

D5.2

Report about lessons learned and good practices

*Project funded by the European
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PRECOBAS

#thinkaboutit

Prevention of Youth Radicalisation Through Self-Awareness of Cognitive Biases

Project funded by the European
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1. About the BRAIN.FAIL campaign

PRECObIAS (Prevention of Youth Radicalisation Through Self-Awareness on Cognitive Biases), an EU funded project, has developed a user-centered counter-narrative campaign (Brain.fail) that focuses on the role of mental processes and cognitive biases when adolescents, especially those vulnerable to radicalization or already radicalized, are faced with radical and violent content online. The campaign was developed as a **secondary prevention**, meaning that the target group already has been in contact with radical content and attitudes and thus the campaign is meant as an **early prevention of further radicalization**.

Radical content and hate not only harms the direct victims of such content, but also contributes to further polarization and radicalization processes among members of the perpetrator and victim groups. When the digital society is overflowing with hate, misinformation and extreme thoughts, this fuels individual experiences of exclusion - an important push factor for radicalization processes. In primary and secondary prevention, **online campaigns** are therefore indispensable in order not to leave the digital stage to extremists.

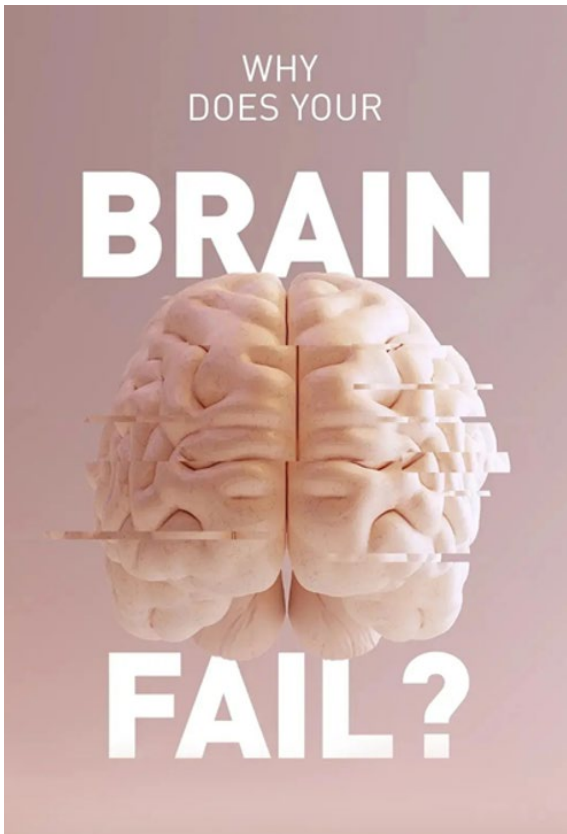
The project seeks to counter radicalization in the long run by enhancing adolescents' **digital resilience** and **critical thinking**. Accordingly, the campaign focuses on **cognitive biases** which describe instances in which human cognitive processes produce representations that are systematically distorted from certain aspects of reality. There are three main explanations for the need of employing cognitive biases when processing information: **(1) overwhelming complexity** combined with **limited cognitive processing abilities**; **(2) threat management** in social situations; and **(3) self-preservation**, all of which are highly relevant in the context of social media use and online radicalization processes¹. Although cognitive biases shape the way of our thinking, their employment typically happens on an unconscious level, hence we are not aware of the fact that our thinking was steered by a cognitive bias. Cognitive biases are thus very common and consistent with typical cognitive and social functioning and are imperative necessities that allow us to process information and make sensible decisions.

Cognitive biases, then, are **an issue that affects us all** and biases are essential to our processing beyond the specific framework of radicalization. Showing how cognitive biases affect us and how they are utilized in news and information we are confronted with can form the **basis for a campaign that is accessible and**

¹ **Note:** See executive report: <https://www.precobias.eu/wp-content/uploads/2020/08/PRECObIAS-867186-D2.1-Executive-Report.pdf>

understandable to both at-risk youth and the general public. Thus, the topic of the campaign is very **approachable** and **inclusive** and reaches out to vulnerable or already radicalized adolescents' without addressing radicalization directly or without singling out certain radical ideologies, movements, or groups.

Focusing on cognitive biases instead of explicitly informing about radicalization, can be a way to reach vulnerable and radicalized youngsters and help them **to gain more agency** and **empowerment** by knowing their own **unconscious thinking**



and feeling patterns. Thus, the counter-extremism campaign Brain.fail relies on a **narrative strategy** which also is employed by radical groups: Adolescents are given the feeling that they are insiders, who can escape the ignorance the rest of the world experiences through the knowledge about biases. But this knowledge should help them to **ultimately debunk the black box of persuasion and cognitive processing which they encounter** in social media content, especially in **extremist discourses.**

With regard to the content the PRECOBIAS "Brain.fail" campaign focuses on **ten cognitive biases**, the selection of which was based on **scientific research**².

² **Note:** See executive report: <https://www.precobias.eu/wp-content/uploads/2020/08/PRECOBIAS-867186-D2.1-Executive-Report.pdf>

The ten biases the campaign is based on, are:

Authority Bias: This bias refers to our tendency to regard the opinions and instructions of an authority figure as highly influential, therefore we are more inclined to follow these instructions. This is why TV commercials use doctors to appeal to the persuasive potential of an authority figure.

Bandwagon Effect: This is a phenomenon whereby the rate of uptake of beliefs, opinions, and ideas increases the more that they have already been adopted by others. In other words, if we come to the belief that a certain opinion is very popular, we tend to join in on this opinion so as to be part of the “winning team”. This phenomenon can for instance be helpful to political parties or candidates in an election race.

Confirmation Bias: This bias explains the tendency to search for favor, and interpret information in a way that it affirms our existing beliefs and opinions. People display this bias when they gather or remember information selectively, or when they interpret it in a biased way. The effect tends to be stronger if we already have a desired outcome in mind, or for emotionally charged issues and beliefs.

Hostile Media Effect: This effect refers to the tendency of individuals with a strong preexisting attitude on an issue to perceive media coverage as biased against their own views and in favor of their antagonists’ point of view. For instance, both republicans and democrats tend to describe the mainstream media biased against their opinions.

Humor Effect: This effect causes people to remember information better when they perceive the information as humorous. For example, a teacher could use the humor effect to help students learn a certain concept, by illustrating this concept using a funny story.

Ingroup-Outgroup-Bias: This bias describes a pattern of favoring members of one’s own identified in-group over members of an out-group. This may be expressed in the evaluation and assessment of others. A practical example would be that men tend to hire other men rather than women.

Negativity Bias: This effect describes the notion that, even when of equal intensity, things of a more negative nature have a greater effect on our psychological state and memory than neutral or positive things. For instance, if we receive twenty compliments and one harsh critique about an assignment, the critical remark will stick more to our memory and affect our mood and actions to a higher extent than the compliments.

Picture Superiority Effect: Pictures and images are often more likely to be remembered than words and can help make an information memorable. The effect is explained by human memory being extremely sensitive to the symbolic modality of presentation. Yet, explanations for the picture superiority effect are still being debated.

Rosy Retrospection: This phenomenon refers to our tendency to disproportionately judge the past more positively than the present. Rosy retrospection is therefore very closely related to the concept of nostalgia.

Sleeper Effect: This effect describes the inability to remember where, when or how previously learned information has been acquired, while retaining the factual knowledge. For instance, a message's information sticks to our memory but we forget where we retrieved this information. This way fake news, exaggerated numbers etc. might stick in our memory and we "forget" to be critical about them, as we have forgotten about the reliability of the source.

1.1. Campaign Instruments

To reach the campaign objectives, Brain.fail targets vulnerable and radicalized youngsters as a secondary prevention directly through four campaign instruments.

1. The **Brain.fail** Website (Figure 1) is the landing page for all people who are being made aware of the campaign. Here, further campaign instruments such as the videos, and the quiz are linked. In addition, detailed information about the ten biases is provided here. The text explains how biases might affect people, but also how they could relate to radicalization processes.

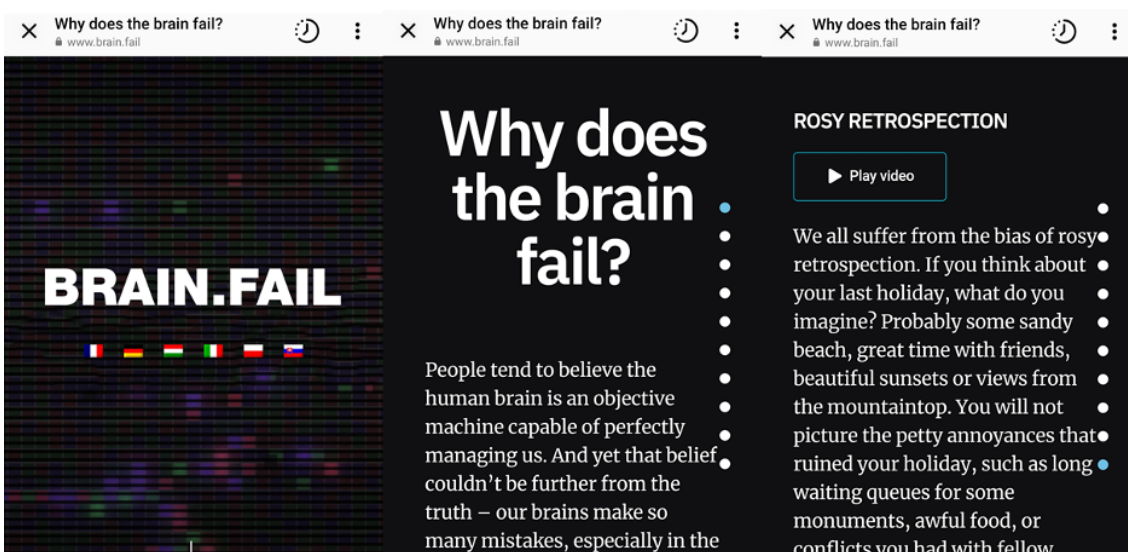


Figure 1: Website

2. **Ten** topical YouTube **videos** (Figure 2) provide short (31-60 sec.) explanations for the biases. They vary stylistically with some videos being more colorful in comic style, in a more simplistic black and white optic, or some that provide mostly textual explanations about the biases. The videos show everyday examples of cognitive biases, but do not explicitly mention radicalization in order to highlight the relevance of biases in day-to-day life and not scare off people with already established radical views in the audience from the content of the campaign.

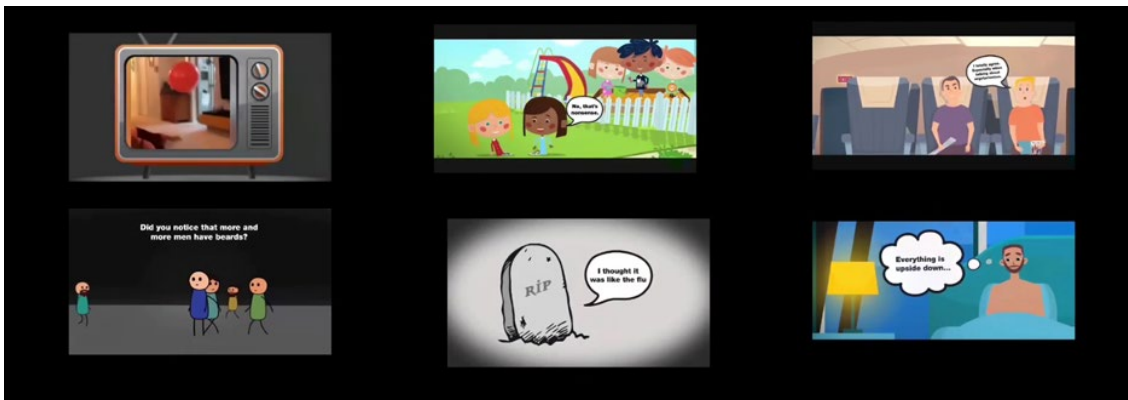


Figure 2: Videos

Furthermore, we have developed a self-assessment **quiz** (Figure 3) that is designed to help participants confront their own biases. Here, participants answer a series of questions associated with certain biased views and behaviors, such as a hypothetical scenario of a past vacation in which good and bad things have happened, and what aspect participants are likely to focus on when talking about the vacation later on (referring only to positive aspects suggests rosy retrospection).

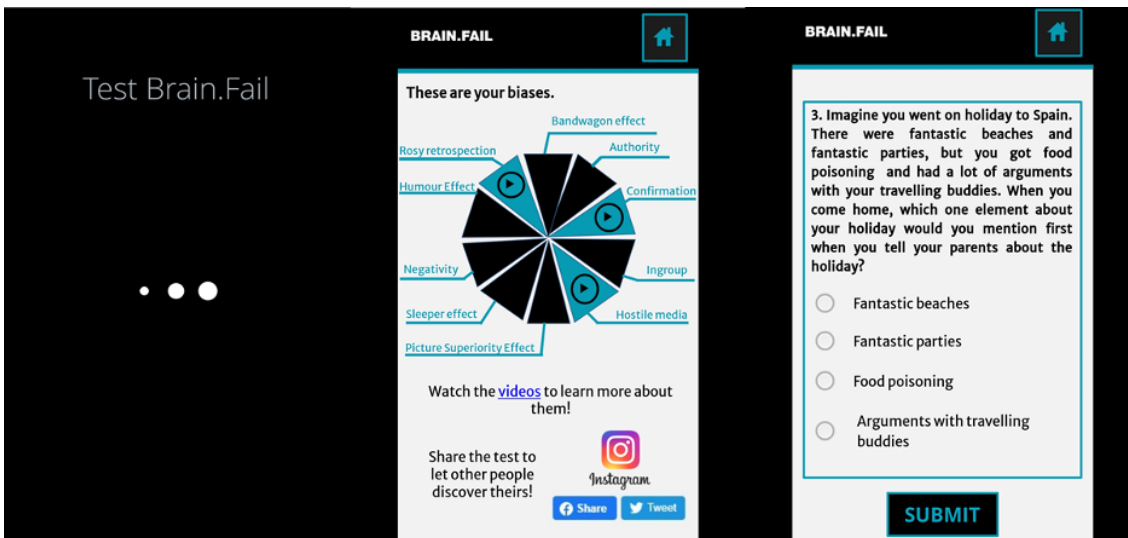
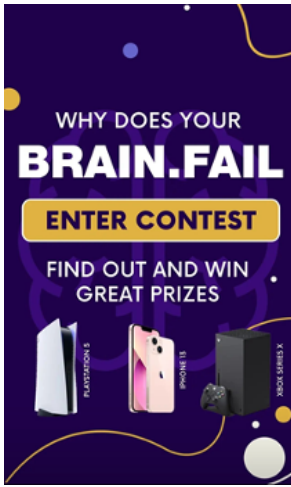


Figure 3. Quiz



4. An **Instagram contest** (Figure 4) that invites participants to submit their own videos or posts about biases. These posts could unmask biased behavior, highlight the consequences of biases, or show possible strategies to avoid biases. The contest was shared on social media (*Facebook & Instagram*), and participants were entered into a drawing for prizes for their submissions.

Figure 4. Contest

These four tools were accompanied by a social media campaign and the content was thus provided on three channels: *Instagram, Facebook* and *Youtube* (Figure 5).

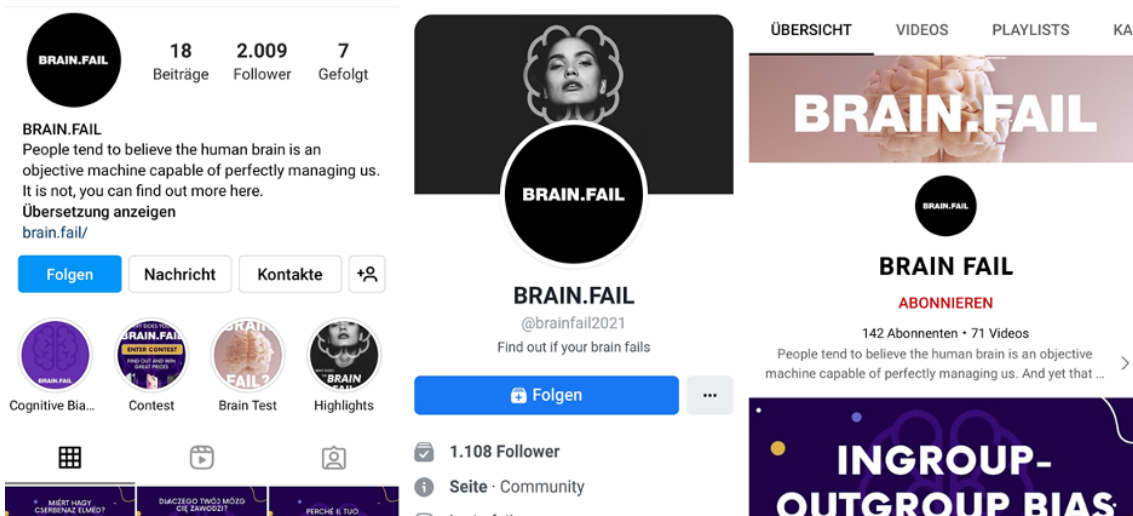


Figure 5. Social Media Channels

1.2 Campaign KPIs

To assess the campaign success with regard to reach and awareness specific KPIs were set before the campaign started. These were monitored throughout the campaign.

1. The **Brain.fail website** was not connected to any KPIs but was employed as a landing page and information facilitator for the rest of the developed campaign tools.
2. The **ten** topical YouTube **videos** were connected with two KPIs:
 - **KPI 1:** The videos will be viewed 200,000 times on *Instagram*, *Facebook* and *Youtube*
 - **KPI 2:** Through organic peer-to-peer dissemination, an additional 1,000 youngsters will have viewed at least one video of the campaign on *Instagram*, *Facebook*, *Youtube* or on the website of PRECOBIAS.

These KPIs should ensure active learning about cognitive biases among target youngsters.

3. & 4. The **quiz** and the **Instagram contest** were connected to five KPIs:
 - **KPI 1:** 20,000 target youngsters will have clicked on the link to the quiz on *Facebook* or *Instagram*
 - **KPI 2:** 8,000 youngsters will have completed the quiz
 - **KPI 3:** Through organic peer-to-peer dissemination, an additional 1,000 youngsters will have completed the quiz.

These three KPIS aimed to increase peer-to-peer self-awareness and to encourage peers' drawing back from extremist online content they go through.

- **KPI 4:** 50% of the participants in the *Instagram* contest will have shared the contest.
- **KPI 5:** 10% of the youngsters who will have completed the test will have taken part in the contest.

These three KPIS aimed to increase target youngsters' skills in identifying and debunking cognitive biases in extremist online content they face on social media.

1.3 Campaign Objectives

The campaign's objectives were threefold:

1. The audience should become **acquainted with the topic** of the campaign and find out more about their own possible personal biases.
2. The second aim was to **sharpen the critical thinking** of the target audience, i.e. vulnerable youth, by being able to correlate forms of radicalization with their potential impacts on their own thinking and feeling patterns.
3. Finally, the campaign aimed to shift the audience from passive receivers to **critically engaged participants** in online discourses, thanks to a user-centered approach.

2. Campaign evaluation

2.1 KPI Tracking

The KPIs connected to the developed campaign tools were tracked on a regular basis by the project management and, if necessary, changes in promotional activities were conducted. This was done via the social media channels directly (*Facebook and Instagram*) or by using Business Suite and Ads applications by *Facebook*. *Facebook* is the parent company and owner of *Instagram*, so most of the activities related to advertising are centralized in the *Facebook* applications.

The main areas of concern for the campaign evaluation with regard to management and reach were negative feedback and targeting. Thus, it was important to ensure two things: 1.) to make sure that the target audience would **respond positively** to the campaign material and 2.) that the **developed content reached the intended audience**.

1. Responding positively implies that explicit negative feedback is avoided and users show interest in the campaign by interacting with the promoted posts of the campaign. For instance, social media users can evaluate the promoted content in their feeds. Here it was the aim to opt for positive feedback and as little as possible indications that users no longer want to see the displayed content (which would also make promoting the campaign more expensive).
2. Furthermore, it was imperative to make sure that the reached audience was not too wide but the specific target group of vulnerable youths.

Other than the above-mentioned methods, for the tracking of the progress concerning the completions of self-assessment a different method had to be developed and used: the results screen of the quiz contains a script which allowed the campaign managers to register an ad hoc database each time a user completed the quiz.

2.2 Objective Tracking

In addition, the campaign was also accompanied by a scientific evaluation, which tracked the effectiveness of the online campaign to see whether the set objectives could be fulfilled³. The scientific evaluation tackled all four instruments of the campaign through three different studies.

³ **Note:** for all results in detail see the scientific report: <https://www.precobias.eu/wp-content/uploads/2022/02/PRECOBIAS-Scientific-Report.pdf>.

1. A **video and web-campaign evaluation study** with adolescents from eight European countries that examined the adolescents' assessment of the website, the videos, and the quiz was conducted. In total 1,043 adolescents (16-22 years old; $M = 19.73$; $SD = 1.61$) from eight European countries participated. Here it was examined whether the campaign instruments **increased topical awareness for radicalization and cognitive biases, the cognitive and evaluative assessment of the material**; and whether the campaign material affected the **perceived relevance** of the topic.

2. An **experimental study** assessing the effectiveness of the developed videos and the quiz with adolescents from two European countries was conducted. In total, 223 adolescents (16-22 years old; $M = 20.05$, $SD = 1.66$) participated, and they either saw no campaign material (control group), they only saw the campaign videos or they took both the quiz and the saw campaign videos. Here it was examined whether the campaign was able to significantly increase **knowledge about biases** by testing whether they could recognize biased language and imagery in social media content, the adolescents' **self-awareness and confidence** in being able to recognize biases, and a pre-post measurement of **radical attitudes**.

3. Finally, a **qualitative workshop evaluation** of the contest and the campaign topic in a school with 32 adolescents (16-18 years) was conducted. Here it was examined how the campaign theme is received by young people, how the contest was perceived and whether it incites **active learning about cognitive biases** among target adolescents.

3. Evaluation results

3.1 Assessment and Development of KPIs

At the date of the conclusion of the project, the 28th February 2022, all the KPIs originally set for the campaign had been reached. Namely:

- The quiz had been opened by users 73,184 times (the original KPI being 20,000 clicks on the quiz)
- The quiz had been finished 18,979 times (the original KPI was set at 8,000 completions)
- The quiz had been shared 4,076 times (the goal was having it shared by the 50% of users who had completed the quiz).
- The 10 videos on cognitive biases received, overall, 365,000 views (the KPI was of 200,000 views)
- The contest had 1,023 participants (it was foreseen the participation of the 10% of the users who had completed the quiz).

	KPIs	Expected Access Based on Original KPIs	Expected Due to Occurred Campaign Access	Actual Occurred Access
Videos	Views	200,000		
	Peer Sharing + 1,000 Views More	1,000	201,000	365,000
Quiz	Clicks	20,000	20,000	73,184
	Completes	8,000		
	Peer Sharing + 1,000 Completes More	1,000	9,000	18,979
Contest	Contest Shares of Quiz Completes	50%	4,500	9,490
	Contest Participants of Quiz Completes	10%	900	1,898

Table 1. KPI Assessment

Table 1 highlights whether the set KPIs were met or not. It has to be pointed out that the set number of contest participants KPI was not reached due to the fact that it was set in proportion (< 10%) to the amount of online quiz completions. The KPI for **quiz** completes however, was not only met but **exceeded the set expectations massively** (twice as much). It can therefore be said that in absolute terms the KPI for the competition was met, assuming the expectations originally set. The fact that the contest did not perform as well as expected in relative terms does not deny the success of this project instrument. Contest are high-engagement instruments that demand a lot from the audience. From the campaign management side this also entails a greater investment of time and money for proper implementation.

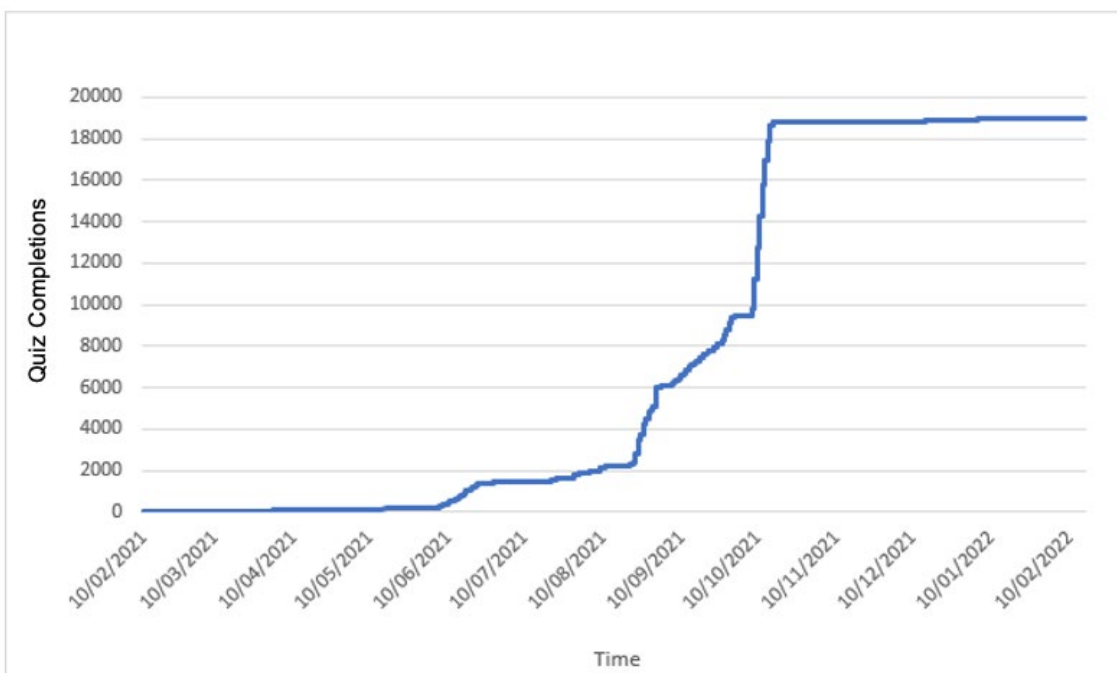


Figure 6. Development Quiz Completions

As can be seen from the chart in Figure 6, the quiz - whose development started in January 2021 - had to go through an evaluation and testing phase, during which it was presented to a reduced number of users (from March 2021, the official start of the campaign, to June 2021). After such an initial phase, the quiz was modified according to the feedback received and then fully promoted and disseminated to the target audience. The central phase of promotional activities for the Brain.fail campaign was - as it clearly turns out - the period between June and October 2021 - a period in which the target of 8,000 quiz completes was more than doubled.

It is interesting to observe that even after the conclusion of the extensive campaign activities for the quiz (in October 2021), the number of completions continued to increase, albeit at a much lower rate. This shows that the **quiz continued to be shared and used by interested users.**

The results of the quiz are closely related to those of the Brain.Fail landing page (Figure 7). The reason for this is the mutual interactivity of the two pages: Reading about biases through the texts on the landing page might have triggered the decision to take the quiz. And vice versa, the result about their own biases may have led the young audience to want to get more information and therefore to visit the website.



Figure 7. Development Page Views Website

Coherent with what has been just analyzed has also been **the growth trend** in time of the **total reach of the main channels used for the campaign**, Brain.Fail's *Facebook, Instagram* and *YouTube* channels (Figure 8).

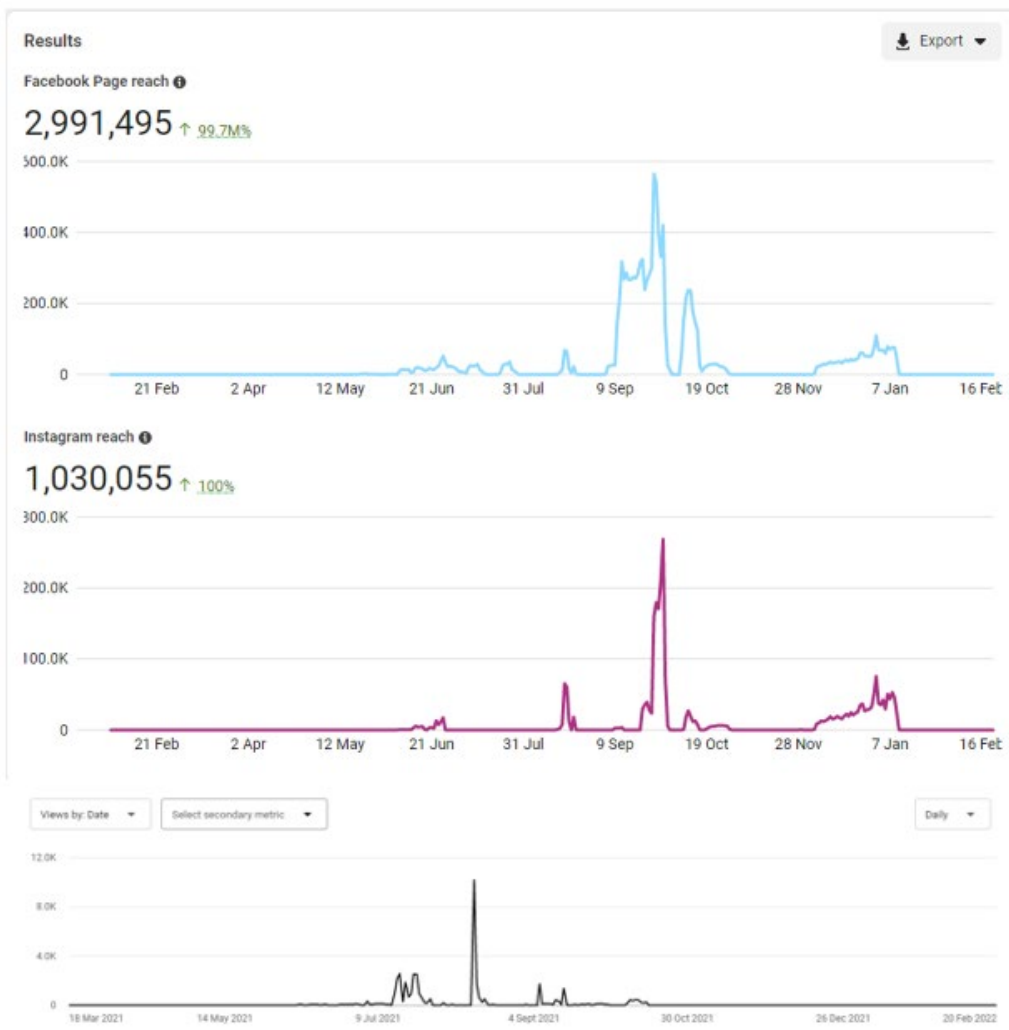


Figure 8. Development Social Media Reach

The views of the videos developed particularly slowly, because the videos were not the focus of the campaign in its initial phase. They therefore only became the subject of gradually increasing promotion later on, between July and September 2021. On the one hand, it was evaluated which of the 10 videos were the most successful and therefore worthwhile for larger advertising investments. On the other hand, smaller design changes such as the presentation of the thumbnail were implemented in order to attract a larger audience.

Considering the KPIs to be achieved and the strategy chosen, the **quiz was the most frequently used tool**, which was also the most shared among users. The quiz proved to be the most appropriate tool for generating interest in the campaign topic

while appearing in a format that a young audience would find familiar and appealing. In addition, the quiz results page **included information about and links to other resources** (i.e., landing page and videos), acting in part as the vehicle through which other campaign tools were promoted.

3.2 Evaluation of Objectives

The scientific evaluation of the campaign materials (focused on videos, website and quiz) suggests that European adolescents (between 16-22 years old) were able to learn from the campaign material and that they evaluated the campaign material quite positively.

When asked what topics the campaign addressed, the **videos** and **website** performed particularly well in **raising awareness of cognitive biases** (over 80%), while the quiz alone did not perform as well in conveying knowledge of the campaign content (75.3%).

In terms of communicating the issue of radicalization, none of the tools performed particularly well, with the website performing best with nearly 50% awareness, while the quiz and video only scored between 30%-40%. However, this result is unsurprising given the deliberate decision to address radicalization processes only implicitly.

For the content evaluation the adolescents were asked about their **intention to share the campaign material**, measured on a 5-point scale (1 = disagree; 5 = agree); e.g., "I would recommend these videos/this website/this quiz to others." and results indicate that overall this intention is above the expected average of 3 with a mean of 3.39 (SD = 1.06). The results indicate slight differences in the three evaluated tools (Figure 9). Specifically, the website was evaluated significantly better than the quiz and the video. Yet there were no differences between video and quiz⁴.

⁴ **Note:** See the scientific report (<https://www.precobias.eu/wp-content/uploads/2022/02/PRECObIAS-Scientific-Report.pdf>) for a more detailed, statistical analysis of this result.

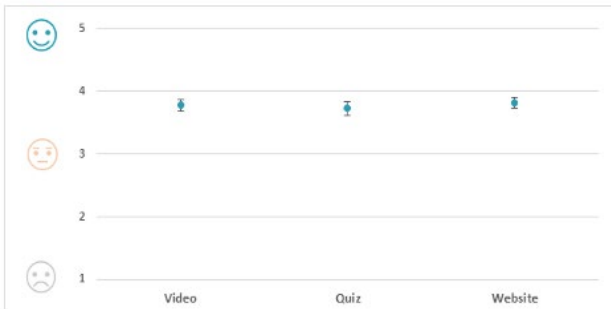
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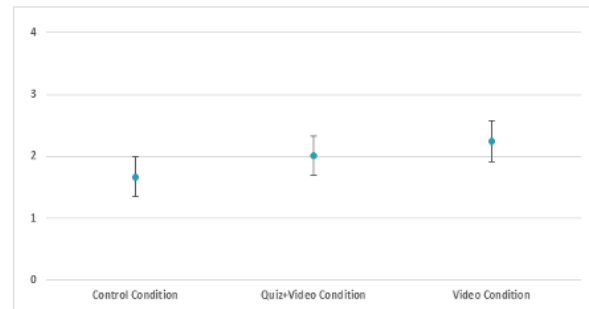
Intention to Share the Campaign Material



Evaluation of Professionalism and Information Level of the Campaign Content



Evaluation of the Content Being Interesting and Exciting



Knowledge About Cognitive Biases

Figure 9. Scientific Evaluation

Adolescents were also asked about their **evaluation of professionalism and information level of the campaign content**, based on 3 items for each instrument assessed on a 5-point scale (1 = disagree; 5 = agree); e.g., “The videos/this website/this quiz were/was informative.” The evaluation is above the expected average of 3 with a mean of 3.70 (SD = 0.96). Again, the tools varied in their evaluation of professionalism and information as the video and the website scored equally high but significantly higher than the quiz (Figure 9).

For adolescents’ **evaluation of the content being interesting and exciting** they were asked four questions for each instrument assessed on a 5-point scale; e.g., “The videos/this website/this quiz were/was 1 = boring; 5 = exciting.” The evaluation again is above the expected average of 3 with a mean of 3.77 (SD = 0.89). In this case, all tools performed equally well, which means there were no differences in how interesting or exciting any of the three evaluated materials were assessed (Figure 9).

The scientific report showcased that these evaluations also partly depend on adolescent’s predisposition to radicalization. This was included in the scientific evaluation to consider the effectiveness of the campaign for the specific target group of vulnerable adolescents and thus to assess the effectiveness of the material as a secondary prevention. Vulnerability was assessed by adolescents’ predisposition to radicalization (Measured with 3 items on a 5-point scale; e.g., “I can understand when people resort to violence to achieve political goals, even in my home country.”).

Results showcase that **vulnerable adolescents reacted** slightly **differently** to the campaign content compared to the general young audience. In particular, the **intention to share the website**, which most explicitly mentioned radicalization, was significantly lower for people who scored with a slight predisposition to radicalization measure than people without this predisposition. In addition, evaluation of **professionalism and information level** was significantly **lower** for all three evaluated tools for adolescents with a predisposition to radicalization compared to participants without this predisposition.

With regard to the effectiveness of the campaign in **minimizing radicalization tendencies**, a pre-post measurement of radical attitudes was conducted, i.e., the radical attitudes of young people were measured before and after confrontation with the campaign tools. Specifically, the effects of the video and the quiz+video were examined. The results suggest that the campaign materials did not help in reducing radical attitudes immediately after the campaign. Instead, the quiz might even lead to a slight increase in radical attitudes, which could be explained by

reactance. In other words, the confrontation with one's own predispositions and shortcomings could backfire and even reinforce already existing attitudes. This effect was not determined by predisposition, hence overall people tended to slightly overstate their existing attitudes⁵.

However, the experimental study also showcased that compared to adolescents who had not seen the campaign, adolescents watching the videos or taking the quiz + watching the videos **increased** their **knowledge about cognitive biases**. They were able to recognize cognitive biases in other content like social media postings, election posters and news. Quiz+video was however less successful in achieving this goal compared to only the videos (Figure 9).⁶

With regard to the **contest** and the **topic of the campaign a qualitative workshop evaluation** in a school was conducted. The 34 adolescents between 16-18 years from a school in Vienna, had an overall **very positive response to the contest and the campaign** content and showed a lot of self-reflection and understanding of how biases work. As asked in the contest they created content in the form of TikTok videos and Instagram postings which contained their own scenarios and creative applications of cognitive biases and how they apply to their daily lives. As intended in the planning of the campaign issue the topic of cognitive biases was **perceived as accessible and understandable**.

⁵**Note:** See the scientific report (<https://www.precobias.eu/wp-content/uploads/2022/02/PRECOBIAS-Scientific-Report.pdf>) for a more detailed, statistical analysis of this result.

⁶**Note:** See the scientific report (<https://www.precobias.eu/wp-content/uploads/2022/02/PRECOBIAS-Scientific-Report.pdf>) for a more detailed, statistical analysis of this result.

4. Issues encountered during the campaign

The main issue the campaign faced was that the project, and thus the campaign, were developed before social media companies (primarily *Facebook*, including *Instagram*, which was later renamed *Meta*) began to face criticism for their inaction in spreading disinformation, hate speech, and violent content. To counter this criticism, new measures were enforced that made it extremely difficult to spread content that was classified as potentially political, which was the case for the *Brain.fail* campaign. The *Brain.fail* campaign was a relatively small undertaking, both in terms of budget and personnel.

The campaign was blocked for the first time shortly after its launch, and this was repeated to varying degrees on both *Instagram* and *Facebook*. Feedback or support from *Facebook* (and *Instagram*) staff in response to campaign management requests were limited. Including submission of documentation that the campaign was part of a project supported by the European Commission and was in fact discussed with *Facebook* staff in the Dublin EMEA headquarters prior to its launch, bore no fruit.

This led to the need to use more staff capacity than originally intended to make the execution and the set KPIs of the campaign possible as planned. Although this was not foreseeable at the time of the creation of this project, when creating future projects where a significant part of the activities are based on and depend on social media, it is of utmost importance to budget for a staff member whose job it is to contact social media companies, or alternatively include such services in the budget as offered by for-profit companies such as advertising and communication agencies. However, outsourcing the responsibility might create another barrier between the campaign managers and the social media companies and may make it difficult to find common ground for solutions. Therefore, it is recommended to include one person in the campaign management team for the entire duration of the campaign.

5. Goals fulfilled and not fulfilled

5.1 Increasing (Self)-Awareness and Deradicalization

Tendencies

In terms of **raising awareness of the campaign issues**, the results showed that the Brain.fail campaign worked quite well. In particular, the website and the videos, which provided more detailed information about biases, raised young people's awareness of these issues. The quiz was a very useful tool to create awareness about the campaign itself. Because it was easily accessible and fun, it performed best in terms of KPIs achieved compared to all other tools. However, the quiz performed worst when it came to raising awareness of the campaign's issues (cognitive bias and radicalization). Of course, the quiz was never intended to be a stand-alone tool, but always used in combination with the videos or website. Thus, the combination of the different tools has also shown its importance and effectiveness: While the quiz made adolescents aware of the campaign, the resources promoted there (i.e., the website and the videos) were able to sharpen knowledge about cognitive biases.

With regard to raising awareness about the topic of radicalization, all developed campaign tools did not explicitly convey much information. However, this was also a conscious decision in the preparation and planning of the campaign so not to confront at-risk youth too explicitly with the topic of radicalization and therefore risking reactance.

Interestingly the campaign evaluation study showcased that the website which contained the most explicit references to radicalization, and thus raised the most awareness of this issue, was in turn rated least positively by adolescents who already showed tendencies to **radicalization**. Thus, the conscious decision **not to explicitly mention** radicalization indeed seems to be a **promising strategy to avoid alienating vulnerable groups** for whom the content of the campaign is most relevant.

Concerning short-term effects on **self-awareness** and steering adolescents away from radicalization tendencies, the scientific campaign evaluation showed mixed results. The predisposition to radicalization in the studied sample was rather low. Thus, no significant, immediate decrease could be observed after the campaign. However, the results suggest that confronting adolescents with their own biases, which was particularly fulfilled with the quiz instrument, lead to slight increased tendencies for radical attitudes. There is no longitudinal data on whether this effect prevails or decreases over time, but even these short-term reactions need to be assessed carefully for future counter-radicalization campaigns and the implemented tools of such campaigns.

5.2 Increasing adolescents' skills in identifying and debunking cognitive biases and active learning about cognitive biases

As intended, the campaign was able to increase **adolescents' knowledge about biases** and has enabled them to apply this knowledge to other social media content. Specifically, the videos on their own were successful in helping young people to apply their learned knowledge about cognitive biases and how to debunk these biases. The combination of quiz and video was not equally successful in this regard. The quiz provided information on how the participants themselves are affected by biases in addition to the more objective information the videos provided, which might have counteracted the knowledge transfer. Those who already showed a predisposition to radicalization showed lower levels of learning from the provided campaign instruments, hence future campaigns should even more carefully examine how particularly vulnerable adolescents can learn from campaign material⁷.

The scientific campaign evaluation showed that **adolescents were very open to learning about cognitive biases**. The qualitative workshop indicated that adolescents were able to engage with the topic and bring in examples and experiences from their own lives. When creating content about biases, they particularly referred to biases they had observed in their own lives and connected these to current social developments and discourses. Ideally, the content created for the contest, some of which was also shared on the youth's private social media pages, led to more awareness and thinking about the campaign among the peers reached through that content.

⁷**Note:** See the scientific report (<https://www.precobias.eu/wp-content/uploads/2022/02/PRECOBIAS-Scientific-Report.pdf>) for a more detailed, statistical analysis of this result.

6. Recommendations for future campaigns

6.1. Challenges of counter-radicalization campaigns

In conclusion the assessment of the KPIs and the scientific evaluation suggest that campaigns offering counter-narratives to radicalization are faced with some unique challenges.

1. Counter-radicalization campaigns have to walk the **fine line** of **informing** and educating at-risk adolescents **without becoming too explicit** and thus **avoiding reactance** to counter-messages.

2. As the topic of radicalization cannot be mentioned too explicitly, campaigns have to rely on the **self-interpretations** and applied knowledge of adolescents. Thus, thematic campaigns that only talk about processes related to radicalization are not very accurate in terms of informing about radicalization. Therefore, the **goals** of a **campaign** must always be **clearly defined in advance**. If the focus is on knowledge building about radicalization, online campaigns to which those affected should turn themselves and voluntarily are probably not the right way. In this case, analog information options in the sense of advice and support are certainly more effective (this was also considered in the PRECOBIAS project, and thus informational material beyond the Brain.fail campaign was developed). But in order to **raise awareness** about processes related to racialization and to **increase media literacy**, which can potentially counter radicalization tendencies, online counter-radicalization campaigns like Brain.fail are a very relevant option.

3. With regard to the campaign management, promoting a campaign with a topic connected to politics faces extensive challenges on the most popular platforms like *Facebook* and *Instagram*. This should be counteracted by adequate support for campaigns on this topic or regulations that facilitate the implementation of such campaigns.

6.2 Recommendations

Based on the experience of the Brain.fail campaign, and in particular to the challenges of technical nature it faced, there are some overall recommendations that should be considered, for future projects in related topics. These learnings are formulated based on results of the KPI development throughout the course of the campaign and the scientific evaluation of the campaign effects.

6.2.1. Management:

1. Changes in policies from *Facebook* and *Instagram* can have a big impact on campaigns. Rigorous content checks and guidelines can make running effective campaigns for small teams and budgets very challenging. Direct contact with relevant *Facebook* and *Instagram* officials can be of help to overcome bureaucratic problems encountered more effectively.
2. Along the same lines, **dialogue** between the **European Commission** and social media companies through which funded projects are campaigning is **essential** and could prevent bureaucratic issues from arising during the campaign.
3. **Being reactive/adaptive** when planning a campaign is very important. Continuous changes to the content and the promotion of the Brain.fail campaign according to the feedback from the audience were relevant to ensure the campaign success.
4. **Setting KPIs in proportion to other KPIs** (<10% of participants in Activity 1 will take part in Activity 2 for e.g.) can be **tricky** in the fast-changing landscape of social media and while it might appear sensible it can also be potentially problematic. In hindsight the KPIs should have been defined based on contest participants in absolute numbers or if relative numbers would be used than conditionally and accompanied by an alternative indicator (e.g., <10% of participants in Activity 1, or <1000 individuals will take part in Activity 2).
5. While the controlled offline use of counter-measures has the advantage of educational accompaniment, online campaigns offer the possibility of reaching a potentially larger audience. However, this also entails a higher risk of **undetected side effects**. For example, individuals might not correctly identify a satirical argument as such and take the content at face value or misunderstand the specific humor of a satire. Online counter-campaigns therefore need to plan very precisely which target group they want to reach and how. A **scientific evaluation**, such as in the case of the Brain.fail campaign, can help to better **assess the potential side effects**, but also to **assess the intended effects** and

help to ensure the economic use of resources.

6. Overall, the digital society offers structures and functions that can have a favorable effect on the diversity and spread of online radicalization: The elimination of the traditional gatekeeping function of the media, the amplification of content through algorithms, and the possibility of global networking and thus direct contact and participation in the extremist lifestyle can play into the hands of extremist actors. Accordingly, the **prevention of radicalization must also be present** in the **virtual space** in order not to leave identity-forming offerings to extremists alone. This justifies and demonstrates the necessity of continuing to conduct online counter-campaigns such as Brain.fail.

6.2.2. Content:

1. Some of the videos that were developed proved considerably more successful than others (namely, those on Authority Bias, Ingroup-Outgroup-Bias, Bandwagon Effect and Confirmation Bias). In particular videos with a **strong narrative** and a **more colorful, eye-catching approach** proved to grasp the audience’s attention better. Future similar campaigns should take this into account and include a strong narrative in possible campaign videos (see for most successful examples Figure 10).



Figure 10. Video Examples

2. The **content density** of the website has on the one hand led to a stronger focus on the subject of the campaign and thus also **ensured that knowledge and awareness** has been communicated to the audience. On the other hand, this density of information and the stronger explicit references to the issue of radicalization can also be **overwhelming and off-putting**. However, by **combining the different campaign tools** that take into account **playful and entertaining elements** (like a quiz or videos), such an information landing page can be a very good complement. Particularly the quiz proved a relevant resource in getting adolescents acquainted with the campaign overall, as it was engaging and entertaining.

3. The self-assessment **quiz**, whose success with regard to engagement rates has exceeded expectations, was developed to combine scientific accuracy and attractiveness to young people; finding the right balance between these two elements is the key to not scaring users away while still developing a useful tool. At the same time, scientific effectiveness testing shows that **confronting one's own shortcomings through self-testing can also lead to mild and short-term reactance**. It is therefore advisable for future counter-radicalization campaigns that plan to use a similar tool to accompany this tool with an **evaluation** in order to **avoid** possible problems and **boomerang effects** during implementation.

4. Interactive tools that rely on **higher engagement** and **involvement** of participants, like the **contest, require more promotional efforts** compared to more passive tools like videos or even the quiz. Yet, this tool leads to high critical engagement of adolescents with the topic and thus can potentially be a very relevant resource in sharpening critical thinking. In addition, as the contest material was also shared by adolescents on their private social media, this might lead to a snowball effect and hence increase the reach of the campaign in an indirect manner.

7. Conclusion

Although there are a number of scientific studies that emphasize the role of (online) propaganda and social media in radicalization processes, there are **still too few measures** that **address** this issue and thus **contribute to radicalization prevention**. The Brain.fail campaign was an attempt to implement a measure that focuses on **raising awareness** and **media literacy** among vulnerable adolescents, thus addressing a facet that plays a role in the context of radicalization prevention. Media content can influence emotions, attitudes, behavioral intentions and knowledge, but is ultimately not the sole cause of radicalization. As a rule, it is primarily individual personality factors or the social context of the media use situation (or the interplay of personal and social factors) that determine the impact and acceptance of extremist messages - and thus also a person's potential risk of radicalization. Radicalization processes are therefore very complex, and the reasons for radicalization are correspondingly diverse.

Promoting resilience to extremist approaches as part of primary or universal prevention should consequently be as holistic and multi-layered as possible, and the necessary framework conditions for this should be created by the institutional side. **Online campaigns** are, however, **one way** in primary and secondary **prevention** of not leaving the digital stage to extremists alone. In addition to the Brain.fail campaign, the PRECOBIAS project has taken **further steps** to address and counteract the personal and social factors that lead to radicalization processes. Therefore, in addition to the campaign, other tools (e.g., an online course and toolkits) have been developed to provide support and information to professionals working with at-risk youth. The **interplay** of these **different foci** and **target groups** is also crucial for future similar projects that aim to address and **potentially counter** the **complex dynamics of radicalization**.



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