolescence (Hernández, Espada & Guillén-Riquelme, in press). On the other hand, when removing the component promotion of healthy leisure, the program does not lose effectiveness in terms of reducing substance use or any other risk variable, whilst the components of public commitment and resistance to advertising improve it indeed. Therefore, based on the positive findings of this study concerning the components public commitment and resistance to advertising, along with other papers supporting their importance (Cuijpers, 2002; González, Gómez-Durán & García, 2000; Hansen, 1992; Hansen, Dusenbury, Bishop & Derzon, 2007; Precioso & Macedo, 2003; Skara & Sussman, 2003), a greater role should be given to these components, considering their substantial effects either on consumption and protective variables. At the same time, the exclusion of the promotion of healthy leisure is suggested, as it is considered non optimal in terms of cost-effectiveness. The homework could also be optional, considering that the non-inclusion of these tasks within the *Saluda* program does not diminish its positive effects.

In conclusion, considering the evidences provided by the controlled studies analyzed within the present article, the *Saluda* program shows quantitative results stating its efficacy on consumption and protective variables. Moreover, several studies provide data on the optimal parameters for its implementation, such as the most effective agent, the optimal age of the program recipients and the specific components to include with an aim of improving the cost/effectiveness balance of the intervention. Future studies should evaluate the program over time, with longer follow-up periods, to prove the stability of these changes and the decrease of substance abuse over time. Moreover, further experimental studies, with randomized participant assignments should also be performed, to increase the validity of the results stemming from the studies, as stated elsewhere (Jiménez et al., 2014).

References

- Alonso, C. & Del Barrio, V. (1997). Efectividad de tres intervenciones para la prevención del consumo de tabaco en el medio escolar. [Effectiveness of three interventions to prevent the consumption of snuff in schools]. *Revista de Psicología General y Aplicada*, 50 (2), 223-241.
- Botvin, G. J. (1998). *Life Skills Training. A drug and violence prevention program*. New York: Institute for Prevention Research, Cornell University Medical College.
- Brown, S. (2008). Developmental perspective on alcohol and youths 16 to 20 years of age. *Pediatrics*, 121, 290-310. doi:10.1542/peds.2007-2243D
- Bruvold, W. H. (1993). A meta-analysis of adolescent smoking prevention programs. *American Journal of Public Health*, 83, 872-880. doi:10.2105/AJPH.83.6.872
- Canning, U., Millward, L., Raj, T. & Warm, D. (2004). *Drug use prevention among young people: a review of reviews*. London: Health Development Agency.
- Chassin, L., Pitts, S. C. & Prost, J. (2002). Binge drinking trajectories from adolescence to emerging adulthood in a high-risk sample: predictors and substance abuse outcomes. *Journal of Consulting and Clinical Psychology*, 70, 67-78. doi:10.1037//0022-006X.70.1.67
- Cuijpers, P. (2002). Effective ingredients of school-based drug prevention programs. A systematic review. *Addictive Behaviors*, 27, 1009-1023. doi:10.1016/S0306-4603(02)00295-2
- European Monitoring Centre for Drugs and Drug Addiction (2009). Evidence based information on universal prevention in non-school setting-an overview. <http://www.emcdda.europa.eu/themes/best-practice/evidence>. Extraído el 21 de Febrero de 2015.
- Espada, J. P. & Méndez, F. X. (2003). *Prevención del abuso de alcohol y drogas de síntesis. [Prevention of alcohol and synthetic drugs]*. Madrid: Pirámide.
- Espada, J. P., González, M. T., Orgilés, M., Lloret, D. & Guillén-Riquelme, A. (2015). Meta-analysis of the effectiveness of school substance abuse prevention programs. *Psicothema*, 27(1), 5-12. doi: 10.7334/psicothema2014.106
- Espada, J. P., Griffin, K. W., Pereira, J. R., Orgilés, M. & García-Fernández, J. M. (2012). Component analysis of a school-based substance use prevention program in Spain: Contributions of problem solving and social skills training content. *Prevention Science*, 13, 86-95. doi:10.1007/s11121-011-0249-y

- Espada, J. P., Hernández, O., Orgilés, M. & Méndez, F. X. (2010). Comparación de distintas estrategias para la modificación de la actitud hacia el consumo de drogas en escolares. *Electronic Journal of Research in Educational Psychology*, 8(3), 315-328.
- Espada, J. P., Méndez, F. X., Botvin, G. J., Griffin, K. W., Orgilés, M. & Rosa, A. I. (2002). ¿Éxito o fracaso de la prevención del abuso de drogas en el contexto escolar? Un meta-análisis de los programas en España. [Success or failure of prevention of drug abuse in the school context? A meta-analysis of programs in Spain]. *Psicología Conductual*, 10(3), 581-602.
- Espada, J. P., Orgilés, M., Méndez, F. X., García-Fernández, J. M. & Inglés, C. (2008). Efectos del programa Saluda sobre factores cognitivos relacionados con el consumo de drogas. [Effects of Saluda program on cognitive factors related to drug use]. *Salud y Drogas*, 8(1), 29-50.
- Espada, J. P., Rosa, A. I. & Méndez, F. X. (2003). Eficacia de los programas de prevención escolar con metodología interactiva. [Effectiveness of school-based prevention programs with interactive methodology]. *Salud y Drogas*, 3(2), 61-82.
- Faggiano, F., Vigna-Taglianti, F. D., Versino, E., et al. (2008). School-based prevention for illicit drugs use: A systematic review. *Preventive Medicine*, 46, 385–396. doi:10.1016/j.ypmed.2007.11.012
- Gázquez, M. (2010). *Comparación de tres programas de prevención de drogas en el ámbito escolar [Comparison of three drug prevention programs in schools]*. Doctoral dissertation. University of Miguel Hernández: Alicante.
- Gázquez, M., García, J. A. & Espada, J. P. (2009). Características de los programas eficaces para la prevención escolar del consumo de drogas. [Characteristics of effective school-based prevention programs for drug]. *Health and Addictions*, 9, 185-208.
- González, M., Fernández, M. E., Urturi, A., Moreno, M. F., Molinero, L. & Gutiérrez, P. (2014). Consumo y actitud ante el alcohol de los adolescentes de 13-18 años de edad en la provincia de Valladolid. [Consumption and attitude to alcohol adolescents 13-18 years of age in the province of Valladolid]. *Acta Pediátrica Española*, 72(6), 111-118.
- Gonzálvez, M. T., Espada, J. P., Carballo, J. L., Orgilés, M. & Piqueras, J. A. (2012). Contribución de las tareas para casa en un programa preventivo. [Contribution of homework in a preventive program]. *XXXIX Jornadas Nacionales Socidrogalcohol*. Tarragona.
- Gómez-Fraguela, J. A., Luengo, M. A. & Romero, E. (2002). Prevención del consumo de drogas en la escuela: cuatro años de seguimiento de un programa. [Prevention of drug use in school, four years of monitoring program]. *Psicothema*, 14(4), 685-692.

- González, S., Gómez-Durán, B. & García, M. P. (2000). Prevención del tabaquismo: Evaluación de la eficacia de un programa educativo-preventivo. [Smoking prevention: Evaluation of the effectiveness of an educational-preventive program]. *Revista de Psicología General y Aplicada*, 53, 661-671.
- Gottfredson, D. C. & Wilson, D. B. (2003). Characteristics of effective school-based substance abuse prevention. *Prevention Science*, 4(1), 27-38.
doi: 10.1023/A:1021782710278
- Hansen, W. B. (1992). School-based substance abuse prevention: A review of the state of the art in curriculum: 1980-1990. *Health Educational Research*, 7(3), 403-430.
doi: 10.1093/her/7.3.403
- Hansen, W. B, Dusenbury, L., Bishop D. & Derzon, J. H. (2007). Substance abuse prevention program content: systematizing the classification of what programs target for change. *Health Education Research*, 22(3), 351-360. doi:10.1093/her/cyl091
- Hernández, O., Espada, J. P. & Guillén-Riquelme, A. (*in press*). Relación entre conducta pro-social, resolución de problemas y consumo de drogas en adolescentes. *Anales de Psicología*.
- Hernández, O., Espada, J. P., Piqueras, J. A., Orgilés, M. & García-Fernández, J. M. (2013). Programa de prevención del consumo de drogas Saluda: Evaluación de una nueva versión en adolescentes españoles. [Prevention Saluda program of drug: Evaluation of a new version in Spanish adolescents]. *Health and Addictions*, 13(2), 135-144.
- Hernández, O., Griffin, K. W., García-Fernández, J. M., Orgilés, M. & Espada, J. P. (2013). Public commitment, resistance to advertising, and leisure promotion in a school-based drug abuse prevention program: A component dismantling study. *Journal of Drug Education*, 43(4), 331-351. doi:10.2190/DE.43.4.c
- Hunter, L. & Elias, M. J. (2000). Interracial friendships, multicultural sensitivity, and social competence: How are they related?. *Journal of Applied Developmental Psychology*, 20(4), 551-573. doi:10.1016/S0193-3973(99)00028-3
- Jiménez, L., Antolín-Suárez, L., Oliva, A., Hidalgo, V., Jiménez-Iglesias, A., Lorenze, B., Moreno, C. & Ramos, P. (2014). A synthesis of research on effectiveness of school-based drug prevention programmes. *Culture and Education*, 26(3), 573-602. doi: 10.1080/11356405.2014.973670
- Karki, S., Pietila, A. M., Lansimies-Antikainen, H., Vajoranta, P., Pirskanen, M. & Laukanen, E. (2012). The effects of interventions to prevent substance use among adolescents: A

- systematic review. *Journal of Child & Adolescent Substance Abuse*, 21(5), 383-413. doi:10.1080/1067828X.2012.724276
- Masten, A. & Faden, V. (2008). Underage drinking: A developmental framework. *Pediatrics*, 121, 235-251. doi:10.1542/peds.2007-2243A
- Miller, J., Naimi, T., Brewer, R. & Everett, S. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, 119, 76-85. doi: 10.1542/peds.2006-1517
- Observatorio Español de la Droga y las Toxicomanías (2013). *Encuesta estatal sobre uso de drogas en estudiantes de enseñanza secundaria (ESTUDES, 2012/2013)*. [Statewide survey on drug use in high school students]. Madrid: Delegación del Gobierno para el Plan Nacional Sobre Drogas, Ministerio del Interior.
- Oliva, A., Parra, A. & Sánchez-Queija, I. (2008). Consumo de sustancias durante la adolescencia: trayectorias evolutivas y consecuencias para el ajuste psicológico. [Substance use during adolescence: developmental trajectories and implications for psychological adjustment]. *International Journal of Clinical and Health Psychology*, 8(1), 153-169.
- Pereira, J. R. & García-Fernández, J. M. (2009). Evaluación de los efectos del programa preventivo Saluda según la edad de los participantes. [Evaluation of the effects of the preventive program Saluda by age of participants]. *Salud y Drogas*, 9(1), 93-111.
- Precioso, J. & Macedo, M. (2003). La contribución de los programas de influencias psicosociales (complementados con otras estrategias) en el control de la epidemia tabáquica. [The contribution of psychosocial influences programs (supplemented with other strategies) to control the tobacco epidemic]. *Adicciones*, 15(4), 369-378.
- Resnicow, K. & Botvin, G. J. (1993). School-based substance use prevention programs: Why do effects decay? *Preventive Medicine: An International Journal Devoted to Practice and Theory*, 22, 484-490. doi:10.1006/pmed.1993.1039
- Skara, S. & Sussman, S. (2003). A review of 25 long-term adolescent tobacco and other drug use prevention program evaluations. *Preventive Medicine*, 37, 451-474. doi:10.1016/S0091-7435(03)00166-X
- Sussman, S., Unger, J. B. & Dent, C. W. (2004). Peer group self-identification among alternative high school youth: A predictor of their psychosocial functioning five years later. *International Journal of Clinical and Health Psychology*, 4, 9-25.
- Tobler, N. S., Roona, M. R., Ochshorn, P., Marshall, D. G., Streke, A. V. & Stackpole, K. M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention*, 20(4), 275-336. doi:10.1023/A:1021314704811