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Dossier

Efficacy of an online video to promote health insurance literacy among students

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Abstract: This study describes the production and evaluation of an online video explaining health insurance functioning to university students in France. The video was produced by a multidisciplinary team following a design thinking approach. A qualitative evaluation was performed using semi-structured interviews with 30 students. Results showed that, after watching the video, students had remarkably improved their knowledge and obtained clear information on health insurance functioning. This study underscores the importance of using innovative digital communication tools to efficaciously promote health insurance literacy.

Keywords: health insurance literacy, online video, evaluation, university students, design thinking

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Une vidéo en ligne pour augmenter la littératie en santé des étudiants

Résumé : Cette étude décrit la production et l'évaluation d'une vidéo en ligne adressée aux étudiants de Bordeaux, qui explique le fonctionnement de la Sécurité Sociale Etudiante française. La vidéo a été produite par une équipe multidisciplinaire selon la méthode *design thinking*. Une évaluation qualitative a été réalisée via 30 entretiens semi-directifs. Les résultats ont montré qu'après avoir regardé la vidéo les étudiants avaient amélioré leur connaissance du fonctionnement de l'assurance maladie. Notre expérience montre que des outils de communication numériques innovants peuvent promouvoir la littératie en santé des jeunes.

Mots-clés : littératie en santé, évaluation, vidéo, étudiants, design thinking

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Introduction

A growing body of research has shown that many young people worldwide lack clear understanding of the health insurance system of their country and find it particularly difficult to navigate multiple choices and calculate costing of healthcare (Parragh & Okrent, 2015; Kim, Braun & Williams, 2013; National Research Council, 2013).

In a transitional period characterised by the separation from their parents and the development of their autonomy, university students face for the first time the blurred rules of the health insurance system (Wong et al., 2015). Furthermore, university students tend to delay and avoid medical care more frequently than other people their age (Observatoire national de la Vie Etudiante, 2014). Even for best educated young people, in some countries the health insurance system is somehow enigmatic, and education programs too often fail to provide university students with adequate information concerning their healthcare (World Health Organization, 2014). This is especially the case of France, as well as of other European and extra-European countries like Germany, Austria, Netherlands (Saltman, 2014) and the United States (Meyer, 2017; Tennyson, 2011), whose health insurance systems are uniquely complex.

Communication tools, including Internet-based resources, represent a good way to deliver clear information to young adults. Especially websites, social networks, podcasts and videos are really appealing solutions for this technologically capable generation (Andreassen et al., 2007). Short videos are particularly adapted to be broadcasted on the web, mainly via Youtube, Twitter and Facebook which are largely used by university students (Westerman & Spence & Van Der Heide, 2014). The use of new digital communication tools increases interactions and makes information more accessible, allowing students to appraise and share it within their communities. Such tools are commonly used today by health promotion and diseases

prevention actors who have understood the natural knack young people have for technologies (Jacquey-Vazquez et al., 2013). However, few studies have explored the effectiveness on students' health-related knowledge of applied innovative digital communication interventions in general and of online videos in particular.

The purposes of this study were to: (1) describe the production of an online video explaining the national health insurance system to French university students; and (2) evaluate the efficacy of this video through a qualitative study. The paper begins with a theoretical framework concerning health insurance literacy and a brief explanation of the French health insurance system for university students to contextualise the study, before moving to the description of the production of the video and the evaluation of its efficacy.

1. Theoretical framework: health insurance literacy

Health literacy is defined as the capacity to seek and understand health information in order to make appropriate health decisions (Sørensen et al., 2012). As a very specific component of health literacy, health insurance literacy refers to "the degree to which individuals have the knowledge, ability, and confidence to find and evaluate information about health plans, select the best plan for their own (or their family's) financial and health circumstances, and use the plan once enrolled" (Quincy, 2012). In theory, the conceptual model of health insurance literacy consists of five domains: health insurance knowledge, information seeking, document literacy, cognitive skills, and self-efficacy (Paez et al., 2014). In practice, health insurance literacy is focused on how individuals understand and estimate benefits and costs of health insurance, providing that broader knowledge about one's health status and healthcare services is well established (de Leeuw, 2012). Paez and colleagues (2014) have developed an instrument to measure health insurance literacy in American people, i.e. the Health Insurance Literacy Measure (HILM). As this concept is really country- and system-specific, the HILM cannot be applied outside the United States. However, this instrument demonstrates that health insurance literacy can be quantitatively estimated, thus producing indicators allowing academia, policy makers and health professionals to make well informed decisions.

Health insurance literacy has direct repercussions on three factors impacting on physical and mental health: access to and use of health services and system, interaction between health professionals and patients, and personal healthcare (Paashe-Orlow & Wolf, 2007). A low level of health insurance literacy increases the risk of being uninsured, paying greater out-of-pocket fees, and opting for an inadequate insurance plan (Norton, Hamel & Brodie, 2014). It is also associated with limited access to healthcare services and, consequentially, poor overall health (Martinez-Donate et al., 2013). Thus, in the specific population of students, limited health sys-

tem literacy might play a major role in non-health seeking behavior (Hargreaves et al., 2015).

Given the stakes involved, we developed and evaluated an online video to increase health insurance literacy among university students in France where the insurance system maybe unintelligible to young people.

2. The characteristics of the French insurance system for university students

According to the legislation, to permanently reside in France, one is legally required to have health cover (Organisation for Economic Co-operation and Development, 2014). For students in particular, until 2017 there was the obligation to subscribe a compulsory health insurance (i.e. the Sécurité Sociale Etudiante - Students' Health Insurance) in order to be officially registered to a university program (Elbaum, Ferras & Palach, 2014). This insurance was managed by two different entities, one at the national level and the other at the regional level, both providing health insurance coverage of hospital, doctor and health provider care throughout France (Ameli, 2017). The Students' Health Insurance covered about two-thirds of students' health expenses, while the remaining third could be paid totally by the student or covered by a complementary insurance.

University students had to decide between the two available options for their compulsory Students' Health Insurance, and then choose whether to buy a complementary insurance or not. Some students could have been already covered by the complementary insurance of their parents. The specific conditions and modalities of both compulsory and complementary health insurances varied according to the personal situation of each student, i.e. age, presence or not of a parallel job activity, parents' profession, and nationality. Therefore, health insurance costs could be really different from one student to another, thus making comprehension of the whole system more and more difficult.

3. The current study: the genesis of the *Sécupliqué* project

This study was conducted within the larger ongoing cohort study *i-Share* (Internet-Based Students Health Research Enterprise) which is aimed to collect data on the health status and habits of 30,000 university students across France (www.i-share.fr) (Montagni et al., 2017). Preliminary analyses were performed on a total of 13,936 students, 10,491 of whom were females (75.3%). Results showed that 1,109 students (8.0% of the total sample) declared not knowing whether they had subscribed the compulsory Students' Health Insurance or not. Similarly, 2,712 students (19.5% of the total sample) did not know whether they had a complementary insurance. Finally, among those declaring not having a complementary insurance (n=907,

6.5% of the total sample), 172 students (19.0% of the sub-sample), reported that the reason was the lack of clear information on the health insurance system.

Drawing on these findings, we took the initiative to produce a digital communication tool in the form of a motion design video addressed to university students delivering simple, precise and independent information on health insurance functioning. The *Sécupliqué* project was then implemented. The noun *Sécupliqué* is a wordplay merging the French words "*sécurité*" (insurance) and "*compliqué*" (complicated).

The hypothesis underpinning our study was that information delivered to students through a digital communication tool could improve the knowledge of the health insurance system, its modalities and conditions, as well as the rights students have in terms of health coverage. Our principle aim was to promote health insurance literacy among French university students through the use of an online video. Our second aim was to evaluate the efficacy of such video through a qualitative study.

4. The *Sécupliqué* workforce: multidisciplinary *Sécupliqué* team, communication agency and consulting board

The *Sécupliqué* video was produced in a neutral environment, by refusing any funding from external health insurance companies, and jointly conducted by two public institutions of the University of Bordeaux in France: the *i-Share* project team composed of researchers, specialists of public health, communication experts and students; and the *Espace Santé Etudiants* (University Students Health Department), i.e. the local academic service of preventive medicine and health promotion, including medical doctors and healthcare administrative professionals. A total of eleven members from both institutions were reunited from November 2015 in a multidisciplinary team (the *Sécupliqué* team): three public health researchers, three healthcare administrative professionals, two communication project managers, two undergraduate students, and one medical doctor. The team furtherly collaborated with a private communication agency, Silver Arrow Studio, and a consulting board composed of six graduate students from different study fields (medical informatics, health economics, communication, public health, dentistry and human resources management).

5. The co-creation of the motion design video

A design thinking approach (Dorst, 2011) was used involving all stakeholders (i.e. the *Sécupliqué* multidisciplinary team, the communication agency and the consulting board) from the very beginning of the project through iterative exchanges. The *Sécupliqué* multidisciplinary team was gathered several times between Novem-

ber 2015 and February 2016 in order to define the content of the video, write the script, work on the storyboard, and interact with the communication agency.

During one of the first meetings, it was decided to produce a series of four short videos on four specific topics covering the main aspects of the health insurance system for university students in France: (1) general principles and functioning of the Students' Health Insurance; (2) costs and reimbursement of consultations and hospitalisations; (3) costs and reimbursement of medical treatments and contraceptives; and (4) costs and reimbursement of ophthalmologic and dental care. The first video on the general principles and functioning of the Students' Health Insurance was produced and evaluated before the realisation of the other three videos. This study is then exclusively focused on the description of the production and evaluation of the first video.

A first draft of the video script was written based upon official sources, like the websites of the national insurance system. The draft of the video script was read and corrected by the multidisciplinary team and the consulting board. A cleaned version of the video script was then submitted to the communication agency in order to conceive the storyboard, i.e. a set of illustrations displayed in sequence to pre-visualize the video content and animation. Validated by the multidisciplinary team, the final storyboard adopted a youth-friendly approach balancing trusted informative content and a fresh gender-neutral design. The video was produced using the motion design technique with pieces of digital animation which create the illusion of motion and are combined with audio (voice-off). The protagonist of the video is a male student leaving secondary school and entering university. A dynamic actor voice was selected to give voice to the student and transmit the messages in a clear and punchy way. Figure 1 shows illustrative fragments of the video.

Figure 1. *Screenshots of the first Sécupliqué video on Students' Health Insurance (permission obtained from Silver Arrow Studio)*

The *Sécupliqué* series is addressed to all students in France and is available online on the YouTube channel of the *Espace Santé Etudiants*: https://www.youtube.com/playlist?list=PLym8MGJ3K__KiJDrxVpefOUu3UFLOZfBd

6. The evaluation of the efficacy of the video: qualitative approach, sampling and participants recruitment

In order to evaluate the efficacy of the first *Sécupliqué* video, a qualitative study was conducted. This study was exploratory and aimed to provide a preliminary overview of the potential applications of digital communication tools in this domain. We employed semi-structured face-to-face interviews to maximize the depth of information obtained from each participant (Rubin & Rubin, 2014).

The evaluation study was carried out by five members of the multidisciplinary team: the three public health researchers, and the two undergraduate students. This sub-team firstly produced an interview guide allowing to separate each interview into two distinct phases: a first phase before watching the video to collect information on students' knowledge on health insurance system, including questions on compulsory and complementary insurances, costs and modalities of reimbursement; and a second phase after watching the video aimed to assess if and how the video

had improved their knowledge on health insurance system. Questions were also asked on appropriateness of used format, content and dissemination of the video.

The complete guide explored eight themes for the first phase (general knowledge of the health insurance system; insurance subscription; choice of the compulsory health insurance; specific details on the payment of the compulsory health insurance; duration of the subscription; information on the complementary health insurance; differences between compulsory and complementary health insurances; financial aids to cover the health insurance costs; opinions on the clarity of information and communication about the health insurance system), and three themes for the second phase (design appreciation; content appreciation; communication channels to disseminate the video). Socio-demographic information (gender, age, parents' profession, field and year of study, job activity, scholarship) was also collected.

The undergraduate students were in charge of recruiting students in three different campuses of the University of Bordeaux, corresponding respectively to different fields of study: psychology and social sciences; literature, economy and law; and biology, health and medicine. The rationale for the number of participants was based on previous project experience with university students (Montagni et al., 2017), and the number of 30 participants was considered sufficient to obtain a saturated sample. Students were recruited based on four main criteria: (a) being at least 18 years old, (b) being a student of a higher education institution (public university or private institution) for the academic year 2016/2017, (c) speaking French, and (d) never having watched the *Sécupliqué* video before. The project was conducted according to the principles of the Declaration of Helsinki. In order to preserve the confidentiality of collected data, we did not ask for students' names and we committed not to publish individual results which could identify students. Participants were solicited in quiet places of their campus so as to be in appropriate conditions to complete the interview and watch the video on a tablet. After having presented the project and verified that the inclusion criteria were met, the semi-structured interviews were performed.

7. Data collection and analysis

A total of 30 interviews were performed between September and December 2016. Each interview lasted on average 10 minutes. A total of 45 people was solicited for the study, but 15 students (33.3% refusal rate) declined, saying that they were too busy or not motivated. However, among those refusing to participate, some expressed their will to watch the video later and asked for its title and YouTube link.

Interviews were audiotaped, fully transcribed and analysed using the Framework Analytic Method (Gale et al., 2013). Content of the transcribed interviews was organized following the total eleven themes (eight for the first phase, and three for the second phase) of the interview guide. For each participant, qualitative data were then

summarized. A horizontal thematic analysis of each student's interview was performed and interesting verbatim quotations were transcribed. We provided quantitative counts of the number of respondents in order to convey the frequency of responses. Three main research issues were finally identified: (1) insurance health literacy before watching the video; (2) insurance health literacy after watching the video; and (3) appreciation and commentaries concerning the video.

8. Findings: the sample

Our sample was constituted of 19 female and 11 male students, corresponding to the real overrepresentation of girls at the University of Bordeaux (58.3% as reported in *Direction Analyse économique et études Statistiques*, 2017). Socio-demographic details of the participants are reported in Table 1.

Table 1. Socio-demographic characteristics of the sample (N=30)

	Gender	**Age**	**Year of study**	**Field of study**	**Parents' profession**	**Economic resources**
Student 1	Female	21	3rd	Law	Father: unemployed Mother: civil servant	No scholarship Part-time job Punctual parental support
Student 2	Male	23	2nd	Psychology	Father: civil servant Mother: civil servant	No scholarship Parental support
Student 3	Female	18	1st	Sociology	Father: professor Mother: secretary	No scholarship Parental support
Student 4	Female	18	1st	Foreign languages	Father: chief executive Mother: chief executive	Scholarship Parental support
Student 5	Male	21	2nd	Foreign languages	Father: artisan Mother: nurse	No scholarship Parental support
Student 6	Female	18	1st	Archaeology	Father: unemployed Mother: housewife	Scholarship
Student 7	Male	18	1st	Foreign languages	Father: labourer Mother: secretary	No scholarship Parental support
Student 8	Female	20	3rd	Medicine	Father: engineer Mother: professor	Scholarship Parental support

Student 9	Female	18	1st	Health studies	Father: medical doctor Mother: tradeswoman	Scholarship
Student 10	Male	25	6th	Medicine	Father: medical doctor Mother: executive director	No scholarship Working in a hospital Parental support
Student 11	Female	21	1st	Sociology	Missing	No scholarship Parental support
Student 12	Female	18	1st	Sociology	Father: missing Mother: cleaning woman	Scholarship Parental support
Student 13	Female	23	5th	Psychology	Father: employee Mother: banker	Scholarship Summer job Parental support
Student 14	Female	18	1st	Sociology	Father: civil servant Mother: civil servant	Scholarship Parental support
Student 15	Female	20	1st	Foreign languages	Father: chief executive Mother: chief executive	No scholarship Parental support
Student 16	Female	20	1st	Literature	Missing	Scholarship
Student 17	Male	21	2nd	Foreign languages	Father: labourer Mother: touristic guide	No scholarship Parental support
Student 18	Female	20	3rd	Medicine	Father: engineer Mother: missing	No scholarship Parental support
Student 19	Female	18	1st	Health studies	Father: labourer Mother: labourer	Scholarship Summer job Parental support
Student 20	Male	25	6th	Medicine	Father: firefighter Mother: hospital assistant	No scholarship Working in a hospital
Student 21	Female	19	1st	Biology	Father: missing Mother: cleaning woman	Scholarship
Student 22	Male	19	1st	Health studies	Father: employee Mother: employee	No scholarship Summer job Parental support
Student 23	Female	18	1st	Health stud-	Father: medi-	No scholarship

				ies	cal doctor Mother: banker	Parental support
Student 24	Male	19	3rd	Medicine	Father: unemployed Mother: hospital assistant	Scholarship Parental support
Student 25	Female	21	1st	Biology	Father: retired Mother: postwoman	No scholarship Parental support
Student 26	Male	19	1st	Health studies	Father: unemployed Mother: executive director	Scholarship Summer job Parental support
Student 27	Male	19	1st	Health studies	Father: medical doctor Mother: medical doctor	No scholarship Parental support
Student 28	Female	18	1st	Health studies	Father: medical doctor Mother: medical doctor	No scholarship Parental support
Student 29	Female	23	1st	Teaching	Father: consultant Mother: instructor	No scholarship Parental support
Student 30	Male	25	1st	Teaching	Father: tradesman Mother: secretary	No scholarship Summer job Parental support

9. Findings: insurance health literacy before watching the video

Prior to watching the video, 19 students (63.3% of the total sample) were not able to clearly define Students' Health Insurance. Students 11 and 29 said respectively: *"I do not really know... For me it's an organization that helps students because they may have some difficulties. Students usually do not have a lot of money"*, and *"Well, I am really bad at explaining this! I know it's about health costs, that it reimburses a part of them, but I confuse everything because there are several organizations. It's such a mess"*. More in details, students were mostly confused about the compulsory nature and costs of Students' Health Insurance. Almost one half of the sample wrongly thought that this insurance is completely free for all students (16/30, 53.3%), and not compulsory at all (13/30, 43.3%). Nine students (9/30, 30.0%) did not know at all whether they had paid their Students' Health Insurance. Concerning the choice between the two entities delivering the Students' Health Insurance, half of the sample (15/30, 50.0%) did not know which the differences between the two offers were. Student 17 said: *"It is unclear, we do not really know the difference between the two, and maybe that's the real missing information"*.

When asked about the complementary health insurance, only 2 students (2/30, 6.6%) did not know whether they owned it or not. Among the remaining 28 students, 35.7% (10/28) had chosen their complementary health insurance following family and friends' advice; the same percentage had chosen at random; 14.3% (4/28) had let their parents decide for them; and the remaining 2 students did not provide any answer. However, 17 students (17/30, 56.6%) were not able to define the services offered by the complementary health insurance, and almost all students (26/30, 86.6%) were not able to explain the difference between the services offered by the compulsory Students' Health Insurance and the complementary health insurance. In fact, Student 29 declared: *"They both reimburse our health costs, but what is the difference? This is the question! […] I confuse everything, who reimburses what? I do not see the difference between the two. I do not know what the complementary health insurance is. I am a bit lost, it is too complicated"*.

In general, almost all students (25/30, 83.3%) declared that the current insurance health system was not intelligible. They reported that they lacked appropriate information; they were not supported in choosing the appropriate entity for the Students' Health Insurance and the compulsory health insurance; they did not know where to search for information. They also said that, although they recognize it is important, they were not really interested in getting this type of information since health insurance issues are too bureaucratic and parents are often in charge of their health insurance management. In this direction, Student 15 declared: *"It's me who did not look for information. My father manages all this stuff. I do not need to be more informed than that"*. Finally, 26 students (26/30, 86.6%) were not aware that some financial aids specifically addressed to them exist.

10. Findings: insurance health literacy after watching the video

After watching the video, the majority of students (24/30, 80.0%) reported having acquired new information especially on: the differences between the compulsory Students' Health Insurance and the complementary health insurance (10/24, 41.6%); the reimbursement rates of both health insurances (10/24, 41.6%); the existence of financial aids (6/24, 25.0%); the modalities of subscription (5/24, 20.8%); and the compulsory nature of the Students' Health Insurance (5/24, 20.8%). Student 11 said: *"I have never heard it before. I would have preferred knowing this before beginning the University studies"*. Among the remaining 6 students, 2 (2/30, 6.6%) declared that the video did not help them to acquire new information but was really helpful to clarify what they already knew about the health insurance system.

Concerning the usefulness of the messages transmitted by the video, 23 students (23/30, 76.6%) declared that they had memorized new important information on health insurance functioning, concerning mainly the costs (9/23, 39.1%), the financial aids (4/23, 17.4%), and the detailed offer of complementary health insurance

(4/23, 17.4%). Students 3 and 11 said respectively: *"What seemed to me the most important information? The costs"*, and *"All information provided by the video are really interesting to me"*. Among those saying that information on the video was not useful (7/30, 23.4%), almost all (6/7, 85.7%) stated that they were not interested at all in their health insurance situation.

Furthermore, 24 students (24/30, 80.0%) stated that they had fully appraised the information: some students (6/24, 25.0%) said they wanted to obtain more information, while some others (5/24, 20.8%) felt the information given in the video was sufficient. After watching the video, 7 students (7/30, 23.3%) had still some questions concerning the health insurance functioning, mainly on the costs and reimbursement delays of the Students' Health Insurance. A large rate of students (18/30, 60.0%) found that the video was clear enough, but needed to watch it again to fully understand all conveyed messages.

In the end, the video was considered as a useful tool to improve health insurance literacy of students having specific questions, but also as a practical reminder for students already having basic knowledge on this topic. Student 12 said: *"The video clarifies how the health insurance system works. I know I have to improve my knowledge on that"*.

11. Findings: appreciation and commentaries concerning the video

Overall, students appreciated the video and suggested to disseminate it among all students in France through official websites and social network pages of national health institutions and universities. The majority of the sample (27/30, 90.0%) liked the format of the video stating that the message was clear, the motion design nice and the length appropriate. Two students (2/30, 6.0%) declared however preferring another format than the video, e.g. a written text with more detailed and in-depth information. In general, the main default identified by these two students was that the information was given too quickly. They suggested slowing the audio down. Student 11 said: *"I like it, it's simple, it's clear, it's understandable. But I think it's a little fast anyway, I need to re-watch it. If there is an opportunity to expand the information, it will even be clearer"*.

However, only 17 students (17/30, 56.6%) said that, outside the context of this specific study, they would had spontaneously watched the video just out of curiosity, or to increase their knowledge, or because they were attracted by its design and format. Students 2 and 10 said respectively: *"I would have watched the video because I am a curious person in general. At worst, I would have lost just some minutes of my time"*, and *"If you had not asked me to participate to this study, I would not have had the will to look for and watch the video"*.

Students also suggested inserting in the video some links to official websites providing full detailed information on health insurance in France. A composite communication toolkit (e.g. videos plus webpages or infographics) was considered as a complete source of information for students.

12. Discussion

Students' health insurance literacy is a critical contemporary social issue whose aetiology and conceptualisation are of great interest for academics. In parallel, communication practices are closely interwoven with research results in this area, since they can contribute to the improvement of health literacy in general and health insurance literacy in particular (Moorhead et al., 2013).

Prior interventions using written information supports and in-person teaching sessions have reported variable results in improving knowledge of health insurance functioning in the general population (Kim, Braun & Williams, 2013). These classical communication and educational tools are often inadequate in meeting the needs of special audiences like university students (Denny et al., 2017; Baur, 2005). Up to present, interventions promoting health insurance literacy among this specific population group are limited and none of them has been evaluated, yet (Roberts, Callahan & O'Leary, 2017). This study adds then to health communication research and practice focusing on the production and evaluation of an online video explaining basic health insurance terminology, plans and functioning to French university students.

To our best knowledge, this video is among the first communication tools on health insurance functioning realised under the supervision of a multidisciplinary team belonging to a national public higher education institution. In France, existing communication tools on health insurance are produced and disseminated exclusively by insurance companies with specific marketing objectives.

The use of the design thinking approach allowed researchers, healthcare professionals, communicators and students to collaborate for the conception and realization of a tool meeting the expectations of all stakeholders. The video employed the motion design technique which offers the benefits of a versatile support conveying concise messages by combining images and audio in a limited time. The video represented then an effective communication and educational tool particularly adapted to our complex theme. Furthermore, the short duration (one minute), was also convenient to our target population.

As far as the evaluation is concerned, we decided to perform a qualitative study in order to better appraise the determinants linked to the difficulties students have in navigating the health system, adding new evidence to existing quantitative research (e.g. UFC-Que Choisir, 2012). Compared to quantitative studies, interviews were more time-consuming, but gave the possibility to develop and guide the evaluation

through open questions adding validity to our study through a dynamic description of students' real opinions. The semi-structured interview format allowed to capture students' emotions and feelings, as well as to depict their behaviours and experiences without imposing a closed questionnaire or a coded framework. Especially thanks to the qualitative study, we were able to detect a very important issue which had not been underlined in previous reports. We found that more than two thirds of the students of our sample declared not being interested in improving their knowledge on the current health insurance functioning. Most of the students reporting low health insurance literacy also exhibited a low level of motivation to understand health insurance mechanisms. Lack of clear information and uninformed choices are then to be coupled with a real disinterest for the health system, which is perceived as a world apart. Beyond the complexity of the subscription procedures, it is the dual mission of the entities managing the health insurance schemes that is confusing for students. These entities are delivering the compulsory Students' Health Insurance as well as the complementary insurance services. The conflict of interests is evident and raises questions about the quality of the information delivered to university students when presenting health insurance plans (Le Défenseur des Droits, 2015).

We also found that using an online video was a good communication strategy to attract a young audience and deliver complex information in a short and efficacious way. The video format was in fact appreciated by almost all interviewed students who liked the clarity of the message, the design and the animations, but, above all, the short length. Some students especially liked the fact that the video was very informative and, at the same time, well-designed. Results from our interviews before watching the video were in line with previous national studies and surveys (Cours des comptes, 2017; Le Défenseur des Droits, 2015; Door, 2015) where almost all participants reported having a limited knowledge of the local health insurance system. However, after watching the video, the majority of students (24/30, 80.0%) reported having acquired new detailed information. The main result was that the video was received by students as an efficacious medium to fill in the gaps and clarify the blurred elements of the health insurance functioning.

13. Limitations and future research

Two are the main limitations of this study. First, given the exploratory nature of our qualitative study, we did not use standardized instruments, e.g. the HILM, to measure students' health insurance literacy before and after the exposure to the video. Future research may translate, adapt and use such instruments to evaluate new digital communication tools to promote health insurance literacy in students as well as in other population groups. Second, our sample for the qualitative study was not representative of all university students in France, and results cannot be generalized to university students worldwide, especially because of the variety of existing health insurance systems. However, our findings contribute to the larger research agenda

on the evaluation of digital communication tools for promoting general health literacy in young people (Sansom-Daly et al., 2016). Some insights from this study can be applied in all likelihood to students in France and in other campuses of the world.

14. Practical implications: the potential of digital communication tools for improving health (insurance) literacy

In the face of the general lack of knowledge concerning health insurance and, above all, the poor interest students expressed about this subject, communication strategies must be consistently applied to improve not only the acquisition of information on health insurance, but also students' motivation to access such information. Health insurance literacy actually encompasses both knowledge and motivation, which are intrinsically connected (Cashin et al., 2015). Motivation could be enhanced by communication interventions tailored on students' needs, such as a communication campaign diffused on social networks via the University official pages, infographics, TV spots, short documentaries giving voice to students, informative stands held by student ambassadors, etc. Traditional communication supports like flyers and posters seem to be obsolete for this target population. Information must be diffused through attractive and adapted communication channels, but students must be reassured by the fact that important messages concerning their health are delivered by official and institutional sources like the websites of the national insurance system and administration (Wartella et al., 2016). In line with this, after its evaluation, the video was diffused via the official website and social network pages of the University of Bordeaux, as well as the webpage of the French Ministry of Higher Education, Research and Innovation dedicated to the Students' Health Insurance (http://www.enseignementsup-recherche.gouv.fr/cid20241/laprotection-sociale-des-etudiants.html).

Effective communication tools to improve health insurance literacy should propose a good balance between a fresh and creative format and reliable high-quality content.

Conclusion

This study adds to the literature by describing the construction of a digital communication tool, showing that this type of interventions can be effective mostly if they follow a design thinking approach, take into account the information needs of the target audience, and capture the audience's attention through innovation. Especially the use of short and simple videos to increase health insurance literacy in students worldwide is recommended. This study provided insights for communication interventions on health insurance literacy in particular and on health literacy in gen-

eral to be adapted, produced and disseminated in other countries and among other young digital populations.

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