

Role of Students' Media Literacy on Their Health: A Narrative Review

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ABSTRACT

Introduction: Media literacy can be considered as strengthening media experiences. The media has a great impact on the health of people, including children. However, so far this issue has been understudied and scientific evidence is needed to make a decision. This study aimed to investigate roles of students' media literacy on their health.

Methods: This study is a literature review with systematic search. Different electronic databases were used for a comprehensive literature search, including MEDLINE, Web of Science, CINAHL, PsycINFO, Scopus, Google Scholar, Cochrane Register of Controlled Trials and EMBASE to identify the records that match the mentioned inclusion criteria published from January 1st of 1990 to December 2020. The search resulted in 32 articles, of which 22 articles were removed (3 were not available, 12 were irrelevant, 7 were duplicates). Ten articles met the selection criteria and were included in the review. Exclusion criteria were those not published in peer reviewed journals, articles that address only one of the topics of media literacy or student health, and the age group of the subjects was over 18 years old or the students were not studied in primary and high school.

Results: This study showed that media literacy is effective on students' behaviors. These behaviors promote health or high-risk behaviors. The main studies have been conducted on nutrition, obesity, health tips, smoking, drug addiction and alcohol consumption.

Conclusion: It is concluded that the media has a great role in the health of students and this issue has been proven in previous studies. These effects both improve students' health and increase risky behaviors. Therefore, there is enough evidence for managers to decide to launch.

Keywords: Media literacy, Student, Children, Health

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Introduction

From the past until now, the media has come forward with the advancement of technology(1). Today we are in the age of information explosion and in this age in the global village all the people of the planet can communicate with each other through the media(2). Every society has a degree of media literacy about health and each member of society has their own level of media literacy(3). The media are the biggest educators, especially in the field of health in today's societies(4).

Media literacy can be considered as strengthening media experiences(5). Media literacy in a very general definition is a kind of skill-based perception based on which the types of media and their types of products can be identified and distinguished from each other(6). This type of literacy; by empowering people to understand how media works and how to make sense of them, the nature and purpose of producing media messages and the effects and techniques of various media, it takes them out of mere consumption and makes him resistant to the effects of media today(7).

Critical health literacy can be a concept in areas related to other important structures(8). Nevertheless, the key focus is on the interaction between individuals and health information and how to use information at the individual and collective levels to achieve health-promoting outcomes(9). In general, whether with a critical approach or even without it, neither health literacy concepts nor research nor media literacy seem sufficient to explain how people view health-related content(10). Interpret in the mass media are not comprehensive. In the meantime, having critical thinking skills in interpreting and analyzing health-related content in the media is vital(11). The concept of health media literacy with a critical approach can be the result of combining concepts such as critical media literacy and critical health literacy(12). Conceptual development will lead to the development and application and especially critical media literacy of health and its processes in different groups (adolescents, students, adults, women, etc.)(13). Media health literacy based on a

combination of health literacy and media literacy are two basic concepts for understanding the scope and importance of media health literacy(14, 15). The concept of media health literacy is unique because it not only considers the information provided to individuals through the media to provide health guidance, but also includes the content of implicit and explicit mass media, usually by the system(15). Health products are produced, and can be health promoters, as well. But the priority is that media health literacy must take a critical approach(16). Research in this field has addressed issues such as the need for health media literacy training, health media literacy and social justice, and ways to promote health literacy in society(17).

The need for media literacy for students who deal with all kinds of media most of the day, but this does not mean that they understand well what they see and hear. It can be said that most students do not know at all what the function of the media is and how it will affect them(18). That is why "media literacy" is so important. Of course, media is not limited to mobile phones and the Internet; But newspapers, magazines, television, and computer games all fall into the category of media, and students must face them with full awareness; In fact, media literacy is the ability to encode and decipher the symbols in the media and analyze them(19). Since adolescents are among the groups in society that are most affected by the media in the field of health, given the importance of the issue and the extraordinary role of the media in adolescent health and in order to respond and identify the dimensions and components of media health literacy. The purpose of this study was to review the effect of media literacy on students' health.

Methods

This study was a narrative review. Different electronic databases were used for a comprehensive literature search, including MEDLINE, Web of Science, Scopus, Google Scholar, CINAHL, PsycINFO, Cochrane Register

of Controlled Trials and EMBASE to identify the records that match the mentioned inclusion criteria.

Articles must meet the following conditions to be included:

- Articles should be published between January 1st 1990 and end of December 2020.
- Articles should be peer reviewed and available through public search.
- Articles should be about health of students and media literacy.

Exclusion criteria are including:

- Manuscripts those not published in peer reviewed journals (such as grey literature)
- Articles that address only one of the topics of media literacy or student health.
- The age group of the subjects was over 18 years old or the students were not studied in primary and high school.
- The language of publication of the article was other than Persian or English.
- The full text of the article is not available.

All articles are covered with different methods such as quantitative, qualitative, and mix methods. The main search terms were 'media literacy', 'students', and 'health'. Four types of data were extracted from the qualified studies including authors, year, findings, and roles of media literacy on health determinants. Studies were included in the literature reviews those were published in peer review journals in Farsi or English languages. In the selection process were participated three authors and an Endnote software was used to data extraction. The analysis was conducted by narrative format. The search resulted in 32 articles, of which 22 articles were removed (3 were not available, 12 were irrelevant, 7 were duplicates). Ten articles met the selection criteria and were included in the review. The flow diagram of selection is shown in Figure 1.

Results

In the review, ten articles were found that their characteristics are shown in Table 1.

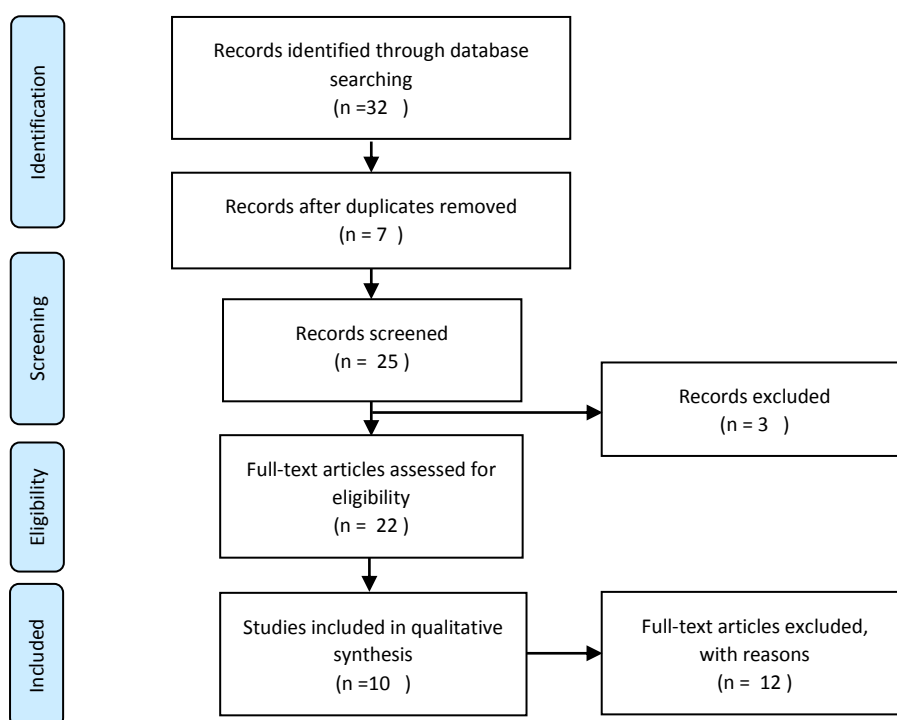


Figure 1. Flow diagram for included articles in review

Table 1. Characteristics of reviewed articles

Authors	Year	Finding	Role of media literacy on health determinants
Kes et al., 2020 (20)	2020	It was found in this study that the media literacy of obese students was at a medium level, and that media literacy affected their attitudes and beliefs regarding obesity.	Obesity
Yang z.C., et al. 2020(21)	2020	Moreover, students with lower MM media literacy were more likely to be dietary supplement users, to take dietary supplement more frequently, and to have higher intentions for future frequent dietary supplement use. Finally, those who placed extreme importance on health were more likely to take dietary supplement frequently and have higher intentions for future frequent dietary supplement use.	Using dietary supplement
Nordheim et al. (22)	2019	When interpreting the skill to request relevant information as expressing students' proficiency in critical appraisal of health claims, It was found that only students with very high proficiency in science possessed that skill.	Appraising health claims
Nurjanah et al. (23)	2017	They were very easy to access online health information but had difficulties to evaluate the right and trusted health information.	Appraising health claims
Bier et al. (24)	2016	Smoking media literacy levels for middle school students were similar to those of high school students in earlier studies.	Smoking
Gordon et al. (25)	2016	The program significantly increased media literacy skills and understanding of persuasive intent. An Australian alcohol media literacy program for upper-primary school children appears feasible, and has potential to lead to measurable outcomes.	Alcohol consumption
Draper et al. (26)	2015	Participants significantly increased their: preferences for non-alcohol-related advertisements, ability to identify advertising techniques, media deconstruction skills, negative opinions about drinking and smoking behaviors, and significantly decreased their positive perceptions of cigarette and alcohol content in advertising.	Alcohol and drug addiction
Primack et al. (27)	2014	A school-based media literacy curriculum is more effective than a standard educational program in teaching media literacy and improving perceptions of the true prevalence of smoking among adolescents.	Smoking
Page et al. (28)	2010	The association of SML with reduced smoking suggests the need for further research involving SML, including the testing of media literacy training interventions, in Vietnamese adolescents and also other populations of adolescents.	Smoking
Primack et al. (29)	2009	High smoking media literacy is independently associated with lower odds of smoking.	Alcohol and drug addiction

Smoking: It was found in the literature review that media literacy is effective on students' smoking. If effective media programs are designed to address the dangers of smoking, it will reduce smoking among students. It was also found that negative media patterns promoting smoking would increase students' smoking.

Alcoholism: The reviewed studies showed that the design of interventions to reduce alcohol and drug use is also effective in changing students' behavior. They recommended that programs should be flexible, informative, engaging, age-relevant and engaging.

Obesity: One article found that the media literacy of obese children was moderate. This article suggests that the visual media should broadcast short educational videos at regular intervals on obesity prevention. Another article found that students with less media literacy used more dietary supplements at shorter intervals. It was also found that people with less media literacy are more likely to consume more of these drugs in Taiwan in the future.

Appraising health claims: Another article found that students with more media literacy were more likely to research health-related topics and use credible sources. Therefore, it is suggested that different resources be used for research for the use of students. On the other hand, students with less media literacy had difficulty in distinguishing right from wrong, and it was suggested that students' media literacy be increased through social media, and that capacity building be done in this regard.

Discussion

This study showed that as media literacy increases, students' positive behaviors that lead to better health increase. On the other hand, low media literacy has shown to be riskier behaviors by students. In other words, students who engage in high-risk behaviors, such as smoking, have moderate to low media literacy. Therefore, it can be said that media literacy education can be a useful strategy to promote students' health. In the past, more theoretical evidence was presented to prove this point, and fewer programs were evaluated. However, this literature review shows the importance of media literacy education by examining the evaluations of interventions in this regard(30). In this review, we used peer-reviewed articles to examine the impact of media literacy education on students' health. Due to the novelty of this topic, there were few articles in this regard to be reviewed. Therefore, the literature review was done with ten articles. The greatest emphasis in this study was on the determinants of students' health that has been affected by media literacy.

Health professionals have used a variety of strategies to regulate the effect of media on

health(21, 31-33). These include legislation on media content, reducing children's access to media, and forcing social networks to set specific rules for children. However, media literacy training seems to be essential, especially in the last twenty years(34-38).

Our study showed that media literacy had a reverse association with obesity of students. Studies have discovered that the pervasiveness of stoutness among college understudies is expanding for such reasons as an expansion in the utilization of inexpensive food type prepared meals, missing dinners, an expansion in physical and passionate stressors, insufficient actual work, and investing the greater part of their free energy(14, 20, 39-42). Corpulence causes cardiovascular sickness, diabetes, hypertension, illnesses of the musculoskeletal framework, and a few kinds of malignant growth, making youngsters helpless to these infections or making them strike prior, consequently lessening the nature of life. In expansion, stoutness can likewise cause psychosocial issues, for example, a deficiency of confidence, despondency, or a withdrawal from social relations. Consequently, anticipation of stoutness in youngsters is significant to make a solid age of youngsters and grown-ups(43-48).

Other finding of our study was role of media literacy on tobacco, drug, and alcohol prevention. Since the improvement of these projects, notwithstanding, the methodology of 'media literacy' as an anti-tobacco device has been suggested by associations, for example, the American Academy of Pediatrics, the Centers for Disease Control and Prevention and the Office of National Drug Control Policy(22, 49-51). These proposals have been a result of the revelation that media introduction to smoking contributes emphatically to commencement of juvenile smoking, regardless of whether that presentation happens in account settings, for example, films or in powerful settings, for example, publicizing and advancement(52-59). Albeit one technique for decreasing young adult smoking is lessening presentation to media portrayal of smoking, it isn't

generally conceivable as well as achievable to do this(60-68).

Many researchers agree that the media is the greatest educator in today's society(69). A person today spends a lot of time using the media. Therefore, the content of these media should be considered in various fields, especially health. Improving media literacy means that people are aware of how to get the positives from the media and identify the negatives as well. The impact of the media and how the concept of media literacy can reduce the negative effects of the media should be considered in matters related to health such as nutrition, drugs, stress, etc. For example, poor diet can have long-term effects on people's health.

In general, media literacy has a great impact on students' behavior. These behaviors will manifest themselves in society as a collective behavior and lifestyle. Given the life expectancy of students, they will live in the community for many years, so investing in media literacy can be invaluable. To promote media literacy for student health can suggest teaching students to evaluate and analyze media, Introducing correct and valid information and content to students, teaching about the function of the media and its effect on health, and encouraging students to participate in the creation of appropriate content for the media as well as the media.

References

- 1.Campos I. Not too young to learn about the news: Best formats to educate about journalism in digital platforms. *International Journal of Child-Computer Interaction*. 2021;27.
- 2.Datu JAD, Ping Wong GS, Rubie-Davies C. Can kindness promote media literacy skills, self-esteem, and social self-efficacy among selected female secondary school students? An intervention study. *Computers and Education*. 2021;161.
- 3.Abdulai AF, Tiffere AH, Adam F, et al. COVID-19 information-related digital literacy among online health consumers in a low-income country. *International Journal of Medical Informatics*. 2021;145.
- 4.Manca S, Bocconi S, Gleason B. el al: A glocal approach to the development of social media literacy. *Computers and Education*. 2021;160.
- 5.Bombardelli O. Digital Citizenship and Life Long Learning. *Advances in Intelligent Systems and Computing*2021. p. 817-26.
- 6.Ho KHM, Smith GD. A discursive paper on the importance of health literacy among foreign domestic workers during outbreaks of communicable diseases. *Journal of Clinical Nursing*. 2020;29(23-24):4827-33.
- 7.McKenna VB, Sixsmith J, Barry MM. The relevance of context in understanding health literacy skills: Findings from a qualitative study. *Health Expectations*. 2017;20(5):1049-60.

Conclusion

This study showed that media literacy has a effect on students' behaviors (promote health or high-risk behaviors the main studies have been conducted on nutrition, obesity, health tips, smoking, drug addiction and alcohol consumption.

It is suggested that policy makers and decision makers increase their media literacy to prevent social harm among students. Also, through attractive media programs, reduce their risky behaviors and identify alternatives. It seems that due to the emergence of this issue, more research is needed in this regard.

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Conflict of interest

Authors declare no conflict of interest.

Author Contributions

Conceptualization, L.M.; methodology, L.M., H.E. and A.A.; formal analysis, L.M.; writing—original draft preparation, L.M.; writing—review and editing, H.E.; review,A.A. All authors have read and agreed to the published version of the manuscript.

8. Ray AE, Greene K, Pristavec T et al. Exploring indicators of engagement in online learning as applied to adolescent health prevention: a pilot study of REAL media. *Educational Technology Research and Development*. 2020;68(6):3143-63.
9. Joshi GC, Paul M, Kalita BK, et al. Mapping the social landscape through social media. *Journal of Information Science*. 2020;46(6):776-89.
10. Rohlfing KJ, Müller-Brauers C. Introduction to international perspectives on digital media and early literacy. *International Perspectives on Digital Media and Early Literacy: The Impact of Digital Devices on Learning, Language Acquisition and Social Interaction* 2020. p. 1-4.
11. Aiman U, Hasyda S, Uslan. The influence of process oriented guided inquiry learning (POGIL) model assisted by realia media to improve scientific literacy and critical thinking skill of primary school students. *European Journal of Educational Research*. 2020;9(4):1635-47.
12. Chaparro-Escudero M, Espinar-Medina L, El Mohammadiane-Tarift Á. Non-formal education in Media Literacy and the qualitative results performance indicators. *Research applied to the Press Reading and Media Literacy Promotion Plan in Andalucía. Estudios Sobre el Mensaje Periodístico*. 2020;26(4):1353-69.
13. Nugraha MA, Banglali NP, Abraham J. Insights on media literacy and social engineering vulnerability predictors: Lifelong learning gravity. *Cypriot Journal of Educational Sciences*. 2020;15(5):955-75.
14. Li X, Liu Q. Social media use, eHealth literacy, disease knowledge, and preventive behaviors in the COVID-19 pandemic: Cross-sectional study on chinese netizens. *Journal of Medical Internet Research*. 2020;22(10).
15. Scharrer E, Warren S, Olson C, et al. Early adolescents' views of media ratings in the context of a media literacy program in the U.S. *Journal of Children and Media*. 2020;14(4):422-37.
16. Tugtekin EB, Koc M. Understanding the relationship between new media literacy, communication skills, and democratic tendency: Model development and testing. *New Media and Society*. 2020;22(10):1922-41.
17. Dore RA, Logan J, Lin TJ. Characteristics of Children's Media Use and Gains in Language and Literacy Skills. *Frontiers in Psychology*. 2020;11.
18. Murphy C, Gardoni P. Assessing capability instead of achieved functionings in risk analysis. *Journal of Risk Research*. 2010;13(2):137-47.
19. Hobbs R. *Media literacy in action: Questioning the media*: Rowman & Littlefield Publishers; 2021.
20. Kes D, Aydin Yildirim T. The Relation between Levels of Media Literacy and Attitudes and Beliefs Concerning Obesity in University Students. *Social Work in Public Health*. 2020;35(8):645-54.
21. Yang SC, Hsu WC, Chiang CH. The associations among individual factors, media literacy, and dietary supplement use among college students: Cross-sectional study. *Journal of Medical Internet Research*. 2020;22(8).
22. Nordheim LV, Pettersen KS, Espehaug B, et al. Lower secondary school students' scientific literacy and their proficiency in identifying and appraising health claims in news media: A secondary analysis using large-scale survey data. *BMJ Open*. 2019;9(10).
23. Nurjanah, Soenaryati S, Rachmani E. Media use behavior and health literacy on high school students in Semarang. *Advanced Science Letters*. 2017;23(4):3493-6.
24. Bier MC, Zwarun L, Sherblom SA. Evidence of the Value of the Smoking Media Literacy Framework for Middle School Students. *Journal of School Health*. 2016;86(10):717-25.
25. Gordon CS, Jones SC, Kervin L, et al. Empowering students to respond to alcohol advertisements: Results from a pilot study of an Australian media literacy intervention. *Australian and New Zealand Journal of Public Health*. 2016;40(3):231-2.
26. Draper M, Appregilio S, Kramer A et al. Educational intervention/case study: Implementing an elementary-level, classroom-based media literacy education program for academically at-risk middle-school students in the non-classroom setting. *Journal of Alcohol and Drug Education*. 2015;59(2):12-24.
27. Primack BA, Douglas EL, Land SR. Comparison of Media Literacy and Usual Education to Prevent Tobacco Use: A Cluster-Randomized Trial. *Journal of School Health*. 2014;84(2):106-15.
28. Page RM, Huong NT, Chi HK, Tien TQ. Smoking Media Literacy in Vietnamese Adolescents. *Journal of School Health*. 2011;81(1):34-41.
29. Primack BA, Sidani J, Carroll MV, Fine MJ. Associations between smoking and media literacy in college students. *Journal of Health Communication*. 2009;14(6):541-55.

30. Bulger M, Davison P. The promises, challenges, and futures of media literacy. *Journal of Media Literacy Education*. 2018;10(1):1-21.
31. Tully M, Vraga EK, Bode L. Designing and Testing News Literacy Messages for Social Media. *Mass Communication and Society*. 2020;23(1):22-46.
32. Truman E, Elliott C. Health-promoting skills for children: Evaluating the influence of a media literacy and food marketing intervention. *Health Education Journal*. 2020;79(4):431-45.
33. Truman E, Bischoff M, Elliott C. Which literacy for health promotion: health, food, nutrition or media? *Health promotion international*. 2020;35(2):432-44.
34. Smith JA, Merlino A, Christie B, et al. Using social media in health literacy research: A promising example involving Facebook with young Aboriginal and Torres Strait Islander males from the Top End of the Northern Territory. *Health Promotion Journal of Australia*. 2020.
35. Sharma MK, Anand N, Vishwakarma A, et al. Mental health issues mediate social media use in rumors: Implication for media based mental health literacy. *Asian Journal of Psychiatry*. 2020;53.
36. Scull TM, Malik CV, Morrison A, et al. Study protocol for a randomized controlled trial to evaluate a web-based comprehensive sexual health and media literacy education program for high school students. *Trials*. 2020;21(1).
37. Rommer D, Majerova J, Machova V. Repeated covid-19 pandemic-related media consumption: Minimizing sharing of nonsensical misinformation through health literacy and critical thinking. *Linguistic and Philosophical Investigations*. 2020;19:107-13.
38. Park H, Kim HS, Park HW. A Scientometric Study of Digital Literacy, ICT Literacy, Information Literacy, and Media Literacy. *Journal of Data and Information Science*. 2020.
39. Naderer B. Advertising Unhealthy Food to Children: on the Importance of Regulations, Parenting Styles, and Media Literacy. *Current Addiction Reports*. 2020.
40. Musso M, Pinna R, Trombin M, Carrus PP, editors. *Social Media to Improve Health Promotion and Health Literacy for Patients Engagement. Lecture Notes in Information Systems and Organisation*; 2020.
41. Mingoia J, Hutchinson AD, Gleaves DH, et al. Does Better Media Literacy Protect Against the Desire for Tanned Skin and Propensity for Making Appearance Comparisons? *Social Media and Society*. 2020;6(1).
42. Leung AYM, Molassiotis A, Zhang J, et al. Dementia literacy in the greater bay area, China: Identifying the at-risk population and the preferred types of mass media for receiving dementia information. *International Journal of Environmental Research and Public Health*. 2020;17(7).
43. Greene K, Ray AE, Choi HJ, et al. Short term effects of the REAL media e-learning media literacy substance prevention curriculum: An RCT of adolescents disseminated through a community organization. *Drug and Alcohol Dependence*. 2020;214.
44. Gordon CS, Rodgers RF, Slater AE, et al. A cluster randomized controlled trial of the SoMe social media literacy body image and wellbeing program for adolescent boys and girls: Study protocol. *Body Image*. 2020;33:27-37.
45. Bopp T, Stellefson M. Practical and ethical considerations for schools using social media to promote physical literacy in youth. *International Journal of Environmental Research and Public Health*. 2020;17(4).
46. Austin EW, Austin BW, Kaiser CK. Effects of Family-Centered Media Literacy Training on Family Nutrition Outcomes. *Prevention Science*. 2020;21(3):308-18.
47. Austin EW, Austin B, Kaiser CK, et al. A Media Literacy-Based Nutrition Program Fosters Parent-Child Food Marketing Discussions, Improves Home Food Environment, and Youth Consumption of Fruits and Vegetables. *Childhood Obesity*. 2020;16(S1):S33-S43.
48. Shinta AD, Salleh MAM, Ali MNS. Analysis of the moderating effect of media literacy on cervical cancer preventive behaviours. *Jurnal Komunikasi: Malaysian Journal of Communication*. 2019;35(1):156-70.
49. Riesmeyer C, Hauswald J, Mergen M. (Un)healthy behavior? the relationship between media literacy, nutritional behavior, and self-representation on instagram. *Media and Communication*. 2019;7(2 Critical Perspectives):160-8.
50. Pratiwi I, Andajani K, Putra AP. Promotion of media literacy for the early childhood's parents. *Indian Journal of Public Health Research and Development*. 2019;10(6):1421-4.
51. Oh HJ, Lee H. When Do People Verify and Share Health Rumors on Social Media? The Effects of Message Importance, Health Anxiety, and Health Literacy. *Journal of Health Communication*. 2019;24(11):837-47.

52. Mingoia J, Hutchinson AD, Gleaves DH, et al. The impact of a social media literacy intervention on positive attitudes to tanning: A pilot study. *Computers in Human Behavior*. 2019;90:188-95.
53. McLean SA, Wertheim EH, Marques MD, et al. Dismantling prevention: Comparison of outcomes following media literacy and appearance comparison modules in a randomised controlled trial. *Journal of Health Psychology*. 2019;24(6):761-76.
54. McGladrey M, Oliff M, Draper E. Re-envisioning media literacy education as feminist arts-activism. *Cultural Trends*. 2019;28(5):354-65.
55. Lichtveld MY, Covert HH, Sherman M, et al. Advancing environmental health literacy: Validated scales of general environmental health and environmental media-specific knowledge, attitudes and behaviors. *International Journal of Environmental Research and Public Health*. 2019;16(21).
56. Kim SH, Utz S. Effectiveness of a Social Media-Based, Health Literacy-Sensitive Diabetes Self-Management Intervention: A Randomized Controlled Trial. *Journal of Nursing Scholarship*. 2019;51(6):661-9.
57. Kendal E. Public health crises in popular media: How viral outbreak films affect the public's health literacy. *Medical Humanities*. 2019.
58. Holmberg C, Berg C, Dahlgren J, et al. Health literacy in a complex digital media landscape: Pediatric obesity patients' experiences with online weight, food, and health information. *Health Informatics Journal*. 2019;25(4):1343-57.
59. Halsall T, Garinger C, Dixon K, et al. Evaluation of a Social Media Strategy to Promote Mental Health Literacy and Help-Seeking in Youth. *Journal of Consumer Health on the Internet*. 2019;23(1):13-38.
60. Arshad A, Hanan MA, Saleem N, Farzooq S, Fatima R. Media and mental health literacy: Do mediated interventions enhance mental health awareness? implications and policy recommendations. *International Journal of Mental Health Promotion*. 2019;21(3):99-107.
61. Angeliqa F, Sarwono BK. Family disposition related to media literacy for advertisements of children's snacks in the media. *Jurnal Komunikasi: Malaysian Journal of Communication*. 2019;35(4):258-71.
62. Alonso Galbán P, Vialart Vidal N. Digital literacy program for the use of social media, aimed at health professionals. *Studies in Health Technology and Informatics* 2019. p. 1895-6.
63. Vahedi Z, Sibalis A, Sutherland JE. Are media literacy interventions effective at changing attitudes and intentions towards risky health behaviors in adolescents? A meta-analytic review. *Journal of Adolescence*. 2018;67:140-52.
64. Scull TM, Kupersmidt JB, Malik CV, et al. Using Media Literacy Education for Adolescent Sexual Health Promotion in Middle School: Randomized Control Trial of Media Aware. *Journal of Health Communication*. 2018;23(12):1051-63.
65. Scull TM, Kupersmidt JB, Malik CV, et al. Examining the efficacy of an mHealth media literacy education program for sexual health promotion in older adolescents attending community college. *Journal of American College Health*. 2018;66(3):165-77.
66. Oliveira A, Espanha R. Visibility of health literacy in the media: The Portuguese case. *Estudios Sobre el Mensaje Periodístico*. 2018;24(1):835-49.
67. Lin WY, Zhang X, Cao B. How Do New Media Influence Youths' Health Literacy? Exploring the Effects of Media Channel and Content on Safer Sex Literacy. *International Journal of Sexual Health*. 2018;30(4):354-65.
68. Li A, Huang X, Jiao D, et al. An analysis of stigma and suicide literacy in responses to suicides broadcast on social media. *Asia-Pacific Psychiatry*. 2018;10(1).
69. Macnamara JR. Media content analysis: Its uses, benefits and best practice methodology. *Asia Pacific public relations journal*. 2005;6(1):1-34.