

HEC Montréal

**An Examination of the Process Leading Perceived Anti-Muslim Prejudice to the
Legitimization of Radical Behaviors: Understanding the Role of Critical Thinking and
Desire for Revenge**

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Résumé:

Notre recherche a été menée en réponse au phénomène majeur, répandu et dangereux de la propagande islamique radicale ciblant les jeunes sur diverses plateformes médiatiques (Winter 2020). Nous avons établi deux modèles qui expliquent le processus menant à la légitimation des comportements radicaux en réponse à la propagande islamique. Pour ce faire, nous avons étudié deux échantillons géographiquement différents au moyen d'une analyse de données transversale et longitudinale à plusieurs étapes. La recherche actuelle apporte trois contributions principales. Premièrement, elle montre que les effets de l'attractivité émotionnelle du message sur la légitimation des comportements radicaux est médiée par deux variables de processus fondamentales : le réalisme perçu du contenu et la marginalisation perçue de la communauté musulmane (Kupersmidt et al. 2012). Deuxièmement, notre recherche approfondit le processus en question en démontrant le rôle du désir de vengeance contre les institutions, un médiateur adapté à ce contexte très particulier. Troisièmement, cette recherche découvre également l'effet amplificateur de la pensée critique sur l'efficacité de la propagande radicale, ainsi que ses effets d'atténuation sur le réalisme perçu du contenu et la marginalisation perçue de la communauté musulmane. Les résultats présentés justifient la nécessité d'examiner et de surveiller le contenu médiatique contraire aux principes de l'éthique. Il ouvre également une discussion sur la nature de la pensée critique quant au contenu médiatique dans le processus de légitimation des comportements radicaux.

Indexation: radicalisation; propagande; marginalisation; communauté Musulmane; vengeance; l'éducation aux médias; smart PLS; common-method bias; recherche quantitative; analyse longitudinale.

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"Beyond right and wrong there is a garden. I will meet you there."

An Examination of the Process Leading Muslim Propaganda to the Legitimization of Radical Behaviors: Understanding the Role of Critical Thinking and Desire for Revenge

ABSTRACT

Our research was conducted in response to the major, widespread, and dangerous phenomenon of radical Islamic propaganda targeting young people on various media platforms (Winter 2020). We established two models that explain the process leading to the legitimization of radical behaviors in response to Islamic propaganda. We do so by studying two geographically different samples through cross-sectional and longitudinal multi-stage data analysis. The current research makes three core contributions. First, it shows that the effects of emotional attractiveness of the message on legitimization of radical behaviors is mediated by two core process variables: perceived realism of the content and perceived marginalization of the Muslim community (Kupersmidt et al. 2012). Second, our research further explores the process in question by demonstrating the role of desire for revenge against institutions, a mediator suited for this particular context. Third, this research also discovers the amplifying effect of critical thinking about media content on the efficacy of radical propaganda, as well as its attenuation effects on both perceived realism of the content and perceived marginalization of the Muslim community. Provided results justify the need for scrutinizing and monitoring unethically driven media content. It also opens a discussion about the nature of critical thinking about media content in the process of legitimization of radical behaviors.

Index terms: radicalization; propaganda; marginalization; Muslim community; revenge; media literacy; smart PLS; common-method bias; quantitative research; longitudinal research.

INTRODUCTION

Over the past decade, hundreds of thousands of ordinary people have fallen under the influence of radical Islamist propaganda disseminated all over social media (Mitts 2017). Radicalization is a process that entails socialization into a fanatic belief system that generates intolerance or provokes violent behavior toward individuals with a different point of view (Borum 2011; Braddock 2015; Trip et al. 2019). Beyond those who manifest inactive, vocal support, many keep joining the Islamic State (ISIS) in Iraq and Syria from all corners of the world. Violent radicalization in mosques and other religious institutions comprises no more than 2% of the total cases of radicalization. Although this percentage is relatively small, the effects of such actions can be disastrous. Radicalization process is becoming increasingly covert, posing problems for security and intelligence agencies. The shift in terrorists' modus operandi online largely reflects society's digitalization. Terrorism analysts and policymakers struggle to understand how the next generation of terrorists will be radicalized (Schmitt and Sengupta, 2015).

Internet offers an easy platform for radical groups. It makes it easy to spread emotionally attractive content that provokes "pity" for the marginalized Muslim community, desire to belong to a group, anger directed to social injustice, and hope for a meaningful life (Edwards and Gribbon, 2013). Gates and Potter (2015) analyzed who creates the content of the organizations' recruitment materials and found that they use a globally distributed network of volunteers who create content to fit the aesthetic of different regions. Various radical groups efficiently take advantage of social media network to generate the awareness of their cause among potential supporters. Faced with this critical phenomenon that has the potential to outgrow institutional capacity to mediate it, our research is focused on understanding mental processes leading to the *legitimization of radical behaviors* at the individual level. This last variable is the key outcome we try to predict, and it is

defined as the extent to which individuals actively or passively approve the use of extreme means to defend the interests or values of a group, religion, or community.

The emotional component being key in any kind of propaganda, our research focuses on the emotional attractiveness of social media message as the initial independent variable. *Emotional attractiveness of the message* is defined as the propensity to encourage affect-oriented decision making which can bypass or bias logic-oriented responses (Pinkleton et al. 2010). Please see Table 1 for an overview of the core concepts of our research. Since radical propaganda could be treated like any kind of message that calls for a change in attitudes, our research model is inspired by the components of the Message Interpretation Processing (MIP) model. MIP model combines social cognitive theory and the theory of reasoned action (Austin 2007). This theory has proven itself effective to predict a change in attitude or behavior following the exposure to different media contents (Austin 2007; Pinkleton et al. 2010; Elmore et al. 2017). Information seen by an individual is simultaneously processed through two routes: cognitive and social. On the one hand, the cognitive route relies on *perceived realism of the content*, which is defined as the extent to which the overall content and the details of a message seem accurate and representative of the reality (Andsager et al. 2001; Pinkleton et al. 2010). On the other hand, the social route relies on a perceived match of the message with one's values towards the world. In our research, this social variable is labelled *perceived marginalization of the Muslim community*, which is defined as the extent to which the overall content of a media message presents the Muslim community as discriminated against compared to other communities (Silke 2008; Mitts 2017). Once information is processed through these two filters, viewers need to self-identify with the message in order for the suggestive message to be effective and for the attitude or behavior to change (Austin 2007).

please insert Table 1 about here

In the specific context of Islamist propaganda, we believe that *self-identification with the content* (i.e., defined as the extent to which viewers identify themselves with the message and wish to get closer to the portrayed people) is not the most suitable mediator to explain the legitimization of radical behaviors. Rather, we argue that a *desire for revenge against institutions* (i.e., defined as a strong willingness to seek retributive satisfaction against ineffective social institutions) would be a more appropriate process variable for such an inflammatory content. It has long been recognized as a key motivator for legitimization and performance of radical behaviors (Schmid and Jongman, 1988). In the theoretical stream of revenge and retribution, radicalization and terrorism are deeply rooted in the notion of discrimination and marginalization of Muslim communities. In the context of jihadi extremism, these communities are experiencing considerable disadvantage: economic deprivation of opportunities, systematic underperformance in education and insufficient political representation (Silke 2008; Kaufman and Niner 2019). One of the most important elements in understanding the psychology of why people support extremists' agenda refers to their propensity to develop a desire for revenge toward society at large. As a result, our research tests if desire for revenge, as means to restore justice, is a relevant mediator explaining the legitimization of radical behaviors.

Building on the relevant literatures, we further develop our understanding of how the emotional attractiveness of radical propaganda messages leads to the legitimization of radical behaviors. To do so, we proposed two related models, a simplified one (Figure 1a) and one with an additional mediator, *desire for revenge against institutions* instead of self-identification with the content (Figure 1b). The first model links emotional attractiveness of propaganda to the legitimization of radical behaviors through two parallel routes, perceived realism of the propagandistic content and perceived marginalization of the Muslim community. Second model

includes an additional mediator. Our goal is to determine which one out of two options explain legitimization of radical behaviors best, *self-identification with the content* or *desire for revenge against institutions*.

please insert Figures 1a and 1b about here

Specifically, the current research offers four core contributions. First, we link emotional attractiveness of the message to the legitimization of radical behaviors in both a cross-sectional and multi-stage longitudinal studies with samples coming from different countries. Second, we examine the role of perceived realism of the content and perceived marginalization of the Muslim community as mediating variables, both variables being inspired from the MIP model (Kupersmidt et al. 2012). Third, we examine the moderation effect of critical thinking about media content, an individual, inquiry-based competence that helps people make connections between multiple ideas, ask pertinent questions, and formulate their own unbiased responses (Thoman and Jolls 2004; Peek and Beresin 2016). Critical thinking is a marketing tools that policy makers could use to reduce the perceived legitimization of radical behaviors. Finally, we show that *desire for revenge against institutions* plays an important role as a final mediator leading to the legitimization of radical behaviors. Here, desire for revenge against institutions is found to be a more appropriate process variable than the typical variable of self-identification with the content.

THEORY AND HYPOTHESES

Two Core Mediators: Realism of the Content and Perceived Marginalization of Muslims

In this subsection, we present two basic processes that explain the effects of the emotional attractiveness of the message on the legitimization of radical behaviors by referring to two core mediators—realism of the content and marginalization of the Muslim community—which are adapted from the MIP model (Pinkleton et al. 2010).

As previously discussed, emotional attractiveness of a message can be defined as a certain propensity of a message to encourage affect-oriented decision making in its viewers by containing elements that reduce logic-oriented responses (Pinkleton et al. 2010). The emotional appeals of propaganda messages create a state of heightened psychological arousal, which leads the individuals to become alert and prepared to act (Hawkins et al. 2003). These appeals arouse positive or negative feelings, which make the individual engage more intensively in the processing and examination of the message (Leonidou and Leonidou, 2009). Messages dominated by topics of provocation or fear tend to be perceived as more realistic because of the level of alertness they induce (De Pelsmaker and Geuens, 1997). Here, perceived realism of the content is defined as a degree to which the overall content of a message seems accurate, timely and believable to the viewer, including the source of the transmitted information (Pinkleton et al. 2010). Propaganda is mainly provocative content with an apparently solid rhetoric and a call-to-action. Therefore, when viewers perceive a high level of emotional intensity in a propaganda message, they tend to perceive it as more realistic, which leads to the perceived legitimization of radical behaviors. Formally:

H1a) The impact of emotional attractiveness of the message on the legitimization of radical behaviors is mediated by the perceived realism of the content.

In the current research, the narrative around the messages focuses on the marginalization of the Muslim community, and on the social injustice this community must endure.¹ The perceived marginalization of the Muslim community corresponds to the extent to which the overall content of a message presents the Muslim community as being discriminated against by others and marginalized compared to other communities (Silke 2008; Mitts 2017). The current research refers to such a content—i.e., the social injustice experienced by the Muslim community—which is often part of the Muslim radical propaganda found on social media (Mitts 2017). Such radical propaganda and its emotional intensity aim to increase one's perception that the Muslim community is left aside and treated with injustice. Based on the above, we assume that the degree of emotional attractiveness of radical messages is directly linked to the extent to which the viewer considers the Muslim community as being marginalized. This perception, in turn, conditions the legitimization of radical behaviors.

H1b) The impact of emotional attractiveness of the message on the legitimization of radical behaviors is mediated by the perceived marginalization of the Muslim community.

The Complex Effects of Critical Thinking About Media Content

Once exposed to a piece of radical content, some individuals could be more or less receptive to it than others depending on their level of critical thinking about media content. This form of critical thinking is defined as an individual, inquiry-based competence that helps people make connections between multiple ideas, ask pertinent questions, identify fallacies, and formulate their own responses after being exposed to a message (Thoman and Jolls 2004; Peek and Beresin 2016). In this section, we explain the direct and moderation effects that critical thinking about media has on the components of our model.

¹ Indeed, all the participants in our research will be exposed to visual media content that focuses on Muslim marginalization and social injustice (see Appendix B for description of the stimuli).

Critical viewers are skeptical of media content, and they actively evaluate and reflect on it (Anderson 1983). From the above-cited research, critical thinking can be seen as a general mode of thinking or a permanent personality trait. Scholars generally define critical thinking as a core component of media literacy (Pinkleton et al. 2012; Potter 2010; Xie et al. 2019). Media literacy was originally intended to increase youth's understanding of the persuasive intent of commercials (e.g., Jeong et al. 2012). However, we posit that media literates of all ages apply critical thinking across situations and different types of media, including the context of radicalization (Scharrer 2006). The main source of information about the world being the Internet and social media (Mitts 2017), individuals with a high level of critical thinking would be better informed of the social situation of the Muslim community, and they would tend to agree that the Muslim community is somewhat marginalized in westernized countries. Their ability to seek for more information and to have a better grasp of the "big picture" make them sensitive and receptive to topics of discrimination, social injustice, and racism. Hence, we reasonably expect that people with more developed critical thinking skills will perceive messages portraying a lack of inclusion of the Muslim community as more realistic. In addition, these individuals should have heightened perception of the degree to which the community is marginalized in Western society. Formally:

H2a) Critical thinking about media content has an amplifying effect on the perceived realism of the radical content.

H2b) Critical thinking about media has an amplifying effect on the perceived marginalization of the Muslim community.

Critical thinking in itself is a capacity to reasonably detach yourself so the naturally triggered empathetic response to a highly emotional message is attenuated. However, the positive

effect of critical thinking mainly occurs when the emotional response to a message is relatively low. When the emotional response to a message is high, people have little room to use and apply their critical thinking. In this last context, we expect that critical thinking will play a limited role as a form of emotional empathy takes over reasonable detachment (Klimecki and Singer 2013).

Therefore, we posit that the positive effect of critical thinking on realism (H2a) and marginalization (H2b) decreases as the viewer becomes more emotionally affected by the content. After all, critical thinking is part of cognitive skills that usually harness emotional impulses and reactions, but up to a certain threshold in emotional attractiveness of a message (Klimecki and Singer 2013; Lombard et al. 2020). Formally:

H3a) Critical thinking about media content interacts with emotional attractiveness of the message to predict its perceived realism such as the amplifying effect of critical thinking on perceived realism decreases as emotional attractiveness of the message increases.

H3b) Critical thinking about media content interacts with emotional attractiveness of the message to predict perceived marginalization of the Muslim community such as the amplifying effect of critical thinking on perceived marginalization of the Muslim community decreases as emotional attractiveness of the message increases.

A Double Mediation Mechanism Involving Desire for Revenge Against Institutions

An additional contribution of our research is testing *desire for revenge against institutions* as a suitable mediator preceding legitimization of radical behaviors. The original MIP model implies *self-identification with the content* as the final phase to a change in attitude or behavior. Self-identification with the content assesses the extent to which viewers want to be like the characters in media messages or find messages' characteristics close to their values and perception of the world (Pinkleton et al. 2010). It includes desires such as defending, feeling closer or trying

to improve the situation to the group portrayed in the message. This mediator has been proven effective to explain the effectiveness of various health messages et prevention campaigns (Austin 2007; Pinkleton et al. 2010; Elmore et al. 2017). However, self-identification implies conscious adherence to the message and a natural predisposition of the viewer to comply with it (Austin 2007). What is observed in the world is that people from various religions, demographics and psychographics are responsive to radical propaganda. They are also often ready to act without being fully aware of their attitudes and motivations (Lodge and Taber 2013). People tend to seek retributive satisfaction and naturally equalize any form of injustice. Not everyone would seek retributive satisfaction over rationalization or peaceful alternatives, but a deeply rooted desire to avenge and restore justice is a powerful force for some to support or legitimize acts of revenge (Liberman and Skitka, 2017).

Consequently, to better understand the process in play, we test an extended model. Even though the efficiency of call-to-action messages using the original MIP model implied the use of *self-identification with the content* (Pinkleton et al. 2010), in a special context of Islamic propaganda, we rather argue that *desire for revenge* is expected to be the appropriate mediator in terms of explaining the propensity to legitimize radical behaviors. Desire for revenge against institutions is defined as the extent to which an individual wants to punish and cause harm to the institutions that have proven themselves unfair and ineffective in their role to serve all communities equally well. It includes desires to *get even*, to *punish*, to *make them (institutions) get what they deserve* (Grégoire et al. 2010). Formally:

H4a) The effect of emotional attractiveness of a radical message on the legitimization of radical behaviors is explained by a double mediation involving “perceived realism of the content → desire for revenge against institutions”.

H4b) The effect of emotional attractiveness of a radical message on the legitimization of radical behaviors is explained by a double mediation involving “perceived marginalisation of the Muslim community → desire for revenge against institutions”.

METHODOLOGY

Current research is based on two studies (online surveys) totaling 739 participants in Quebec, France and the USA; these two surveys took place in 2018 and 2019. The survey was originally constructed in English and then translated into French. Since all members of the research team are fully bilingual, the questionnaires were back translated to maintain consistency. Out of the total sample, 35% completed the survey in French, and 65% in English. With regards to the control variables, given the context of Muslim radicalization, we controlled for religion (Muslim, Christian, Atheist); we also controlled for gender, an important variable when it comes to aggression and revenge (Grégoire et al. 2010), and age, a control variable suggested by the MIP (Austin et al. 2007). Because of the sensitivity of the issue, we had to adapt our recruitment method to the specific country and the ethics' committee of the recruiting panel. We provide details about the sample and procedure next.

Study 1: French-Speaking Sample

Due to the challenges faced during recruitment, the analyses are based on a volunteer sample collected through social networks. Using a snowball sampling process, early participants were asked to refer to friends or acquaintances. Because of the recruitment procedure, the response rate could not be computed. Participants who agreed to participate in the project were invited to complete an online questionnaire. Anonymous links specifically created for the French and English versions of the questionnaire were created using two features of Qualtrics (anonymous responses, anonymous links). Anonymous responses allow researchers not to collect IP addresses or specific geographical location; hence ensuring anonymity of respondents. Additionally, no identifiable information (e.g., social insurance number, addresses, names etc.) were collected with the questionnaire making it impossible for the researchers to connect specific responses to individual

people. Anonymity was shown to minimize the likelihood of participants' giving socially expected responses (Rosenbaum et al. 2006). This sample consisted of 258 participants who fully completed the survey and appropriately answered attention check questions. In total, 66% are women, 34% are men. Muslims, Christians, and Atheists represent 18%, 49% and 33% respectively. Average age is 20 years old.

Study 2: The USA Sample

For the USA sample, we were able to conduct a multi-stage longitudinal study from mid-April 2019 to mid-May 2019 with Qualtrics. To reduce common method bias, we adapted our design according to the best practices (Podsakoff et al. 2003) and we measured the outcome variable a month later. In the second survey, we measure the legitimization of radical behaviors, as well as two rival mediators, *desire for revenge against institutions* and *self-identification with radical content*.

The analyses were based on a sample of 481 valid respondents at time 1 and 115 at time 2, leaving no question unanswered and having appropriately answered attention check questions. This sample was composed, at time 1, of 55% were women versus 45% men. Muslims, Christians, and Atheists represented 10%, 37% and 53%, respectively. Average age was 22 years old. Among those who were surveyed at time 2, 51% were women versus 49% men. Muslims, Christians, and Atheists represented 17%, 41%, and 42% respectively. Average age was 23 years old.

Procedure

Consistent with the past literature, participants were exposed to examples of messages depicting discriminatory acts against members of the Muslim community in Western countries (e.g.: Álvarez-Benjumea and Winter, 2018; Schmuck et al. 2020; Laurent 2020). Their reactions to the messages were measured using a set of scales developed by Austin et al. (2007) (Austin and

Meili, 1994; Pinkleton et al. 2012; Radanielina Hita et al. 2017) as part of the emotional and logical aspect of the decision-making process, which predicted subsequent beliefs and attitudes related to the treatment of Muslims. The questionnaire assessed their critical thinking toward these messages as well as the likelihood to experience a desire for revenge (please see Appendix A). To decrease psychological harm, the objective of the research was clearly explained. Second, debriefing statement contextualizing the research and emphasizing the educational part of it was made available at the end of the project. The debriefing statement included available resources for critical thinking (Center for Media Literacy 2020). Debriefing statements from law enforcement officers and educators have been shown to reduce the likelihood of finding objectionable content appealing.

For research purposes, the two samples were exposed to the same stimuli containing two messages (please see Appendix B). The first message builds on the idea that members of Muslim communities are persecuted. The second message gives a specific example of this perceived mistreatment. The posting suggests that access to a public space was prohibited to women wearing the veil as well as to dogs. To increase face validity, the choice of the messages was conducted based on the past literature and current prevention programs focusing on anti-Muslim hate such as “Hatemeter” (Laurent 2020). Based on exhaustive pretesting, we selected these messages because they speak to the perceived mistreatment and prejudice that some members of the Muslim community in Western countries feel because of their use of religious symbols (e.g., the veil). Research on race in the marketplace suggests how attitudes and discussion about the Islamic veil may affect how members of the Muslim community are perceived in the marketplace (Alkayali 2019). Additionally, reports against Muslims wearing the veil are on the rise (United Nations 2021). The preselected messages were then pilot tested which led us to the final two messages

(please see Appendix B). To ensure that the two samples assessed the messages in the same way, we compare their responses on three items assessing how the messages made them feel (angry, sad or happy). A simple *t*-test showed that the difference was not statistically significant (p 's > .10).

Measurements and Scales

The following sections describe our perceptual measures (see Appendix A for details). Otherwise noticed, all items are measured on a seven-point scale, ranging from 1 = completely disagree to 7 = completely agree.

Emotional Attractiveness of the Message. This four-item scale was adapted for the specific context of radicalization from the work of Austin 2007, Pinkleton et al. (2010) and Elmore et al. (2017). The scale includes items such as “I find the messages presented in the pictures interesting” and “The messages presented in the pictures get my attention”. This construct is reliable, and its descriptive statistics are within typical ranges (Study 1: $\alpha = .76$; $M = 4$; $SD = 1.1$; Study 2: $\alpha = .68$; $M = 4.4$; $SD = 1.1$).

Perceived Realism of the Content. This four-item scale was also adapted from the work of Austin 2007, Pinkleton et al. (2010) and Elmore et al. (2017). Initial items used for MIP models were adapted for the specific context of radicalization. The scale includes items such as “The picture presented are realistic sources of information for how members of the Muslim community live in Western countries” and “The picture presented are realistic sources of information about why young people seek to distance themselves from the culture they are living in.” This construct is reliable, and its descriptive statistics are within typical ranges (Study 1: $\alpha = .67$; $M = 4$; $SD = 1$; Study 2: $\alpha = .72$; $M = 4.3$; $SD = 1.1$).

Perceived Marginalization of the Muslim Community. This construct was measured with a five-item scale. We adapted the *social norms* scales used by Austin 2007, Pinkleton et al.

(2010) and Elmore et al. (2017) to capture the context of Muslim radicalization and the perception of Muslim discrimination in Western societies. We ensure to measure the extent to which media message presents the Muslim community as being excluded, discriminated against, and marginalized compared to other communities (Silke 2008; Mitts 2017). The scale includes items such as “The majority of people (my age) with a Muslim background who are living in Western countries perceive that they are treated unfairly” and “The majority of people (my age) with a Muslim background feel frustrated because of the way their cultural group is perceived”. This construct is reliable, and its descriptive statistics are within typical ranges (Study 1: $\alpha = .75$; $M = 4.6$; $SD = .9$; Study 2: $\alpha = .77$; $M = 4.5$; $SD = 1$).

Critical Thinking About Media Content. Critical thinking skills were measured with a four-item media literacy scale from prior research (e.g., Radanielina Hita et al., 2017), which includes items such as “It is important to think twice about what you hear in the media” and “I look for more information before I believe something I read online (e.g., Facebook, Twitter, other apps)”. This construct is reliable, its descriptive statistics are within typical ranges (Study 1: $\alpha = .90$; $M = 6.2$; $SD = .8$; Study 2: $\alpha = .87$; $M = 5.2$; $SD = 1.3$).

Self-Identification with the Content. This construct was measured with a five-item scale and only for Study 2. We used items developed by Austin (2007), Pinkleton et al. (2010) and Elmore et al. (2017) and adapted them to the context of Muslim radicalization. The scale includes items such as “I would like to express my identification with my cultural group by acting on the messages presented” and “I wish I could feel closer to my own cultural group”. This construct is reliable, and its descriptive statistics are within typical ranges (Study 2: $\alpha = .77$; $M = 4.7$; $SD = 1.1$).

Desire for Revenge Against Institutions. Desire for revenge against institutions is a construct measured only for Study 2 with a five-item scale developed by Grégoire et al. 2010 and adapted for the context of radicalization. The scale includes items such as “Reading messages like those presented in the pictures above motivates me to punish the institutions in some way” and “Reading messages like those presented in the pictures above motivates me to make institutions get what they deserve”. This construct is reliable, its means is slightly higher, but its standard deviations are within typical ranges (Study 2: $\alpha = .90$; $M = 3.7$; $SD = 1.3$).

Legitimization of Radical Behaviors. Our core outcome variable was measured with a six-item scale designed specifically for the context of this study, which is adapted from the work of Bhui et al. (2014) and Ozer and Bertelsen (2018). This scale includes items such as “I can understand that under some circumstances some people may take actions to defend their community's honor against what they perceive as unfair treatment” and “If a prominent member of a cultural (minority) group is insulted, then I can understand that members of that cultural group would defend that person's honor by any means”. This construct is reliable, and its descriptive statistics are within typical ranges (Study 1: $\alpha = .89$; $M = 4.2$; $SD = 1.1$; Study 2: $\alpha = .89$; $M = 4.4$; $SD = 1.1$).

RESULTS

Partial Least Square Structural Equation Model (PLS-SEM)

To test our hypothesis, we used PLS SEM which is based on an iterative combination of principal components and regressions, aiming to explain the variance of individual constructs (Chin 1998; Hulland 1999; Streukens and Leroi-Werelds 2016). PLS is known for having great statistical power, especially for robust results derived from smaller samples, and has established its reputation in business research (Hair et al. 2019). PLS has also been found to be an effective

and reliable analytical tool to test interactions by reducing type II error (Chin et al. 2003). Following the most rigorous bootstrapping practices proposed by Streukens and Leroi-Werelds (2016), we generated as many as 5000 samples to test our hypothesis in terms of significance of estimates of all path coefficients and individual item loadings.

Measurement Model

First, we evaluate the adequacy of all our reflective measures with the parameters provided by PLS. For both studies, we estimate the reliability of the individual items, as well as the internal consistency and discriminant validity of the constructs (Hulland 1999). Item reliability is assessed by examining the loadings of measures on their corresponding constructs and all loadings of scales measuring reflective constructs approach or exceed .7. Composite reliability as well as consistent internal reliability indexes exceed .7, which indicates that more than 50% of the variance in the observed variables is explained by each construct. Please refer to Table 2 for the key constructs' measurement properties.

please insert Table 2 about here

The discriminant validity of the construct was assessed in three ways. First, it is imperative to compare the square roots of the average variance extracted from each construct with its correlations with the other constructs (Fornell and Larcker, 1981). All of the square roots of the average extracted exceed their respective correlations. Descriptive statistics and correlations between constructs in each study are presented in Table 2.

Second, an examination of the cross-loadings concluded that no item loads higher on another construct than it is intended to measure. Third, using a highly efficient and statistically reliable tool provided by PLS, the Heterotrait-Monotrait ratio (HTMT) to confirm, once again, the quality of our measurement instruments and constructs' definitions. HTMT is defined as the mean value of

the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Henseler et al. 2016; Voorhees et al. 2016). We confirmed the discriminant validity of the constructs after Heterotrait-Monotrait ratios of all possible cross-loadings were proven to be well below .9 (please refer to Table 2).

Structural Model and Test of Hypotheses

Once the validity and reliability of the constructs have been proven to be above satisfactory, theoretical models were tested using PLS algorithm by performing bootstrapping of 5000 generated samples to test our hypothesis. PLS standardized coefficients linking theoretical constructs are presented on Figure 2a for the simplified model and on Figure 2b for the extended model. Most of the paths are significant in both models; these general results support the general soundness of our models.

please insert Figures 2a and 2b about here

Mediation Role of Perceived Realism of the Content (H1a). To understand how exposure the emotional attractiveness of the message is linked to the legitimization of radical behaviors, we examined the mediating role of perceived realism of the content. In Study 1, the specific indirect effect “*emotional attractiveness of the message → perceived realism of the content → legitimization of radical behaviors*” produces a significant coefficient of .096. As explained in Hayes (2017), this indirect effect is significant because the confidence intervals (CI) do not contain the value 0. (95% CI [.06, .13]), which is consistent with H1a. In this model, the direct effect between emotional attractiveness of the message and legitimization of radical behaviors produces a non-significant coefficient of .101. In Study 2, an additional mediator, *desire for revenge against institutions*, is added to the model directly following realism, therefore H1a was not tested. Instead, H4a was formulated and examined further.

Mediation Role of Perceived Marginalization of the Muslim Community (H1b). In Study 1, we also tested the mediating of perceived marginalization of the Muslim community. The specific indirect effect “*emotional attractiveness of the message → perceived marginalization of the Muslim community → legitimization of radical behaviors*” produces again a significant coefficient of .074 (95% CI [.047 to .11]), which is consistent with H1b. In this model, the direct effect between emotional attractiveness of the message and legitimization of radical behaviors produces a non-significant coefficient of .101. In Study 2, an additional mediator, *desire for revenge against institutions*, is added to the model directly following perceived marginalization, therefore H1b was not tested. Instead, H4b was formulated and examined further.

Amplifying Effect of Critical Thinking about Media Content (H2a and H2b). Critical thinking about media content is positively linked to perceived realism of the content in Study 2 (coefficient = .074, $p < .10$) but not in Study 1 (coefficient = .082, $p = .16$). Accordingly, H2a is partially supported. In turn, critical thinking is positively linked to the perceived marginalization of the Muslim community in both studies; H2b is confirmed in both studies. With regards to the latter variable, we find coefficient = .132, $p < .10$ for Study 1, and coefficient = .453, $p < .001$ for Study 2. Therefore, H2a is confirmed by Study 2 only, a study with a larger sample, whereas H2b is confirmed in both studies with particularly strong evidence in Study 2. As their critical thinking about media content increases, participants tend to perceive radical content as more realistic and the Muslim community as being more marginalized.

Moderation Effect of Critical Thinking about Media Content (H3a and H3b). Consistent with H3a, we observed that critical thinking about media content interacts with emotional attractiveness of the message to predict its perceived realism such as the amplifying effect of critical thinking on perceived realism decreases as emotional attractiveness increases. The

interaction term has a path coefficient of $-.083$ ($p < .05$) for Study 1; however, no significant interaction was found in Study 2. The evidence to support this hypothesis is mixed, and H3a is partially supported. Once the standardized coefficients of Study 1 are plotted on a graph with conservative values of -1 and 1 , as recommended by Cohen and Cohen (1983), we can see that in the context of low emotional attractiveness of the message, there is an amplifying effect of critical thinking on perceived realism of the content (see Figure 3). As emotional attractiveness of the message increases, the effect of critical thinking disappears when it comes to explain perceived realism. Consistent with H3a, critical thinking plays a role of moderation, which attenuates the positive relationship between emotional attractiveness of the message and perceived realism of the content.

please insert Figure 3 about here

Consistent with H3b, we observed that critical thinking about media content interacts with emotional attractiveness of the content to predict its perceived marginalization of the Muslim community such as the amplifying effect of critical thinking on perceived marginalization of the Muslim community decreases as emotional attractiveness increases. The interaction term has a path coefficient of $-.135$ ($p < .01$) for Study 1 and no significant interaction was found in Study 2. The evidence to support this hypothesis is mixed. However, once the results of Study 1 are visualized (Figure 4), we can see that in the context of low emotional attractiveness of the message, there is an amplifying effect of critical thinking on perceived marginalization of the Muslim community. As emotional attractiveness increases, a significant difference between low versus high critical thinking disappears when it comes to explain perceived marginalization. We previously confirmed that critical thinking plays an amplifying effect on viewers' beliefs about how underprivileged this community is (H2b). However, they play an additional role as a

moderator attenuating the positive relationship between emotional attractiveness and perceived marginalization of the Muslim community.

please insert Figure 4 about here

Desire for Revenge Against Institutions as an Additional Mediator (H4a and H4b). In order to understand further the effect of emotional attractiveness of the message on legitimization of radical behaviors, we extended the basic model tested in Study 1 (Figure 1a) to a more complex model tested in Study 2 (Figure 1b). As per H4a, the effect of emotional attractiveness on the legitimization of radical behaviors is mediated by both perceived realism of the content and desire for revenge against institutions. The specific indirect path coefficient of *emotional attractiveness of the message* → *perceived realism of the content* → *desire for revenge against institutions* → *legitimization of radical behaviors* is equal to -.028 (95% CI [-.036, -.02]). The direct effect has a non-significant coefficient of -.028. The alternative test with *self-identification with the content* as a mediator (instead of *desire for revenge*) provides a non-significant indirect path coefficient of -.003. However, we note that the coefficient is negative and the relationship between realism and desire for revenge is negative (*path coefficient* = -.124; *p* < .01); this set of results is contrary to our expectations. Therefore, although the indirect path involving “*perceived realism of the content* - *desire for revenge against institutions*” is significant, H4a is not supported as it was initially predicted.

For H4b, the specific indirect path coefficient of *emotional attractiveness of the message* → *perceived marginalization of the Muslim community* → *desire for revenge against institutions* → *legitimization of radical behaviors* is equal to .12 and significant (95% CI [.067, .173]). The post hoc alternative mediation involving “*perceived marginalization of the Muslim community* - *self-identification with the content*” provides a non-significant indirect path of -.001 (95% CI

[-.004, .002]). Accordingly, we find support for H4b. *Desire for revenge against institutions* is strongly linked to the legitimization of radical behaviors, and it provides an explanation of how emotionally loaded radical messages lead to the legitimization of radical behaviors. A summary of findings is presented in Table 4.

please insert Table 4 about here

Control Variables. Please note that, for the purpose of parsimony, only significant and marginally significant relationships related to control variables are presented and that a summarizing table can be found in Table 5. With regards to the control variables (*age*, *gender*, and *religion*), French residents have a significantly lesser propensity towards legitimizing radical behavior (*path coefficient* = -.257; $p < .001$) compared to Quebecois in study 1. In Study 1, being a woman happens to be negatively related to the legitimization of radical behavior (*path coefficient* = -.254; $p < .05$) and positively related to marginalization of the Muslim community (*path coefficient* = .239; $p < .10$). In Study 1, being Christians is positively related to the legitimization of radical behavior (*path coefficient* = .238; $p < .05$). Finally, among Atheists, there is a negative relationship with the marginalization of the Muslim community (*path coefficient* = -.179; $p < .10$) and a positive relation with the legitimization of radical behaviors (*path coefficient* = .191; $p < .05$).

In Study 2, there is a relatively weak positive relationship between age and the degree at which viewers tend to perceive the Muslim community as marginalized (*path coefficient* = .067; $p < .10$). In the same sample, women versus men tend to perceive radical content as more realistic (*path coefficient* = .099; $p < .01$). That observation is also confirmed in Study 1 in which the coefficient is even stronger (*path coefficient* = .206; $p < .10$). Moreover, in Study 2, we find interesting results with the variable *religion* (Muslims, Christians, and Atheists). In both samples,

being a Muslim is positively related to perceive the Muslim community as being marginalized
(*path coefficient in Study 2 = .096; $p < .05$; path coefficient in Study 1 = .156; $p < .10$*). *please

insert Table 5 about here*

GENERAL DISCUSSION

General Discussion of the Results

Our two models (Figure 2a and 2b) offer numerous contributions to a better understanding of the legitimization of radical behaviors after exposure to radical propaganda. First, it was confirmed that the impact of emotional attractiveness of the message on the approval of radical behaviors is mediated by perceived realism of the message and perceived marginalization of the Muslim community ((H1a) and (H1b)). It appears that some variables adapted from the MIP theory (Kupersmidt et al. 2012) served as a good basis for at least one part of understanding viewers' perceptions and reactions. Moreover, results converge to findings by De Pelsmaker and Geuens (1997) who claim that people exposed to propaganda will tend to perceive it as more realistic when there is higher level of emotional intensity. Results are also consistent with the fact that radical propaganda and its emotional intensity increase one's perception of the extent to which Muslims are left aside, in a world where their discrimination perception is increasingly common (Mitts 2017). Another finding was the fact that women tend to score higher with regards to both mediators but are less prone to justify vengeful acts as a result. With regards to religion, not only Muslim people perceive themselves as more marginalized, but being Atheist is also related to this particular variable. Finally, still with regards to religion, surprisingly only Christians and Atheists were more prone to legitimize radical behaviors after being exposed to radical Muslim propaganda.

Second, we examined the crucial role of critical thinking about media content in the context of radical propaganda, a tool that policy makers could use to enhance the reconciliation and decrease desire for revenge against institutions. There is evidence that critical thinking amplifies both perceived realism of the content and perceived marginalization of the Muslim community ((H2a) and (H2b)). Nevertheless, passed a certain limit of emotional attractiveness, critical

thinking stops having a significant effect on both variables of interest (H3a and H3b). These results, however, were confirmed by the francophone study only (Study 1). Moreover, they could be explained by the more advanced cognitive form of empathy described by Klimecki and Singer (2013) that consists of forming an independent opinion including two dimensions: (1) the awareness of the emotional load of a message and the reflex to take a step back before judging on its realism; (2) the capacity to assume the existence of an alternative point of view without necessarily being presented with one (Lombard et al. 2020). Critical thinking mechanisms seem to be complex and contextual in their nature. They are worth further investigation.

Third, we prove that the well-establish MIP theory in communications that has been generalized in many contexts using *self-identification with the content* is not as appropriate in the context of radicalization. Instead, we find that a *desire for revenge against institutions* plays an important role as a mediator. Our extended model (Figure 2b) demonstrates the presence of a double mediation only when the emotional attractiveness of the message is explained by both, perceived realism of the content and perceived marginalization of the Muslim community that take place in parallel, and desire for revenge against institutions as the final mediator to explain legitimization of radical behaviors (H4a and H4b). As mentioned in the hypothesis development section, all kinds of people are responsive to radical propaganda and find themselves ready to act without being fully aware of their true attitudes and motivations (Lodge and Taber 2013). Whether it is retributive satisfaction, instinctive response to a gap due to injustice, a deeply rooted desire to avenge can be a powerful driver for any individual to, at least, support or legitimize acts of revenge executed by others (Lieberman and Skitka, 2017). Moreover, just like radicalization, vigilantism can also take place in a digital form (Legocki et al. 2010). It is important to mention, however, that results related to H4a) and H4b) do not fully correspond to what was expected. In fact, desire for

revenge is a strong mediator between *perceived marginalization of the Muslim community* and *legitimization of radical behaviors*. Indeed, it is in that link that we can observe the direct effect of retribution seeking. When it comes to the perceived realism of the content, it does not have a direct effect on desire for revenge. Desire for revenge is linked to a perception of justice according to a frame reference, which goes beyond realism and implies a judgement about social and moral norms.

Managerial Implications

First of all, the results of our research call for an intensive ethical monitoring of various media channels in order to identify potentially harmful radical content. The main characteristics of such content are high emotional attractiveness and arousal, as well as a high degree of realism and a clear emphasis on the marginalization of the Muslim community. Lieberman (2017) underlines the evolution of radical content, goals of modern terrorist propaganda on the Internet, and presents a three-pronged approach for challenging such propaganda using a combination of criminal prosecution, removal of terrorist propaganda from social media platforms, and an active counter-propaganda campaign to discredit and undermine terrorist groups. Criminal prosecution being more complex as it requires expert opinions of what propaganda is and establishment of new precedents, the other two can be put in place by responsible media. It would take a team of trained moderators and algorithms who would ban potentially extremist content. Automated content moderation is often justified as a necessary response to the scale: the enormity of social media platforms like Facebook and YouTube stands as the reason why AI approaches are desirable, even inevitable (Gillespie 2020). In September 2019, cybersecurity expert Bruce Schneier gave a talk at the Royal Society in London where he claimed that “technologists need to realize that when

they are building a platform, they are building a world, and that policymakers need to realize that...” (Klonick 2021).

Second, speaking about critical thinking skills that young and future generations must develop, it is crucial to address the new phenomenon of information polarization. Competent authorities should be identified and must find ways to promote global ethical restructuring of the way information is framed and suggested to the users. Algorithms that drive information sources will seldom allow for a variety of points of view, therefore making individuals exposed to a limited range of opinions and representations of reality (Wu 2019). This backfire effect can easily make a propagandistic message look familiar and realistic or strengthen one’s perception of marginalization of the Muslim community. In their study, Kwon et al. (2017) conclude that the reality created by media results in lasting images and stereotypes about groups, religions, and peoples. When media agenda is consistent among media sources, it has the power to create associations for people, race, culture, and religion. Because of the overload of information in society, it is almost impossible for the public to critique messages on race and culture in any useful way unless media sources are encouraged to diversify their frames, points of view and perspectives (Price et al. 1997; Powell 2011).

Third, we examined critical thinking as a marketing-based communications tool. Policy makers must use it to enhance media literacy among adult, but more importantly younger population, to decrease the revenge-retaliatory behaviors processes when it comes to being exposed to radical content. It is a crucial skill to integrate at an early age, give the growing problem of the previously mentioned polarization phenomenon. Jeong et al. (2012) propose a meta-analytical review of 51 different interventions and most of them had a positive impact on skills such as media knowledge, criticism, perceived realism, influence, behavioral beliefs, attitudes, and

benevolent behavior. Intervention effects did not vary by the age, setting, audience involvement, topic, or country. Moderator analyses indicated that interventions with more sessions were more effective, but those with more components were less effective. This recommendation has a broader scope in order to prevent legitimization of radical behaviors, but also any similar issue potentially created by the media that can stimulate vengeful intentions. Media literacy training could include both, self-monitoring, and awareness of polarization phenomenon lessons.

Limitations and Further Research

Although the current findings help expand work on radicalization, it is important to keep the limitations of this research in mind. The first limitation is our conflicting results when it comes to amplifying effect of critical thinking on the perceived realism of radical content (H2a). In a larger, USA study, this hypothesis was confirmed, which was not the case with the francophone study (please refer to Table 4). Further research with a larger sample is needed, as well as, most probably, a better adaptation of the content each different cultural group should be exposed to. Moreover, both H3a and H3b were confirmed only with the sample of the Study 1 (please refer to Table 4). A larger and more differentiated sample is needed to firmly confirm how critical thinking about media content interacts with emotional attractiveness of the message to predict both perceived realism of the content and perceived marginalization of the Muslim community such as the amplifying effect of critical thinking decreases as emotional attractiveness increases. It could also be advised to test various types and examples of radical content (for example: video advertisements). In addition, prolonged exposure can be studied in a future longitudinal study.

In addition, more research is needed with regards to the managerial implications and recommendations described in the previous section. With regards to content moderation and its possible automation, an alternative point of view worth investigation exists in the research

community. Gillespie (2020) claims that given the scale at which all sorts of harmful content go viral, monitoring automation would be ideal but hard to implement. He argues that the task requires the kind of judgement that can only be exercised by human moderators. Calling something hate speech or radical propaganda is not a simple act of classification, calling it so by mistake can provoke an online storm and media platforms could be reluctant to take such a risk. More research is required to determine how exactly content monitoring should be implemented.

Moreover, with regards to reducing the information polarization phenomenon, this could be quite a challenge since it emerged naturally in the media business industry. The media have always based their content framing on the fundamental right to the free speech (Klonick 2021), and it could be hard to convince them to present information related to the Muslim community using various points of view. A new influence leverages should be conceptualized and tested, such as government policies or advertising campaigns aimed to convince consumers to consume media sources that are neutral. Another way of mitigating the effects of radical propaganda in the media could be educational campaigns cultivating empathy, acceptance instead of feelings of revenge and other core elements of positive psychology.

Compliance with Ethical Standards

All procedures performed in both studies involving human participants were in accordance with the highest ethical standards and approved by the Ethics Committee of a large North American university. Data was collected upon informed consent and a debriefing was offered due to the sensitive nature of the subject under study.

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TABLES, FIGURES AND APPENDICES

TABLE 1

Definition and Origin of Model Constructs

Constructs within the simplified process model		
Emotional attractiveness of the message	Propensity of a media message to encourage affect-oriented decision making by containing elements that force viewers to bypass or bias logic-oriented responses.	Hawkins et al. (2003), De Pelsmaker and Geuens (1997), Austin (2007), Pinkleton et al. (2010), Elmore et al. (2016)
Perceived realism of the content	Extent to which the overall content and the details of a media message seem accurate and representative of the viewer's perception of reality.	Andsager et al. (2001), Pinkleton et al. (2010), Kupersmidt et al. (2012)
Perceived marginalization of the Muslim community	Extent to which the overall content and the details of a media message present the Muslim community as being excluded or discriminated compared to other communities.	Silke (2008), Mitts (2017)
Critical thinking about media content	Individual, inquiry-based competence that helps people make connections between multiple ideas, ask pertinent questions, identify fallacies, and formulate their own responses to sensationalist and persuasive content.	Anderson (1983), Thoman and Jolls (2004), Jeong et al. (2012), Peek and Beresin (2016), Radanielina Hita et al. (2018)
Legitimization of radical behaviors	Extent to which individuals actively or passively approve the use of extreme means to defend the interests or values of a group, religion, or community.	Bhui et al. (2014), Braddock (2015), Ozer and Bertelsen (2018), Trip et al. (2019)
Additional constructs within the simplified process model		
Self-identification with the content	Extent to which viewers identify themselves with the message and wish to get closer to the people portrayed in it.	Austin (2007), Pinkleton et al. (2010), Kupersmidt et al. (2012), Elmore et al. (2017)
Desire for revenge against institutions	Strong willingness to seek retributive satisfaction against ineffective social institutions.	Aquino et al. (2006), Grégoire et al. (2010), Liberman and Skitka (2017), Legocki et al. (2010)

TABLE 2
Validity and Reliability Measures

Construct scale (items)	Study 1				Study 2				Heterotrait-Monotrait Ratio (HTMT) ¹						
	α^2	rho_A	CR ³	AVE ⁴	α	rho_A	CR	AVE	1	2	3	4	5	6	7
1. Emotional attractiveness (4)	.76	.83	.84	.57	.68	.75	.80	.51		.55	.48	.43	.09	.66	.07
2. Perceived realism (4)	.67	.72	.80	.50	.72	.73	.83	.55	.75		.70	.31	.06	.75	.09
3. Perceived marginalization of the Muslim community (5)	.75	.77	.83	.51	.77	.78	.85	.53	.38	.66		.65	.05	.67	.08
4. Critical thinking (4)	.90	.94	.93	.76	.87	.94	.91	.71	.28	.32	.45		.06	.43	.08
5. Legitimization of radical behaviors (6)	.89	.90	.92	.65	.89	.92	.91	.63	.34	.48	.57	.30		.07	.41
6. Self-identification (5)	-	-	-	-	.77	.77	.84	.52	-	-	-	-	-		.06
7. Desire for revenge (5)	-	-	-	-	.90	.92	.93	.71	-	-	-	-	-	-	

¹ A measurement tool of discriminant validity

² Cronbach's alpha

³ Composite Reliability

⁴ Average Variance Extracted

TABLE 3
Descriptive Statistics and Correlation Matrix

Construct scale (items)	Study 1			Study 2			Correlations							
	M	SD	SRAVE ¹	M	SD	SRAVE	1	2	3	4	5	6	7	8
1. Emotional attractiveness (4)	4	1.1	.76	4.4	1.1	.71		.39**	.32**	.20**	-.05	.43**	.08	-.06
2. Perceived realism (4)	4	1	.70	4.3	1.1	.74	.52**		.52**	.25**	-.08	.56**	-.13	.01
3. Perceived marginalization of the Muslim community (5)	4.6	.9	.71	4.5	1	.73	.27**	.46**		.53**	.03	.52**	.11	.06
4. Critical thinking (4)	6.2	.8	.87	5.2	1.3	.84	.22**	.24**	.36**		.12	.35**	.16	.03
5. Radical behaviors (6)	4.2	1.1	.80	4.4	1.1	.79	.27**	.38**	.47**	.26**		-.08	.37**	.14
6. Self-identification (5)	-	-	-	4.7	1.1	.72	-	-	-	-	-		-.07	.03
7. Desire for revenge (5)	-	-	-	3.7	1.3	.84	-	-	-	-	-	-		-.03
8. Age	20.3	1.6	-	21.6	2.1	-	.05	.01	.1	.04	.1	-	-	

¹ Square root of the average variance extracted.

Note 1: The correlations of Study 1 (Study 2) are presented in the lower (upper) diagonal triangle.

Note 2: Flagged correlations are those that are significant ($p < 0.01$; two-tailed distribution).

TABLE 4
Summary of Hypotheses and Results

	Study 1	Study 2
H1a): The impact of emotional attractiveness of the message on the legitimization of radical behaviors is mediated by the perceived realism of the radical content.	Confirmed	<i>N/A</i>
H1b): The impact of emotional attractiveness of the content on the legitimization of radical behaviors is mediated by the perceived marginalization of the Muslim community.	Confirmed	
H2a): Critical thinking about media content has an amplifying effect on the perceived realism of the radical content.	Not supported	Confirmed
H2b): Critical thinking about media content has an amplifying effect on the perceived marginalization of the Muslim community.	Confirmed	Confirmed
H3a): Critical thinking interacts with emotional attractiveness of the message to predict its perceived realism such as the amplifying effect of critical thinking on perceived realism decreases as emotional attractiveness increases.	Confirmed	Not supported
H3b): Critical thinking interacts with emotional attractiveness of the message to predict perceived marginalization of the Muslim community such as the amplifying effect of critical thinking on perceived marginalization of the Muslim community decreases as emotional attractiveness increases.	Confirmed	Not supported
H4a): The effect of emotional attractiveness of the message on the legitimization of radical behaviors is explained by a double mediation involving perceived realism of the content and desire for revenge against institutions.	<i>N/A</i>	Not supported
H4b): The effect of emotional attractiveness of the message on the legitimization of radical behaviors is explained by a double mediation involving the perceived marginalisation of the Muslim community and desire for revenge against institutions.		Confirmed

TABLE 5
Summary of Findings Related to Control Variables

	Study 1	Study 2
Age	<i>does not explain enough variance in any dependent variable</i>	PCCM (.067 [.07])
Gender²	Perceived Realism (.206 [.06]) Perceived Marginalization of the Muslim Community (PMMC) (.239 [.06]) Legitimization of Radical Behaviors (-.254*)	Perceived Realism (.099**)
Muslim Christian Atheist	PMMC (.156 [.09]) Legitimization of Radical Behaviors (.238*) PMMC (-.179 [.09]) Legitimization of Radical Behaviors (.191*)	PMMC (.096*) Self-Identification (.072*)

² Binary variable (men:0, women :1). Standardized coefficients are presented for women.

FIGURE 1 a)

A Simplified Model of Radical Behavior Legitimization

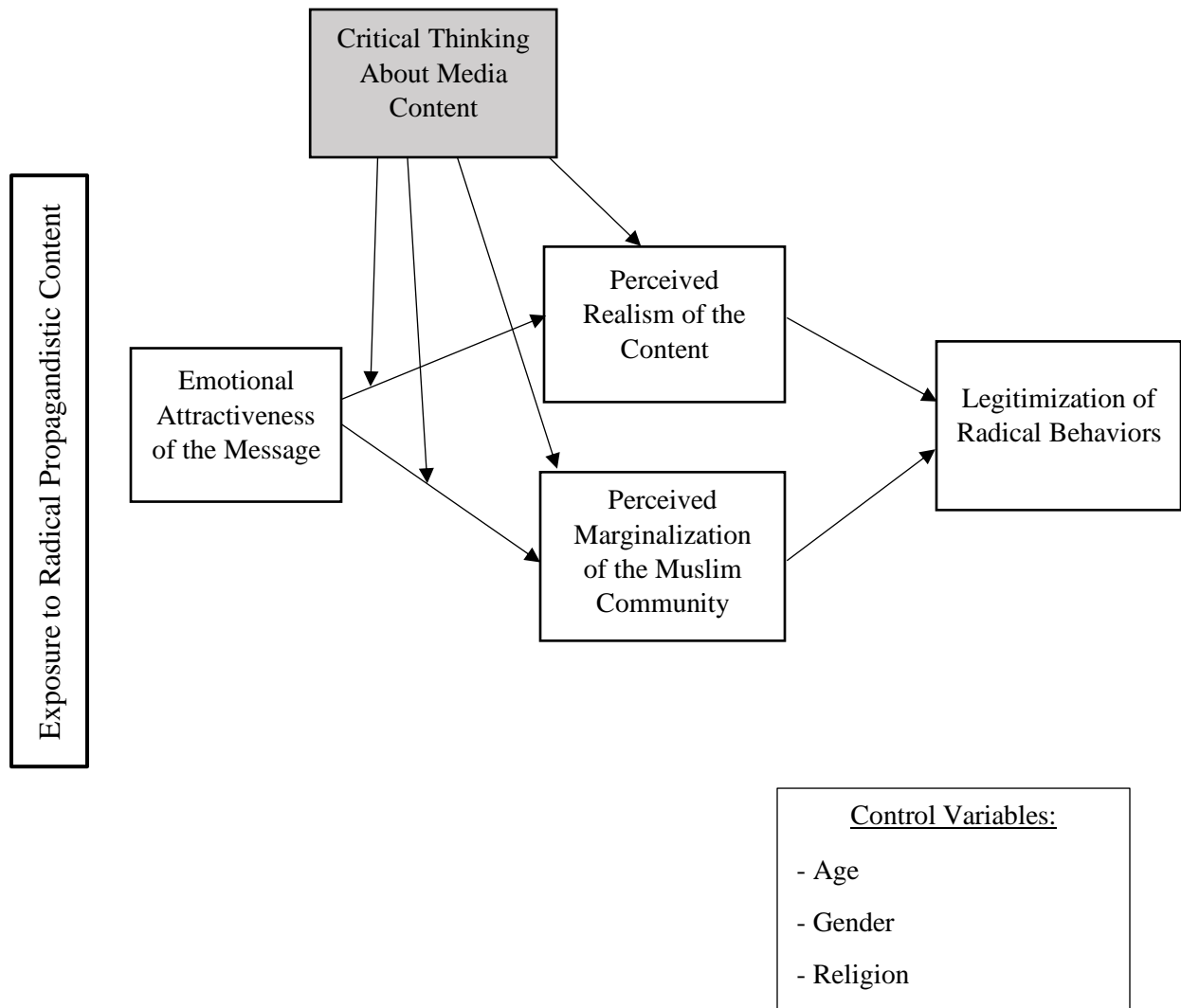


FIGURE 1 b)

An Extended Model of Radical Behavior Legitimization

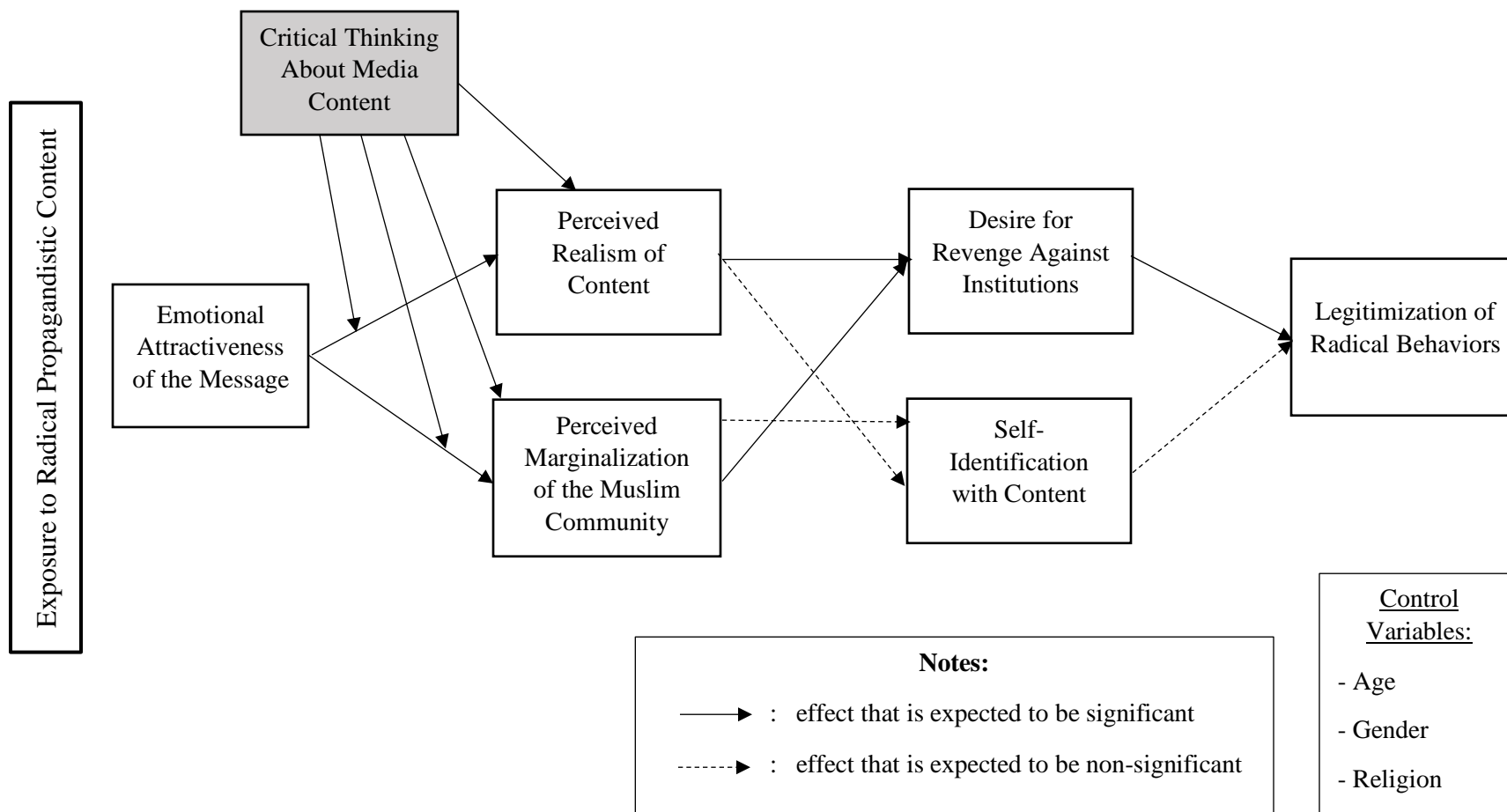
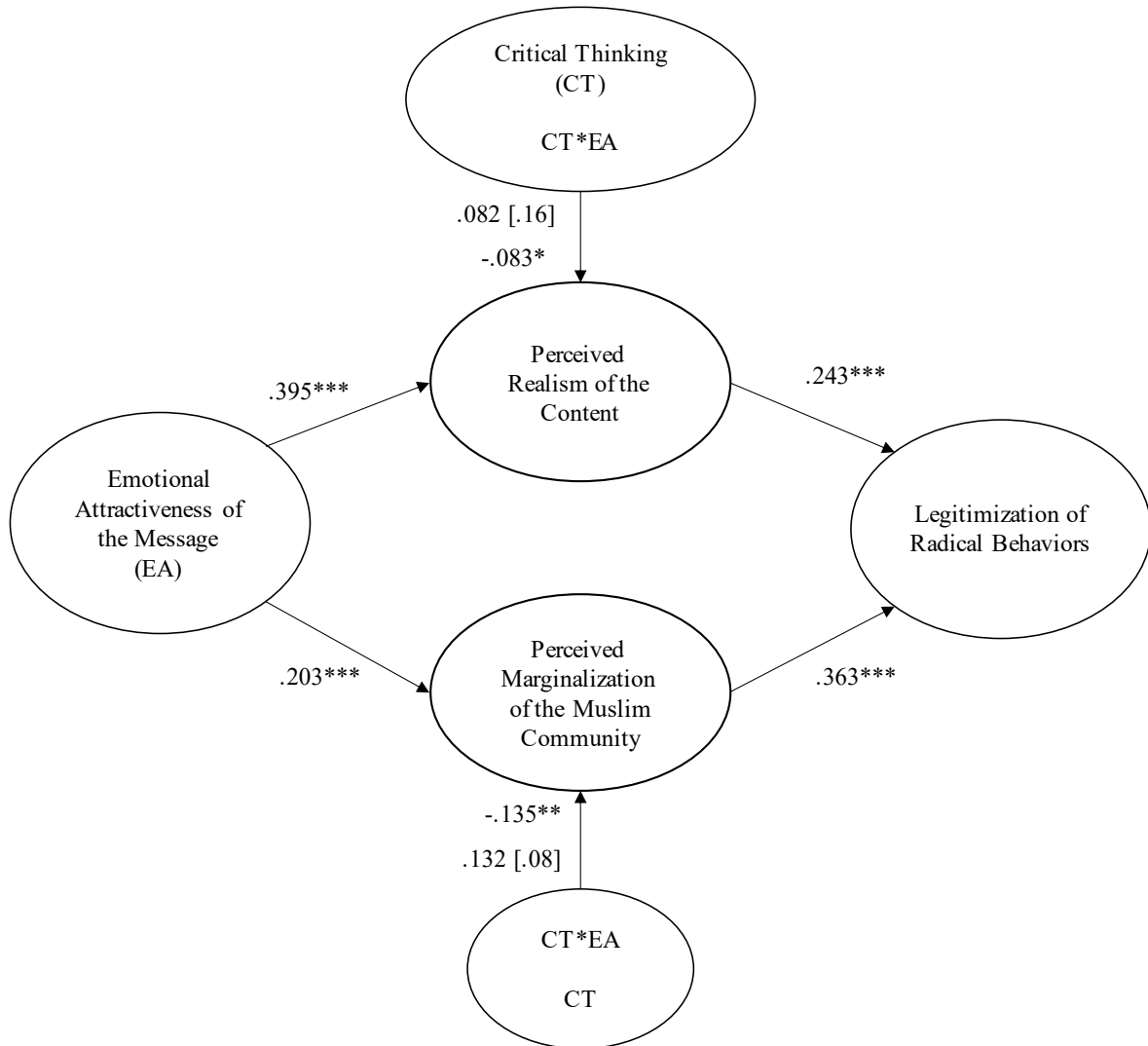


FIGURE 2: PLS MODELS

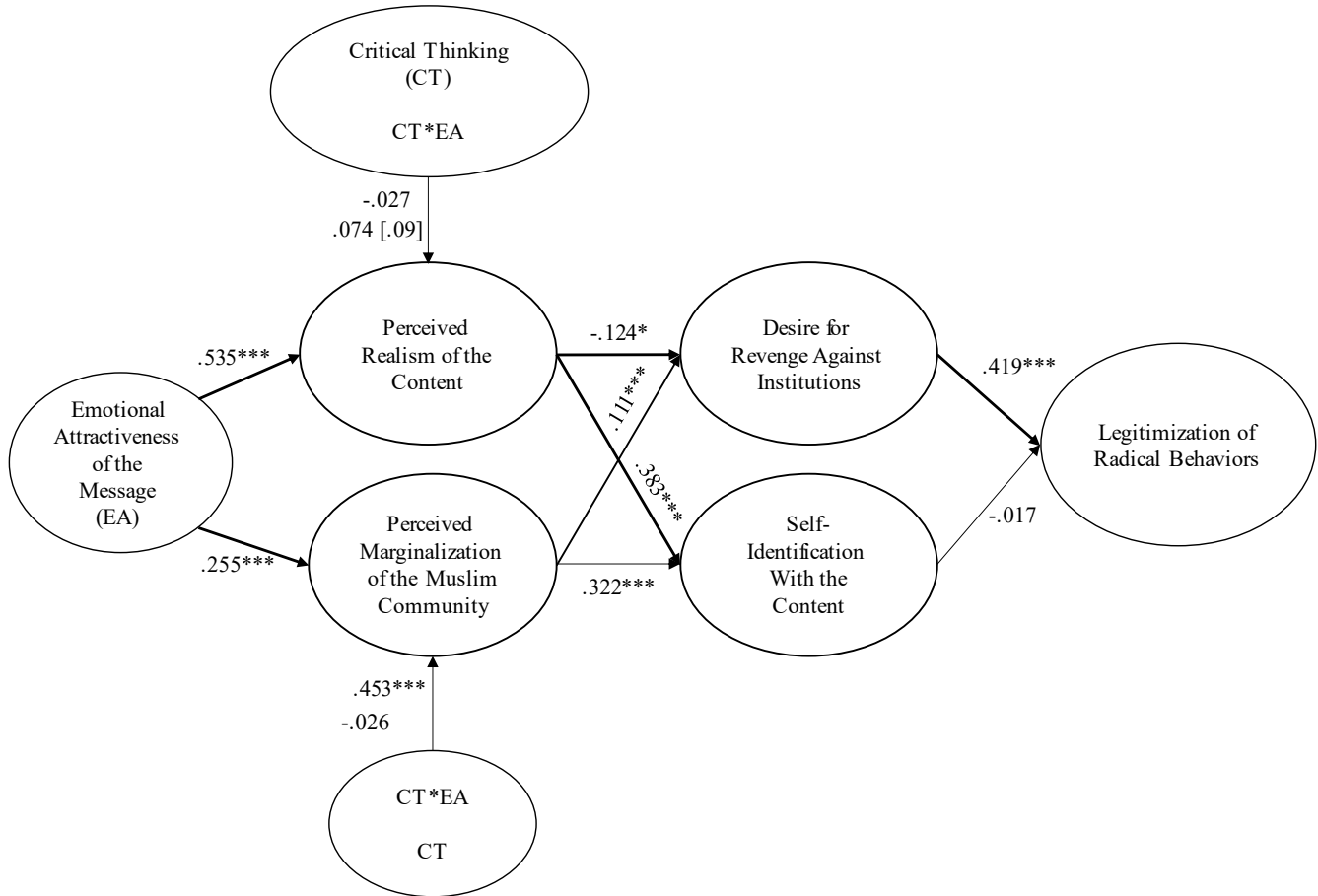
a) Study 1: Cross-Sectional Design, Francophone Sample



Notes:

- Control variables (age, gender, and religion) are not graphically represented because some explain minimal variance of dependent variables, however significant impact of others is represented in Table 4.
- $p < .05$; $** p < .01$; $*** p < .001$ (two-tailed distribution). *P-value* of marginally significant results are reported in brackets.

b) Study 2: Multi-Stage Design, USA Sample



Notes:

- Control variables (age, gender, and religion) are not graphically represented because some explain minimal variance of dependent variables, however, significant the impact of others is represented in Table 4.
- $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed distribution). *P-value* of marginally significant results are reported in brackets.

FIGURE 3

**Interaction between Emotional Attractiveness (EA) of the Message and Critical Thinking
in Predicting Perceived Realism of Radical Content**

Perceived Realism of Radical Content

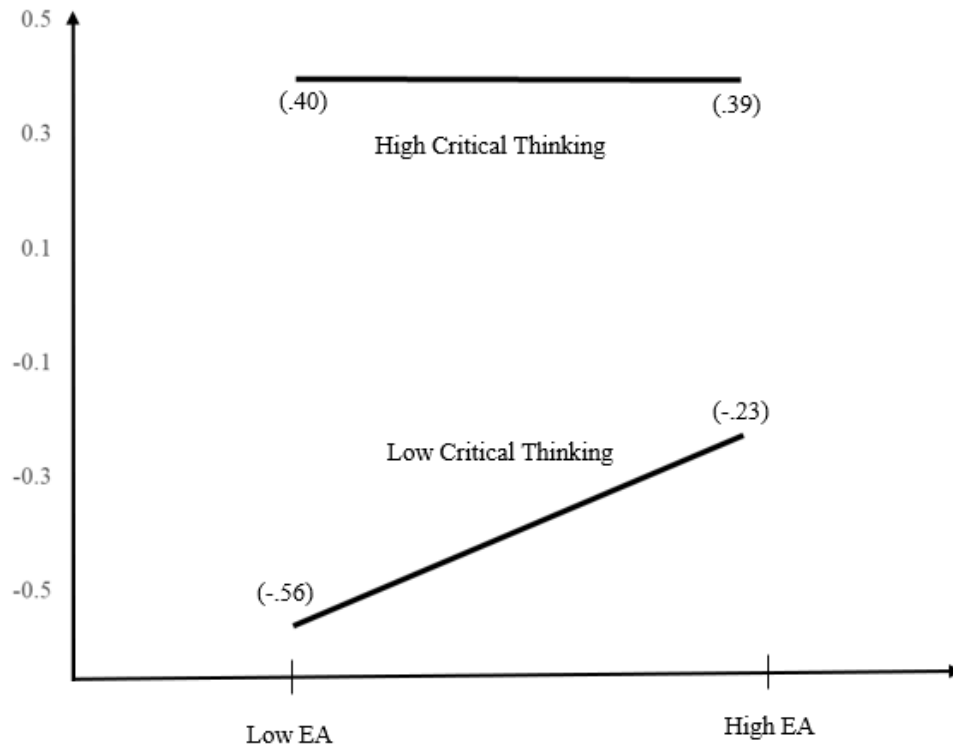
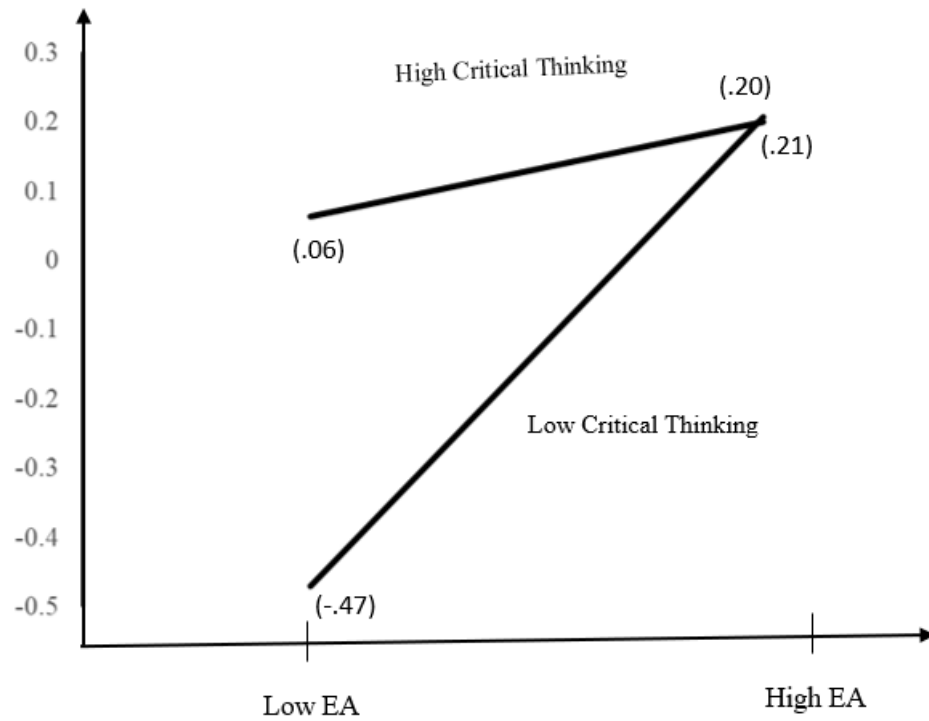


FIGURE 4

**Interaction between Emotional Attractiveness (EA) of the Message and Critical Thinking
in Predicting Perceived Marginalization of the Muslim Community**

Perceived Marginalization of the Muslim Community



APPENDIX A

Measurement Scales

Emotional Attractiveness of the Message (Study 1: average variance extracted (AVE) = .57; composite reliability (CR) = .84; alpha = .76) (Study 2: AVE = .51; CR = .80, alpha = .68)

Well-produced pictures/posters get my attention.

I find the messages presented in the pictures interesting.

I find the pictures presented above appealing.

The messages presented in the pictures get my attention.

Perceived Realism of the Message (Study 1: AVE = .50; CR = .80; alpha = .67) (Study 2: AVE = .55; CR = .83, alpha = .72)

The picture presented are:

... realistic sources of information for how members of the Muslim community live in Western countries.

... realistic sources of information for how members of the Muslim community live in other countries.

... realistic sources of information about why young people seek to distance themselves from the culture they live in (e.g. French, Canadian, USA).

... quite timely.

Perceived Marginalization of the Muslim Community (Study 1: AVE = .51; CR = .83; alpha = .75) (Study 2: AVE = .53; CR = .85, alpha = .77)

The majority of people (my age) with a Muslim background:

... have looked for information about Islam online.

... who are living in Western countries perceive that they are treated unfairly.

... feel frustrated because of the way their cultural group is perceived.

... are attached to their culture.

Compared to other cultural groups, Muslims living in Western countries are treated less well.

Critical Thinking About Media Content (Study 1: AVE = .76; CR = .93; alpha = .90) (Study 2: AVE = .71; CR = .91, alpha = .87)

I think about things I read online (e.g.: Facebook, Twitter, other apps) before I accept them as believable.

It is important to think twice about what you hear in the media.

It is important to think twice about what you read online (e.g.: Facebook, Twitter, other apps).

I look for more information before I believe something I read online (e.g.: Facebook, Twitter, other apps).

Self-Identification with the Message (Study 2: AVE = .52; CR = .84, alpha = .77)

I would like to express my identification with my cultural group by acting on the messages presented.

I wish I could help improve the situation of cultural groups (e.g. Muslims).

I wish I could help defend the cultural groups in our country.

I wish I could feel closer to my own cultural group.

I wish I could feel closer to the culture I live in (e.g. French, Canadian, USA).

Desire for Revenge Against Institutions (Study 2: AVE = .71; CR = .93, alpha = .90)

Reading messages like those presented in the pictures above motivates me:

... to cause inconvenience to the institutions where I live.

... to get even with the institutions where I live.

... to punish the institutions in some way.

... to make institutions get what they deserve.

... to take actions to get institutions in trouble.

Legitimization of Radical Behaviors (Study 1: AVE = .65; CR = .92; alpha = .89) (Study 2: AVE = .63; CR = .91, alpha = .89)

I can understand that under some circumstances:

...some people may take actions to protect their community against what they perceive as unfair treatment of them.

... some people may take actions to protect their family against what they perceive as unfair treatment of them.

... some people may take actions to protect their religion.

... some people may take actions to defend their community's honor against what they perceive as unfair treatment of them.

If a prominent member of a cultural (minority) group is insulted, then I can understand that members of that cultural group would defend that person's honor by any means.

If the prophet Muhammad were seriously insulted in a Western newspaper, I would understand some members of the Muslim community taking strong actions to defend his honor.

APPENDIX B

Radical Propaganda Content Participants Were Exposed To



France 2017 : un panneau public
de la ville de [redacted] interdit
l'accès aux femmes voilées et aux
chiens

[Translate from French](#)



9:45 pm · 27 Jun 17

Translation: France 2017: A Public Sign in the City of [...] Prohibits Access to Veiled
Women and Dog

