

Teenagers' knowledge about alcohol and other drugs and their opinion about educational technologies

Conhecimento de adolescentes sobre álcool e outras drogas e sua opinião acerca das tecnologias educacionais

El conocimiento de los adolescentes acerca del alcohol y otras drogas y su opinión acerca de las tecnologías educativas

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Abstract

Objective: investigating the knowledge of school teenagers about alcohol and other drugs and their opinion about educational technologies for prevention of consumption. **Method:** a descriptive study with qualitative approach conducted with 86 teenagers attending high school. Data were collected using a self-administered and processed application instrument in the IRaMuTeQ 0.7 alpha 2 and SPSS version 20.0 programs. **Results:** a lexical analysis showed three semantic classes: consequence, representation and definition of alcohol and other drugs for teenagers. The educational technology chosen by the majority were video and the mobile application, which deal with consequences and effects associated with the use of substances and ways to avoid or even use them. **Conclusion:** the results showed that teenagers have little knowledge about the subject and that digital educational technologies can be effective health education strategies to prevent alcohol and other drugs consumption among them.

Descriptors: Educational Technology; Alcoholism; Substance-Related Disorders; Teenager; Primary Prevention

Resumo

Objetivo: investigar o conhecimento de adolescentes escolares sobre álcool e outras drogas e sua opinião acerca de tecnologias educacionais para prevenção do consumo. **Método:** estudo descritivo com abordagem qualitativa realizado com 86 adolescentes cursando o ensino médio. Os dados foram coletados utilizando um instrumento de aplicação autoadministrada e

processados nos programas IRaMuTeQ 0.7 alpha 2 e SPSS versão 20.0. **Resultados:** a análise lexical mostrou três classes semânticas: consequência, representação e definição do álcool e outras drogas para os adolescentes. A tecnologia educacional escolhida pela maioria foi o vídeo e o aplicativo móvel, que versam sobre consequências e efeitos associados ao uso das substâncias e as formas de se evitar ou até mesmo utilizá-las. **Conclusão:** os resultados mostraram que os adolescentes possuem pouco conhecimento sobre a temática e que tecnologias educacionais digitais podem ser estratégias de educação em saúde eficazes para prevenção do consumo de álcool e outras drogas entre o público-alvo.

Descritores: Tecnologia Educacional; Alcoolismo; Transtornos Relacionados ao Uso de Substâncias; Adolescente; Prevenção Primária.

Resumen

Objetivo: poner en claro el conocimiento de los adolescentes escolares acerca del alcohol y otras drogas y su opinión acerca de las tecnologías educativas para la prevención del consumo.

Método: un estudio descriptivo con enfoque cualitativo realizado con 86 adolescentes que asistían a la escuela secundaria. Los datos se recogieron mediante un instrumento de aplicación autoadministrado y procesado en los programas IRaMuTeQ 0.7 Alpha 2 y SPSS versión 20.0.

Resultados: el análisis léxico mostró tres clases semánticas: consecuencia, representación y definición de alcohol y otras drogas para adolescentes. La tecnología educativa elegida por la mayoría fue el video y la aplicación móvil, que se ocupan de las consecuencias y efectos asociados con el uso de sustancias y las formas de evitarlas o incluso usarlas. **Conclusión:** los resultados mostraron que los adolescentes tienen poco conocimiento sobre el tema y que las tecnologías educativas digitales pueden ser estrategias efectivas de educación para la salud para prevenir el consumo de alcohol y otras drogas entre ellos.

Descriptor: Tecnología Educacional; Alcoholismo; Trastornos Relacionados con Sustancias; Adolescente; Prevención Primaria

Introduction

Adolescence is a period of change in development, situated between childhood and adulthood, which imposes physical, cognitive and psychosocial transformations. It is a phase considered predisposition and vulnerability to alcohol and other drug use, which can cause harm and harm, considering the devastating effect on the teenager's health, learning and family and social relationships.¹⁻² The use of these substances at this time of life is a public health problem in Brazil and other countries.²

Knowledge about the theme is considered an important protective factor, because information about the consequences of drug use positively interferes not to use them.³ It enables teenagers to develop a critical view of reality, enabling them to take responsibility for their choices, including the choice of whether or not to use drugs.⁴

Health education for teenagers can be seen as a preventive, educational and social strategy, to the point of emerging, in the community, actions capable of

promoting protection against the use of licit and illicit drugs by teenagers. Health education strategies aimed at enabling these young people to know about prevention are necessary, as they allow access to information on the importance of avoiding contact with these substances and minimizing the undesirable effects and consequences when this contact has already occurred.⁵

Educational Technologies (ET), as health education instruments, have shown resources capable of providing benefits to teenagers, such as active participation, clarification of doubts and real appropriation of knowledge.⁶ Folders, posters, booklets, manuals, guidance notebooks and handouts, serial albums and comic books are examples of ET produced for health education actions among teenagers.⁷ Information and Communication Technologies (ICT's) can also be cited, such as text messages for smartphone, websites, virtual learning environments, online courses, chat, virtual games, blogs and social media. A review study on the use of ICTs in teenager health education obtained as results that, among health professionals, nursing professionals lead research on the construction of these technologies.⁸

It has been noted that the prevention of alcohol and other drugs in adolescence is little addressed in ET or are presented together with other themes, not allowing a broader and adequate approach to address the subject.⁹ Educational materials are effective resources to sensitize teenagers about the harm caused by drug use, especially regarding personal development, professional and quality of life.¹⁰

The construction of ET requires the use of methods that generate resources appropriate to the purpose and educational context, and it is necessary, therefore, the participation of the user in the stages of construction.¹¹ In health, the recommendations about the production of these resources are that incorporate the actors as subjects of knowledge, not only as a target audience of products built outside their realities. ETs should be produced based on the needs of teenagers, for whom educational actions are, considering the context and purpose of their use.¹²

According to the above, the present study aims to investigate the knowledge of school teenagers about alcohol and other drugs and their opinion about educational technologies for the prevention of consumption.

Method

This is a descriptive and exploratory study, with a qualitative approach, conducted in June 2019 in a state high school and technician in the public school in the state of Paraíba, Brazil, which has about 489 students enrolled.

Data were collected at a time previously scheduled with the school principal and teachers. The contact with the participants and collection occurred in the classroom, in agreement with the teacher of the discipline to which she was being taught. The objectives, procedures and ethical aspects of the study were explained to all students and the self-administered instrument was made available. It is emphasized that the research team, especially the advisor and principal researcher, had a previous bond with the institution, professionals and students, due to contacts and research at previous times in this school.

Data were collected using an instrument with 14 questions of self-administered application, structured with closed response variables for sociodemographic characterization of participants, as well as open questions about consumption, knowledge of the definition, types and consequences of alcohol and other drugs. The participants' opinion on the ET formats related to the theme, as well as the content to be presented by them, was also explored. The instrument was elaborated by the authors and evaluated for its structure and pertinence by two professors with expertise in the area. The mean time of completion by the participants was 15 minutes.

The inclusion criteria included teenagers regularly enrolled in one of the three years of high school, aged between 14 and 19 and who were present in the classroom at the time of data collection. It was considered as exclusion criteria, teenagers who were not attending classes regularly, according to information provided by the school board, through class attendance. The study included 86 teenagers, selected for convenience, attending high school. There was no refusal or need to exclude participants.

The quantitative data were analyzed with the help of the software Statistical Package for Social Sciences (SPSS) version 20.0, in which the frequencies of sociodemographic variables were obtained. Textual analysis was performed by means of Descending Hierarchical Classification (CHD) and Word Cloud and had the aid of the

software Interface of R pour les Analyses Multidimensionnelles de Textes et de Questionnaires (IRaMuTeQ) 0.7 alpha 2.¹³

CHD analysis occurs from the identification of the average quantity and frequency of words, classifying text segments (TS) according to their respective vocabularies, and their set broken down according to the frequency of the reduced forms. The function is to obtain ST classes composed of vocabularies similar to each other, but at the same time distinct from The ST of other classes. These results are presented for visualization in a CHD dendrogram, which illustrates the relationships between classes. The Word Cloud, on the other hand, is a simpler analysis, which aims to provide a graphical view of the frequency of use of words.¹³

Regarding ethical aspects, the research followed the determinations of Resolution 466/12 of the National Health Council, which provides for research involving human beings in Brazil,¹⁴ and the project was approved by the Ethics and Research Committee on October 17, 2018, under CAEE N 94744518.7.000.5208. The study was authorized to waive the signing of the Free and Informed Consent Form by the parents/guardians of the participants, which was justified by the theme addressed (drug use). Therefore, the Term of Free and Informed Consent was obtained from all participants under 18 years of age.

Results

The analysis of the results showed the predominance of male school teenagers (53.5%; N = 46), aged between 14 and 18, with the majority aged 16 (33.7%; N = 29), who live with their parents (59.3%; N = 51); have a family income of more than one minimum wage (50%; N = 43); who declared themselves brown (45.3%; N = 39) and evangelicals (43%; N = 37). Of the 86 teenagers participating in the study (39.5%; N = 34) attend the 1st year of high school; (33.7%; N = 29) the 3rd year; and (26.8%; N = 23) the 2nd year.

Regarding the characteristics of alcohol consumption, teenagers reported never having used (51.2%; N = 44), rarely used (29.1%; N = 25), sometimes used (9.3%; N = 08), used many times (3.5%; N = 03) and used whenever they could (4.7%; N = 04). In addition, they reported never having used tobacco (95.3%; N = 82), rarely used (3.5%; N = 03) and have used them many times (1.2%; N = 01). Regarding illicit drugs, 77 students

(91.4%) highlighted never having made use; 3 (3.7%) have rarely used it; the same percentage was seen for consumption "whenever I can" and "sometimes" (1.5%; N = 1). The others preferred not to answer the question.

The IRaMuTeQ corpus was developed from the teenagers' answers to the questions of the study: "for you, what are drugs?", "what types of drugs do you know?", and "what are the consequences related to the use of alcohol and other drugs?". The most evoked words were organized in the CHD, in which three classes presented in the dendrogram appeared.

A total of 2,924 occurrences of words were identified, distributed in 435 active forms. The analysis of the corpus from the interviews of the teenagers originated 101 ST, with $\geq 3:130$ frequencies of the active forms and a utilization of 85.08% of the corpus.

The dendrogram shows the corpus delimited in three classes as a function of the occurrence and co-occurrence of the most significant words evoked by teenagers. The identification, analysis of the textual domains and interpretation of the meanings of the words were performed to name their respective classes. The CHD entitled "Knowledge of teenagers about alcohol and other drugs" divided the TS into two axes, the first axis formed class 2 (Consequences) and class 1 (Representation), which connected with the second axis, forming class 3 (Definition). Class 1 contributed with 45.57% of the total TS, being the main class to be analyzed. The other classes 2 and 3 contributed with 24.05% and 30.38%, respectively (Figure 1).

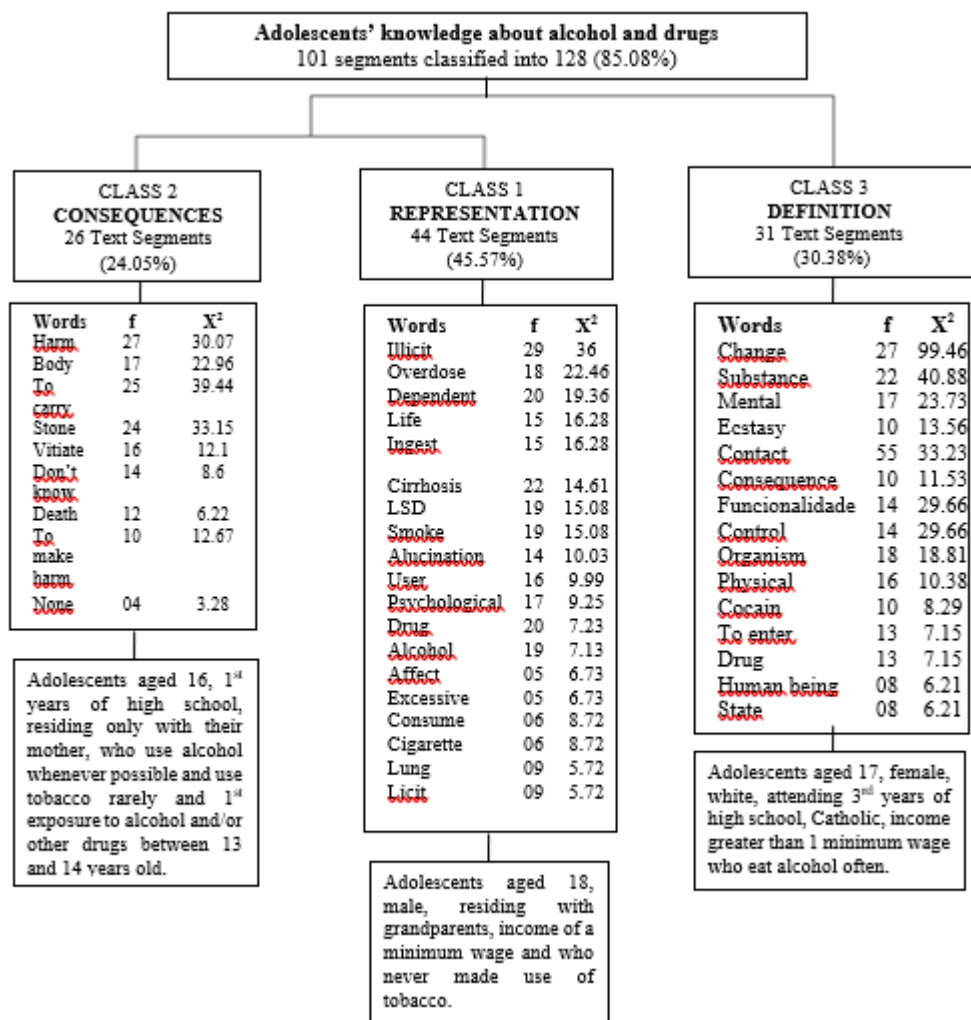


Figure 1 – Dendrogram of the Descending Hierarchical Classification with the words representing the classes according to the *IRaMuTeQ* software. João Pessoa/PB, Brazil, 2019.

Class 2 – Consequences, covers 24.05% of the total TS, formed by 16-year-old teenagers, from the first year of high school, Umbanda religion, living only with the mother, who use alcohol whenever possible and used tobacco rarely and had their first exposure to alcohol and/or other drugs between 13 and 14 years old. This class was constituted by the words: evil, body, lead, stone, addict, do not know, death, harm and none.

The drugs, represented in this class by the word "stone" are presented by the harm caused to the body, in addition to addicting and harming the individual, which can cause his death. The answers "I don't know" or "none", significant in this class, are

associated with the speech of teenagers who do not know or do not recognize the consequences of drugs.

Teenagers report causes and physical aspects that come from drug abuse. These, in turn, cause negative events causing fundamental changes in this process. The nature of violence is present in its family and social context, many have designated that it does not have in its family cycle a family structure, showing that the lack of knowledge and a father figure and/or an inefficient family arrangement works as a negative feedback to enter the world of drugs or escape from its reality.

Class 1 – Representation, composed of 45.57% of the total TS, formed by teenagers aged 18 years, male, living with grandparents, with an income of one minimum wage and who never used tobacco. This class consisted of the words: illicit, overdose, dependent, life, ingest, cirrhosis, LSD, smoking, hallucination, user, psychological, drug, alcohol, affect, excessive, consume, cigarette, lung and lawful.

This class is marked by physical and psychological aspects, the first point (overdose, dependence, cirrhosis, lung) corresponds to symptoms and physical signs due to damage caused by excessive use to the body and the second point (hallucination, psychological) expresses psychic consequences.

Concepts of the representation of what drugs cause in the body emerged in this class. Teenagers portray more precise and impactful concepts caused by the excessive use of illicit and licit drugs. This is due to a greater understanding and knowledge on their part with an emphasis on their negative effects. Participants use the physiological effects that drugs cause to the body associated with excessive consumption, which can cause changes in psychic functions.

Teenagers emphasize the perception of drugs as something bad and harmful, in which the individual has no control. The pattern of consumption was identified as continuous and periodic and may cause chronic problems due to excessive consumption.

The ideas that drugs that are illicit are associated with the forms of use were highlighted: ingesting, smoking, excessive consumption. Illicit drugs have also been associated with effects on the body, such as hallucination, making the individual dependent, affecting the psychological and causing overdose.

Class 3 – Definition, consisting of 30.38% of the TS, was mostly established by teenagers aged 17, female, white, attending the third year of high school of Catholic religion, with an income higher than a minimum wage and who eat alcohol many times. The most prevalent words of this class were: alter, substance, mental, ecstasy, contact, consequence, functionality, control, organism, physical, cocaine, enter, narcotic, human being and state.

In this class, the words presented are quite diverse, presenting some types of drugs, such as ecstasy, cocaine and narcotics. Defining it as a substance capable of changing the functionality of the body.

The present study aimed to investigate the teenagers' opinion regarding ET for the prevention of alcohol and other drugs, in addition to the information of interest. The results showed that (50%; N = 43) mentioned the video as ET of choice, followed by application (18.6%; N = 16) for mobile technology, comic book (17.4%; N = 15), audios and serial album (both with 4.7%; N = 04) and booklets (3.5%; N = 03). It is also emphasized that some teenagers also mentioned strategies such as lectures, serials, scenarios and moments of counseling.

To deepen the understanding of the teenagers' opinion on the subjects for the prevention of alcohol and other drugs that would like to have access in the ET, the Word Cloud method was used to analyze their answers. The results of the participants' evocations can be seen in Figure 2.

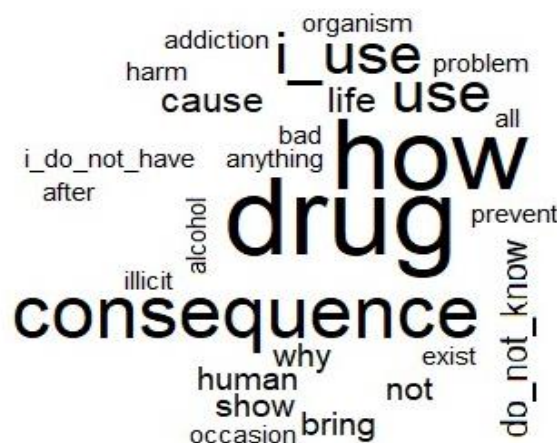


Figure 2 – Cloud of words that express subjects about alcohol and other drugs that teenagers would like to visualize in an educational technology. João Pessoa/PB, Brazil, 2019.

The teenagers placed a greater emphasis on the words: how (in what way), drugs, consequence, cause, use and use and the expression "I don't know" was also widely evoked. It is understood, therefore, that the interests of teenagers are related to doubts or issues related to the consequences and effects associated with the use of substances, as well as how to use them, but also how to avoid them. Similar to the results obtained in class 2 of the dendrogram, expressions "do not know" or "I do not have" were observed, representing ignorance or disinterest in the subject.

Discussion

Corroborating the findings of the present study, epidemiological data on alcohol and other drug use among young people show that it is in the transition from childhood to adolescence that the first contact with alcohol usually occurs. This is due to their incessant search for new discoveries, especially from adulthood. The earlier the use occurs, even more grave consequences can occur in the short and, also, in the long term, in the future of teenagers and society as a whole,¹⁵ since the early consumption of alcohol and other drugs causes damage to the affective ties and work activities of adults who started the use of alcohol during adolescence.¹⁶

For the participants, drugs represent what is illicit and consumed in excess, perceptions that make them vulnerable to the consumption of substances permitted by law and socially accepted, besides generating an idea of the ability of control of use. It is common among teenagers to consider only substances not permitted by law in the country, which is associated with a value judgment on certain drugs, where licit drugs are understood as good or less harmful, while illicit substances are demonized and considered an evil that needs to be fought.¹⁷

The teenagers' views on the subject reflect a worrying interpretation because they consider that illicit drugs are more harmful than licit drugs. Therefore, students may realize that licit drugs, because they are socially accepted, do not bring as many problems as illicit drugs. This happens in relation to alcohol, since the media and society stimulate consumption, either with advertisements associated with wealth, humor,

success and prestige, or through the close relationship of the substance with festive moments and fraternization.¹⁸

Regarding the representation of drugs by participants from the perspective of "excessive consumption" or overdose, a study points out that teenagers with experience of use usually adopt a posture of control of consumption, as if they were able to avoid addiction.¹⁹ However, it is known that these substances have abusive power, tolerance and dependence and their consumption is associated with several losses, especially in adolescence, because early use can make interruption even more difficult, contributing to the development of dependence.²⁰

In an attempt to define alcohol and other drugs, coherence is evidenced in the participants' responses, which conceptualize them as substances that alter the user's organism, especially the mental, although there was still a strong mention of "illicit". The drug, in fact, can be conceptualized as any substance not produced by the organism that alters its normal functioning, and may affect the way of being, thinking, feeling and acting,²¹ but reflections on its concepts cannot be summarized in its legality, as seen in some answers.

Aiming to expand the knowledge of teenagers on the theme and reduce the simplistic view that many present about substances, ET applied to health education actions for this public have positive impacts. Benefits can be exemplified, such as: reliability, alternative option for the development of educational actions, feasibility, efficacy, interactive character, means for acquiring scientific knowledge, critical-reflective thinking; possibility of promoting changes and acquisition of positive health behaviors.¹⁰

Thus, it is important the role of nursing in the health education of teenagers and young people with regard to new discoveries of life, especially regarding the use of alcohol and other drugs, a theme permeated by taboos. Nursing, because it is the profession of care, has the responsibility of bringing teenagers knowledge about these substances, alerting to their effects, in an educational and playful way. In addition to teaching, it is necessary to provoke them to think about the theme, which can be done through ET, which in addition to attractive resources, are effective in the learning of those who use it.²²

The School Health Program (PSE), an initiative of the Ministry of Health (MS) and Education (MEC), highlights the need for policies aimed at working to prevent the use of alcohol and other drugs among children and teenagers, through educational and participatory actions, aiming to promote their full development.²³ The ET can be tools to help the development of these actions.

The present study also sought to investigate the teenagers' opinion about ET to have access to content on the theme alcohol and other drugs. In the process of developing ET for health education actions, it is important to characterize the target population before its elaboration, aiming at an adequate resource for the purpose and educational context in which it will be used.²⁴

ICT-based features were mentioned as first choices: video and mobile apps. Although traditional health education methodologies, such as oral content transmission, remain important areas for education in schools, new health priorities for young people emerge as health and safety trends, such as technology devices and social media practices.²⁵ Today's teenagers are part of a generation called "Digital Natives", "Generation Z", or even "Digital Generation", who have experienced a technological revolution and are restless and advancing on the socio-technological changes of their time.²⁶

Regarding the key issues or doubts about the theme, the Word Cloud showed the interest of teenagers about the consequences of alcohol and other drug use and aspects related to how to avoid or even use. In the answers, the expressions "I don't know" or "I have no doubts" stood out. It is essential to enable teenagers to have a deeper knowledge of drugs, based on scientific information, and that allow an approximation with the complexity and social and economic implications of these substances.¹⁸ Thus, it is necessary to search for new strategies to try to modify the reality of alcohol and other drug use by them.²¹

Educational interventions, planned and systematized by health professionals, especially by nurses, using ETs elaborated and validated from the needs of the target audience, favor an assertive choice to work on health issues. Therefore, effective investments in ET become necessary that are based on teenagers' autonomy in the decision-making process.²⁷

Limitations can be pointed out, such as the fact that the study was conducted only in the public context of teaching and through a self-administered data collection instrument, which can compromise the perception of nonverbal behaviors and language of the participants, relevant in the researchers' considerations. The collection occurred in the classroom can also be considered a fragility, considering the possibility of the answers being influenced by this environment.

The study may help researchers who seek to develop ET to prevent the use of alcohol and other drugs among teenagers, since the results obtained allow us to visualize the knowledge needs of these young people, as well as their opinion on the type of technology and subjects that are most interested.

Conclusion

The present study allowed us to identify, through the responses of school teenagers, that drugs are substances that cause individuals negative consequences, but that, although aware of these damages, only 51.2% report never having used alcohol. It was also observed that for the participants, drugs represent illicit substances and that are consumed in excess and may characterize a disregard of the substances allowed by law as harmful and the possibility of use, provided that it is not in copious quantities, showing an idea of self-control of consumption.

As for the opinion on educational technologies on the theme of alcohol and other drugs, there was emphasis on ICT-based resources, such as video and mobile applications. The teenagers highlighted the importance of resources that provide information on the consequences of consumption, aspects related to strategies to avoid using these substances, as well as ways of using them.

These results show the need to develop health education strategies to prevent the use of alcohol and other drugs among teenagers. It is necessary to ensure access to correct and adequate information on this public health issue. ETs are important tools in this process but need to be developed considering the specificities of the intended public.

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