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# Testing mental health awareness communication materials targeting first responders: an exploratory study

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**Introduction:** First responders may face significant challenges impacting their mental well-being, yet mental health services are historically underutilized due to barriers such as stigma, fear of consequences, and lack of occupationally competent programs. Effective communication strategies are essential to encourage help-seeking behavior among this group.

**Objective:** This research aimed to test campaign materials designed to motivate first responders to utilize mental health resources and gather data to inform the development of effective behavior change campaigns. **Method:** Using a cross-sectional survey, researchers assessed first responders' attitudes toward various mental health campaign materials. The survey included mental health advertisements and Likert-scale statements, allowing participants to prioritize advertising methods and rate their preferences for commonly used terminology.

**Results:** Out of 245 respondents, 149 completed at least 75% of the survey and were included in the analysis. The results showed that billboards were least effective in influencing information-seeking, while social media posts with real images and testimonials of first responders ranked highest. Respondents emphasized the importance of credibility, trust, and the use of real images in effective messaging. Social media and in-person visits were identified as the most effective ways to reach first responders. Terminology focused on resiliency and mental wellness was preferred over terms like "hero" and "warrior."

**Discussion:** Promoting mental health among first responders requires targeted communication strategies that resonate with their experiences. Strengths-based imagery and messaging, along with consistent mental wellness programs, are recommended to support first responders' mental health. Leadership within their organizations plays a crucial role in reinforcing these messages.

## KEYWORDS

first responder, mental wellness, advertising campaigns, marketing, mental health

## Introduction

First responders including firefighters, law enforcement officers, emergency medical technicians (EMTs)/paramedics, and dispatchers, may face unique challenges and stressors in their line of duty. Their roles often involve repeated exposure to traumatic events, demanding shift schedules, high-stakes decision-making, and personal risk, all of which can significantly impact mental health. First responders experience mental health concerns, including elevated

rates of post-traumatic stress disorder (PTSD), depression, anxiety, substance misuse, and suicidal ideation, at levels higher than the general population, a pattern well established in the literature and extensively explored elsewhere (Jahnke et al., 2016; Jones, 2017; Klimley et al., 2018; Koeppel and Jahnke, 2024; Stanley et al., 2016; Wagner et al., 2021; SAMHSA, 2018). In response, an increasing number of mental health programs and services have been developed to support first responders (Smith et al., 2021). Mental health services may include peer support teams, occupationally competent counselors, chaplains, critical incident stress management (CISM) and first responder specific crisis hotlines. Despite the increasing availability of these programs, mental health services have historically been underutilized by the first responder population (Wright et al., 2022). Reasons for underutilization could include stigma, fear of consequences, reluctance to seek help, lack of occupationally competent and tailored programs, and lack of awareness of resources. Limited awareness of available resources stands as a key obstacle to first responders accessing mental health care (Jones et al., 2020). A contributing factor may be the significant knowledge gap regarding the most effective communication strategies for promoting mental health awareness and tailored interventions within the first responder community. First responders may also be skeptical of mental health-related marketing, particularly when advertisements promote “first responder-specific” care that ultimately lacks the specialized expertise they expect. In addition, much of this marketing may fail to resonate with them, further reinforcing their mistrust (Fisher and Lavender, 2023). Consequently, mental health promotion materials may be poorly designed and fail to effectively resonate with first responders, contributing to the under-utilization of services in the population.

Research demonstrates that well-designed mental health awareness campaigns can both reduce stigma and increase service use (Thornicroft et al., 2010; Latha et al., 2020). Thornicroft and colleagues found that public education initiatives, when targeted and evidence-based, significantly improved mental health literacy and willingness to seek help. Similarly, Latha et al. (2020) showed that social media platforms like Facebook and Instagram can effectively expand campaign reach within a short timeframe. Yet limited information exists on how to tailor messaging specifically for first responders. In fact, no studies were located in the peer-reviewed literature on this topic. Mental health awareness campaigns for the military may be a helpful proxy for emerging best practices. A recent assessment of mental health awareness initiatives within the military community revealed that successful outreach to the population required tailoring materials to align with the specific characteristics and preferences of each campaign’s target audience. Successful campaigns demonstrated clear and concise communication of their messages and utilized credible, positive messengers. Social media platforms proved to be highly effective in reaching the target population. The social media campaigns effectively facilitated direct connections to definitive care by including connections to a crisis chat phone line number or links directly to specific medical centers to make appointments (Acosta et al., 2023). Research on mental health awareness initiatives among the military community can offer some valuable insights; however, it is essential to recognize that the military and first responder professions have distinct differences. While both groups encounter high-stress and trauma-laden environments, their exposures differ in frequency, type, and context. Military personnel often face intense trauma during deployments—such as combat exposure and extended

separation from loved ones—but may experience far less exposure when not deployed. In contrast, first responders are continuously and routinely exposed to trauma in the course of daily work shifts. Their encounters often involve child fatalities, natural disasters, violent crime scenes, and motor vehicle accidents, creating a persistent cycle of stress that differs from deployment-based patterns. Therefore, addressing the mental health needs of first responders requires independent consideration to effectively cater to their unique challenges and requirements.

## Aims

The purpose of this research was to assess first responders’ opinions towards campaign materials focused on mental health resources. The research also looked to identify key reach, messaging strategies, and terminology that may be successful. A secondary goal was to gather information to use in developing new campaign materials that are appropriate in driving behavior change for the target audience. The research sought to answer the research questions: (a) What type of communication strategies are most effective in educating first responders about mental health initiatives? (b) Are there certain reach strategies, messaging, and terms used in advertisements aimed at first responder mental health that are more well-received than others?

## Methods

This research employed a cross-sectional survey design to gather data on first responder’s attitudes and opinions toward various campaign materials. Using Qualtrics software, the survey instrument was distributed electronically to participants during early 2023 and responses collected anonymously. Participants were selected via convenience sampling through first responder list servers and social media advertisements targeting first responders. Participants were invited to participate voluntarily and were informed of anonymity throughout the process.

Informed consent was obtained before survey completion and the study was approved through the authors’ Institutional Review Board. The survey comprised several sections, including demographic information, Likert-scale statements, and open-ended questions. Quantitative data from the Likert-scale statements were analyzed using SAS 9.4.

Instrument development was guided by prior research on perceived message effectiveness and persuasive communication (O’Keefe, 2018; Smith and Wogalter, 2007; Suka et al., 2017). Four first responder behavioral health subject matter experts developed the instrument items drawing from the existing research base. Guided by Suka et al. (2017), the items were designed to assess perceived message effectiveness across two key dimensions: comprehensibility and persuasiveness. These dimensions are theorized to shape the intended future use of a message, the intention to perform the recommended behavior, and ultimately, the behavior itself. After the demographic questions, the instrument displayed images of eight advertisements targeting mental health among first responders, including a billboard, magazine advertisements, a flyer, poster, pictures, GIF, and social media posts. To select images, authors conducted a web-based search

to identify existing mental health advertisements and campaigns targeting first responders. The aim was to gather a diverse selection of these promotional materials, with a focus on real-world examples and practical applications used in the field.

Despite diligent search efforts, the research did not reveal a comprehensive body of literature or academic sources that specifically focused on this topic. Consequently, researchers relied primarily on various online sources. Each advertisement was accompanied by five statements that respondents ranked on a Likert-type scale. Participants were asked to prioritize the effectiveness of advertising methods for promoting mental wellness among first responders. Furthermore, respondents provided ratings for their preferences among eight terms commonly used in advertisements targeting first responders. An open-ended question asked participants for their feedback regarding any aspects they particularly liked or disliked about the images they reviewed.

## Results

Out of the 245 survey respondents, a total of  $n = 149$  individuals completed at least 75% of the survey items and were eligible for inclusion in this analysis. Most respondents were from the fire service (57.2%), followed by Emergency Medical Services (EMS) (14.5%), law enforcement (10.3%), dispatchers (9.7%), and other (8.3%). A significant proportion of respondents had worked in their current profession for 20+ years (47.9%), followed by those with 11–19 years of experience (22.1%). The remaining respondents had 0–5 years of experience (17.9%) and 6–10 years of experience (12.1%). Demographic data of the respondents can be found in [Table 1](#).

For each image displayed, respondents were asked to rank 5 statements on a Likert-type scale with the choices of: Strongly Agree, Agree, Neither agree nor disagree, Disagree or Strongly Disagree. The statements included the following:

- 1 The advertisement made me want to seek out more information about mental health for first responders.
- 2 The advertisement is informative.
- 3 I relate to the people on the advertisement.

**TABLE 1** Demographics of respondents.

	<i>n</i> =	%
<b>Profession</b>		
EMS	21	14.8
Fire service	82	57.8
Law enforcement	14	9.9
Dispatch	14	9.9
Other	11	7.8
<b>Years worked</b>		
0–5	24	17.5
6–10	17	12.4
11–19	30	21.9
20+	66	48.2

- 4 This advertisement is meaningful to me.
- 5 The advertisement made me think more deeply about mental health.

## Image 1

The first image consisted of a billboard featuring three first responders with text reading “FIRST RESPONDERS... It’s Hard to Admit That Sometimes We Need Help... Depression is Treatable, Suicide is Preventable!” and the number to the National Suicide Prevention Lifeline. Among the eight advertisements, the billboard received the lowest percentage (21.4%) of respondents who strongly agree/agree that it made them want to seek out more information about mental health for first responders. Nevertheless, a substantial proportion (70.6%) of respondents did agree that the billboard was informative. [Table 2](#) provides responses for Image 1.

Two open-ended comments were recorded regarding the use of billboards:

*“Target your efforts where we are not on a billboard on the side of the interstate. You might be telling first responders that it’s ok to get help but you are also telling the general public that there’s probably suicidal, unhinged first responders among them.”*

*“Personally, I did not care for the “suicide hotline” billboard. I believe more first responders would be involved if it was geared more to consistent mental wellness programs and prevention rather than a phone number to call when it is too late.”*

**TABLE 2** Responses for Image 1.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The billboard made me want to seek out more information about mental health for first responders.	21.4%	44.8%	33.8%
The billboard is informative.	70.6%	18.2%	11.2%
I relate to the people on the billboard.	46.2%	26.6%	27.3%
This billboard is meaningful to me.	47.6%	25.9%	26.6%
The billboard made me think more deeply about mental health.	37.8%	35.0%	27.3%

## Image 2

The second image consisted of a magazine advertisement featuring a cartoon from a well-known first responder artist. The majority of respondents (77.2%) found this ad to be informative. Most respondents also agreed that this ad was meaningful (64.6%) and made them think more deeply about mental health (60%). However, the ad only made 45.5% want to seek out more information about mental health for first responders. Responses for Image 2 are displayed in [Table 3](#).

One open-ended comment was recorded regarding the advertisement:

*"I like the image. It is like a cartoon so it keeps it kind of light but the text is very true and relatable. We do not want to see our brothers actual picture when he is struggling. And we certainly do not want to see an actor."*

## Image 3

The third image consisted of a flyer distributed to first responders featuring contact information and bullet points of issues faced by first responders. Overall, this flyer received a high percentage of strongly agree/agree for most statements. This flyer had the highest percentage of respondents agreeing that it was informative (79.7%). Yet, only 49.7% agreed that the flyer made them want to seek out more information on mental health. Responses for Image 3 are displayed in [Table 4](#).

Image 3 received one related open-ended comment:

*"Most of your firefighters are not willing to speak to strangers or call a random number with a stranger on the other end. These messages need to be coming from the leadership within their department or leadership in the county level."*

TABLE 3 Responses for Image 2.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The ad made me want to seek out more information about mental health for first responders.	45.5%	33.1%	21.4%
The ad is informative.	77.2%	14.5%	8.3%
I relate to the people on the ad.	55.2%	23.4%	21.4%
This ad is meaningful to me.	64.6%	21.5%	13.9%
The ad made me think more deeply about mental health.	60.0%	22.8%	17.2%

## Image 4

The fourth image consisted of a poster featuring a photograph of the face of a firefighter with text along the bottom saying "Share it do not wear it. Its time to speak up about mental health" and across the firefighter's face it says "There's this heavy feeling it's more than a bad call or a bad day. It's like all the time and the funny thing is I'm really not sure why?" This poster was well received with most respondents ranking all five statements agree or strongly agree. Responses for Image 4 are displayed in [Table 5](#).

## Image 5

The fifth image consisted of artwork depicting first responders struggling with mental health demons rendered by an artist popular among the first responder community. This picture received the highest percentage of disagree/strongly disagrees across all 5 statements compared to all the advertisements reviewed. Only 34.3% of respondents ranked the picture as making them want to seek out more information about mental health for first responders. Responses for Image 5 are displayed in [Table 6](#).

Image 5 also received one open-ended comment:

*"I think the artwork approach has a place, just not sure the devil helps sell the meaning of a strength or mental health message."*

## Image 6

The sixth image contained a GIF with real images of first responders at work and overlaid text reading, "This service will help and save lives". The GIF was considered informative by 64.3% of respondents, but the overall opinion on the GIF was neutral, with

TABLE 4 Responses for Image 3.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The flyer made me want to seek out more information about mental health for first responders.	49.7%	35.0%	15.4%
The flyer is informative.	79.7%	15.4%	4.9%
I relate to the people on the flyer.	58.0%	25.2%	16.8%
This flyer is meaningful to me.	65.3%	25.0%	9.7%
The flyer made me think more deeply about mental health.	55.9%	27.3%	16.8%

one-third of respondents neither agreeing nor disagreeing with the other four statements. Responses for Image 6 are displayed in Table 7.

## Image 7

The seventh image contained a social media advertisement featuring a firefighter wearing with a reflective expression and a quote about the importance of reaching out for help. Overall, this picture received a high percentage of strongly agree/agree for all five statements. Of all the advertisements, this picture had the highest percentage for respondents who related to the people in the picture (63.2%) as well as the picture made them think more deeply about mental health (66.7%). Responses for Image 7 are displayed in Table 8.

## Image 8

The eighth and final image contained a social media post featuring two firefighters in full gear are outside a burning structure. One firefighter is kneeling, and the other is reaching out with a supportive hand on their shoulder. Compared to other advertisements, this social media post received a less favorable response. Less than 50% of respondents found it informative, relatable, thought-provoking about mental health, or motivating to seek more information on mental health. Responses for Image 8 are displayed in Table 9.

The open-ended question also received several responses regarding all the images in general. Those included:

*"I like short, sweet, and to the point. Do not "sell" me. That's irritating. Just let us know you are there if needed. Enough said."*

*"In regards to the images, most of them are hokey. In regards to how to reach first responders, I do not understand the need for billboards, radio or TV ads. Everyone knows where we work! You need to focus on delivering the message to stations and facilities. Fire / Police Chiefs need to be educated to understand the true needs. HR directors need to be educated and treatment and counseling need to be available outside of normal HR channels. (I could tell you multiple horror stories about this one) First responders do not trust people that have no clue where they are coming from, nor should they."*

*"If you want to reach people better get someone that has done sometime in the 1st responder fields. They need to be raw, honest and real looking. From expressions to gear all of it. No cartoons, stock photos and if that. I think that's a turn off to most people. No one thinks of themselves as "Brave, Hero or warrior." It's a turn off to most and corny. Even as a combat veteran those words make me uncomfortable. Our perceptions are different. I hope that helps. Thanks."*

## Effect of first responder profession on images

One-way ANOVA was performed to examine differences in first responder profession groups (fire service, EMS, law enforcement

TABLE 5 Responses for Image 4.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The poster made me want to seek out more information about mental health for first responders.	58.0%	30.1%	11.9%
The poster is informative.	60.8%	24.5%	14.7%
I relate to the people on the poster.	62.9%	23.8%	13.3%
This poster is meaningful to me.	68.5%	23.1%	8.4%
The poster made me think more deeply about mental health.	65.5%	24.6%	9.9%

TABLE 6 Responses for Image 5.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The picture made me want to seek out more information about mental health for first responders.	34.3%	29.4%	36.4%
The picture is informative.	36.4%	28.7%	35.0%
I relate to the people on the picture.	43.7%	20.4%	35.9%
This picture is meaningful to me.	50.0%	21.8%	28.2%
The picture made me think more deeply about mental health.	44.4%	23.2%	32.4%

officers, dispatchers, other) on mean score of responses to the questions [a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) was used]. The ANOVA revealed a statistically significant difference in the mean score of responses between at least two groups on several questions. The results of the one-way ANOVA are displayed in Tables 10–14.

TABLE 7 Responses for Image 6.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The gif made me want to seek out more information about mental health for first responders.	43.4%	36.4%	20.3%
The gif is informative.	64.3%	21.4%	14.3%
I relate to the people on the gif.	50.0%	33.1%	16.9%
This gif is meaningful to me.	47.9%	33.8%	18.3%
The gif made me think more deeply about mental health.	43.3%	33.3%	23.4%

TABLE 8 Responses for Image 7.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The picture made me want to seek out more information about mental health for first responders.	59.7%	27.8%	12.5%
The picture is informative.	76.1%	16.9%	7.0%
I relate to the people on the picture.	63.2%	20.8%	16.0%
This picture is meaningful to me.	66.7%	22.2%	11.1%
The picture made me think more deeply about mental health.	66.7%	21.5%	11.8%

## Effect years' working on images

A one-way ANOVA was performed to examine differences in year's working (0–5 years, 6–10 years, 11–19 years, 20+ years) on mean score of responses to the questions, a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) was used. The ANOVA revealed a statistically significant difference in mean score of responses between at least two groups for all 5

TABLE 9 Responses for Image 8.

	Strongly agree/agree	Neither agree nor disagree	Strongly disagree/disagree
The Facebook post made me want to seek out more information about mental health for first responders.	43.7%	38.7%	17.6%
The Facebook Post is informative.	44.4%	27.5%	28.2%
I relate to the people on the Facebook post.	47.2%	27.5%	25.4%
This Facebook post is meaningful to me.	52.8%	25.4%	21.8%
The Facebook post made me think more deeply about mental health.	41.5%	35.2%	23.2%

statements. Results for each question are located in the Tables 14–19.

These findings show that responders reporting 20+ years' working experience consistently reported different levels of agreement to the images and the questions. This suggests that years of experience as a first responder influenced responses to the presented images and questions.

## Messaging

The next section of the instrument asked respondents to rank a range of choices based on their ability to effectively advertise for first responder mental wellness. Participants used a scale from 1 (best) to 10 (worst) to rank the following options:

- 1 Credibility and trust among the first responder community.
- 2 Use of "real" photos.
- 3 Positive messaging.
- 4 Representation of specific first responder disciplines.
- 5 Strengths-based messaging.
- 6 Testimonials.
- 7 Humor/dark humor.
- 8 Use of statistics.
- 9 Representation of people who resemble them.

Within the available options, respondents predominantly favored "credibility and trust within the first responder community" (73.4%) as their top preference (either first or second choice). This was followed by "use of real photos" (43%), and "positive/hopeful messaging" (22.6%).

TABLE 10 Effect of first responder profession on statement #1.

		The ___ made me want to seek out more information about mental health for first responders.					
		EMS <i>n</i> = 21	Fire service <i>n</i> = 81	LEO <i>n</i> = 14	Dispatch <i>n</i> = 14	Other <i>n</i> = 11	
Billboard	Mean	3.43	3.16	2.93	2.93	3.00	<i>p</i> = 0.3874
	Std Dev	0.75	0.86	1.14	1.00	0.77	<i>F</i> = 1.04
Cartoon	Mean	2.86	2.56	3.00	3.21	2.55	<i>p</i> = 0.1015
	Std Dev	1.06	0.92	1.11	0.97	0.93	<i>F</i> = 1.98
Flyer	Mean	2.24	2.69	2.08	2.71	2.36	<i>p</i> = 0.0803
	Std Dev	0.94	0.95	0.86	0.61	1.03	<i>F</i> = 2.13
Poster	Mean	2.19	2.36	2.38	2.64	2.36	<i>p</i> = 0.7508
	Std Dev	0.93	0.94	0.87	1.01	1.03	<i>F</i> = 0.48
Artwork	Mean	2.90	2.84	2.92	3.50	3.45	<i>p</i> = 0.1621
	Std Dev	1.04	1.10	1.19	0.94	1.29	<i>F</i> = 1.66
GIF	Mean	2.43	2.85	2.50	2.79	2.45	<i>p</i> = 0.3294
	Std Dev	0.81	1.06	0.94	0.89	0.93	<i>F</i> = 1.16
Social media ad	Mean	2.29	2.31	2.36	2.57	2.27	<i>p</i> = 0.9199
	Std Dev	0.96	1.00	1.01	1.02	1.01	<i>F</i> = 0.23
Social media post	Mean	2.48	2.70	2.50	2.93	2.45	<i>p</i> = 0.6320
	Std Dev	0.87	1.05	0.94	1.00	1.13	<i>F</i> = 0.64

TABLE 11 Effect of first responder profession on statement #2.

		The ___ is informative.					
		EMS <i>n</i> = 21	Fire service <i>n</i> = 81	LEO <i>n</i> = 12	Dispatch <i>n</i> = 14	Other <i>n</i> = 11	
Billboard	Mean	2.48	2.28	2.50	2.00	2.27	<i>p</i> = 0.4821
	Std Dev	0.87	0.79	1.17	0.78	0.65	<i>F</i> = 0.87
Cartoon	Mean	2.24	2.01	2.43	2.50	2.09	<i>p</i> = 0.1710
	Std Dev	1.00	0.70	0.94	0.94	1.14	<i>F</i> = 1.63
Flyer	Mean	1.90	2.20	1.77	2.00	2.27	<i>p</i> = 0.1332
	Std Dev	0.77	0.72	0.60	0.55	0.65	<i>F</i> = 1.8
Poster	Mean	2.19	2.47	2.14	2.50	2.18	<i>p</i> = 0.5800
	Std Dev	1.03	1.02	0.95	0.76	0.87	<i>F</i> = 0.72
Artwork	Mean	2.90	2.84	2.92	3.43	3.00	<i>p</i> = 0.4841
	Std Dev	1.04	1.10	1.19	1.16	1.10	<i>F</i> = 0.87
GIF	Mean	2.20	2.48	2.38	2.08	2.27	<i>p</i> = 0.5681
	Std Dev	0.70	1.04	0.96	0.86	1.01	<i>F</i> = 0.74
Social media ad	Mean	2.00	2.13	1.85	2.31	2.36	<i>p</i> = 0.4867
	Std Dev	0.84	0.88	0.38	0.85	0.81	<i>F</i> = 0.87
Social media post	Mean	2.48	2.88	2.50	3.14	2.27	<i>p</i> = 0.1570
	Std Dev	1.03	1.14	1.02	1.23	1.01	<i>F</i> = 1.69

Conversely, the use of “humor/dark humor” and “representation of more people who resemble” respondents ranked the lowest, with both options receiving 34.3% ranking them a 9 or 10 (worst). Additionally, the “use of statistics” ranked third as the least effective way to advertise, with 18.9% of respondents ranking it a 9 or 10 (worst). Table 20 displays responses for effective advertising.

Two open-ended comments corresponded with this section in the instrument:

“We relate to real photos. We have been there covered in soot, sitting on a tailboard of our Truck/Rescue Co laughing as we almost all died or just recovered the bodies of a person/whole family or even worse a fellow firefighter.”

TABLE 12 Effect of first responder profession on statement #3.

		I relate to the people on the ____.					
		EMS <i>n</i> = 21	Fire Service <i>n</i> = 80	LEO <i>n</i> = 13	Dispatch <i>n</i> = 14	Other <i>n</i> = 11	
Billboard	Mean	2.95	2.71	2.46	3.00	2.55	<i>p</i> = 0.5921
	Std Dev	1.16	1.09	1.20	1.18	0.69	<i>F</i> = 0.70
Cartoon*	Mean	2.43	2.27	3.00	2.93	2.82	<i>p</i> = 0.0022
	Std Dev	1.12	0.96	1.18	0.83	1.08	<i>F</i> = 4.42
Flyer*	Mean	2.00	2.74	1.92	2.64	2.45	<i>p</i> = 0.0058
	Std Dev	0.84	0.96	0.76	0.93	0.93	<i>F</i> = 3.80
Poster*	Mean	2.05	2.20	2.15	2.86	2.27	<i>p</i> = 0.0257
	Std Dev	0.80	0.93	0.90	1.17	0.90	<i>F</i> = 2.86
Artwork	Mean	2.81	2.65	2.85	3.36	3.27	<i>p</i> = 0.2355
	Std Dev	1.17	1.16	1.21	1.22	1.19	<i>F</i> = 1.41
GIF	Mean	2.43	2.91	2.62	2.93	2.64	<i>p</i> = 0.4006
	Std Dev	0.68	1.03	0.96	1.07	1.03	<i>F</i> = 1.02
Social media ad	Mean	2.05	2.24	2.07	2.79	2.55	<i>p</i> = 0.0660
	Std Dev	0.97	0.94	1.00	0.80	0.93	<i>F</i> = 2.26
Social media post	Mean	2.33	2.80	2.43	3.21	2.36	<i>p</i> = 0.7617
	Std Dev	0.97	1.17	1.09	0.70	1.29	<i>F</i> = 0.46

\**p* < 0.05.

TABLE 13 Effect of first responder profession on statement #4.

		This ____ is meaningful to me.					
		EMS <i>n</i> = 21	Fire Service <i>n</i> = 80	LEO <i>n</i> = 13	Dispatch <i>n</i> = 14	Other <i>n</i> = 11	
Billboard	Mean	3.05	2.71	2.77	2.71	2.45	<i>p</i> = 0.6690
	Std Dev	1.24	1.10	1.09	1.14	0.93	<i>F</i> = 0.59
Cartoon*	Mean	2.33	2.09	2.79	3.21	1.91	<i>p</i> = 0.0005
	Std Dev	0.91	0.96	1.25	0.89	0.94	<i>F</i> = 5.33
Flyer*	Mean	1.95	2.45	1.86	2.36	2.27	<i>p</i> = 0.0412
	Std Dev	0.80	0.90	0.66	0.74	0.65	<i>F</i> = 2.56
Poster	Mean	2.10	2.15	1.92	2.43	2.18	<i>p</i> = 0.6709
	Std Dev	0.62	0.94	0.76	0.94	0.87	<i>F</i> = 0.59
Artwork*	Mean	2.81	2.44	2.54	3.21	3.27	<i>p</i> = 0.0518
	Std Dev	1.17	1.13	1.13	1.12	1.42	<i>F</i> = 2.42
GIF	Mean	2.38	2.72	2.46	2.64	2.45	<i>p</i> = 0.6365
	Std Dev	0.67	1.07	0.97	1.15	1.04	<i>F</i> = 0.64
Social media ad	Mean	2.19	2.13	2.14	2.57	2.27	<i>p</i> = 0.6226
	Std Dev	1.08	0.97	0.95	1.02	0.65	<i>F</i> = 0.66
Social media post	Mean	2.43	2.66	2.14	2.93	2.55	<i>p</i> = 0.3559
	Std Dev	0.98	1.16	0.95	1.00	1.21	<i>F</i> = 1.11

\**p* < 0.05.

*"I was disappointed to see only one image involving PSCO's. Please include PSCO/dis dispatchers in the advertisements. I was also disappointed in the lack of diversity/POC in the images. I did not see anyone that looked like me or that had my profession."*

### Effect of first responder profession on messaging responses

A one-way ANOVA was performed to examine differences in first responder profession group (fire service, EMS, law enforcement officers,

TABLE 14 Effect of first responder profession on statement #5.

		The ___ made me think more deeply about mental health.					
		EMS <i>n</i> = 21	Fire service <i>n</i> = 80	LEO <i>n</i> = 13	Dispatch <i>n</i> = 14	Other <i>n</i> = 10	
Billboard	Mean	2.86	2.93	3.00	3.07	2.60	<i>p</i> = 0.8275
	Std Dev	1.01	0.97	1.22	1.07	0.84	<i>F</i> = 0.37
Cartoon	Mean	2.52	2.21	3.07	3.36	2.36	<i>p</i> = 0.0275
	Std Dev	1.17	1.07	1.14	1.08	1.29	<i>F</i> = 2.82
Flyer*	Mean	2.05	2.60	1.85	2.93	2.45	<i>p</i> = 0.0031
	Std Dev	0.86	0.95	0.55	1.14	0.93	<i>F</i> = 4.20
Poster	Mean	2.10	2.15	2.38	3.00	2.55	<i>p</i> = 0.1280
	Std Dev	0.94	0.94	0.96	1.04	0.82	<i>F</i> = 1.82
Artwork	Mean	2.90	2.68	3.00	3.36	3.18	<i>p</i> = 0.1878
	Std Dev	1.22	1.12	1.11	1.08	1.33	<i>F</i> = 1.56
GIF	Mean	2.29	2.75	2.62	2.50	2.45	<i>p</i> = 0.2989
	Std Dev	0.64	1.03	1.04	1.16	1.13	<i>F</i> = 1.24
Social media ad	Mean	2.43	2.09	2.29	2.93	2.45	<i>p</i> = 0.1403
	Std Dev	1.29	1.00	1.07	0.92	0.82	<i>F</i> = 1.76
Social media post	Mean	2.52	2.69	2.50	3.00	2.55	<i>p</i> = 0.1050
	Std Dev	1.21	1.21	1.16	0.88	1.21	<i>F</i> = 1.95

\**p* < .05.

TABLE 15 Effect of years' worked on statement #1.

		The ___ made me want to seek out more information about mental health for first responders.				
		0–5 years <i>n</i> =24	6–10 years <i>n</i> =17	11–19 years <i>n</i> =30	20 + years <i>n</i> =65	
Billboard	Mean	3.54	3.12	3.20	3.00	<i>p</i> = 0.0720
	Std Dev	0.93	0.93	0.85	0.81	<i>F</i> = 2.39
Cartoon	Mean	2.67	2.82	2.80	2.65	<i>p</i> = 0.8500
	Std Dev	1.17	0.95	1.03	0.89	<i>F</i> = 0.27
Flyer	Mean	2.25	2.41	2.77	2.58	<i>p</i> = 0.1935
	Std Dev	0.90	1.06	1.04	0.79	<i>F</i> = 1.60
Poster*	Mean	2.13	1.76	2.47	2.59	<i>p</i> = 0.0061
	Std Dev	0.85	0.66	1.17	0.89	<i>F</i> = 4.32
Artwork	Mean	2.88	2.76	3.20	3.03	<i>p</i> = 0.5537
	Std Dev	0.99	1.39	1.19	1.02	<i>F</i> = 0.70
GIF	Mean	2.42	3.00	2.72	2.75	<i>p</i> = 0.2906
	Std Dev	0.97	1.12	1.19	0.82	<i>F</i> = 1.26
Social media ad	Mean	2.17	2.24	2.50	2.38	<i>p</i> = 0.6158
	Std Dev	0.87	1.03	1.17	0.92	<i>F</i> = 0.60
Social media post	Mean	2.42	2.76	2.90	2.55	<i>p</i> = 0.2711
	Std Dev	0.93	1.20	1.12	0.92	<i>F</i> = 1.32

\**p* < .05.

dispatchers, other) on mean score of rankings to the messaging categories (1 = best, 9 = worst). The ANOVA revealed a statistically significant difference in mean score of responses between at least two groups on at least one category. Results can be found in Table 21.

These findings could guide the creation of messaging that resonates with LEOs. The findings also show that to effectively engage dispatchers, messaging should emphasize their unique contributions and challenges within the field. Firefighters

TABLE 16 Effect of years' worked on statement #2.

		The ___ is informative.				
		0–5 years n=24	6–10 years n=17	11–19 years n=29	20 + years n=65	
Billboard	Mean	2.54	2.24	2.21	2.26	<i>p</i> = 0.4333
	Std Dev	1.02	0.90	0.68	0.76	<i>F</i> = 0.92
Cartoon	Mean	2.13	2.29	2.17	2.11	<i>p</i> = 0.8763
	Std Dev	1.08	0.99	0.59	0.81	<i>F</i> = 0.23
Flyer	Mean	1.88	2.00	2.30	2.06	<i>p</i> = 0.1289
	Std Dev	0.68	0.87	0.70	0.59	<i>F</i> = 1.92
Poster	Mean	2.17	2.35	2.63	2.30	<i>p</i> = 0.3064
	Std Dev	0.82	0.86	1.16	0.93	<i>F</i> = 1.22
Artwork	Mean	2.96	2.82	3.40	2.77	<i>p</i> = 0.5800
	Std Dev	1.20	1.38	0.97	1.02	<i>F</i> = 2.38
GIF	Mean	2.36	2.59	2.31	2.31	<i>p</i> = 0.7479
	Std Dev	1.09	1.18	1.00	0.79	<i>F</i> = 0.41
Social media ad	Mean	2.21	2.07	2.03	2.11	<i>p</i> = 0.8812
	Std Dev	0.83	0.96	0.85	0.74	<i>F</i> = 0.22
Social media post*	Mean	2.42	3.24	3.30	2.47	<i>p</i> = 0.0007
	Std Dev	1.18	1.09	1.09	1.01	<i>F</i> = 6.09

\**p* < 0.05.

TABLE 17 Effect of years' worked on statement #3.

		I relate to the people on the ___.				
		0–5 years n=24	6–10 years n=17	11–19 years n=30	20 + years n=64	
Billboard*	Mean	3.00	2.94	3.00	2.44	<i>p</i> = 0.0353
	Std Dev	1.22	1.14	1.11	0.97	<i>F</i> = 2.95
Cartoon	Mean	2.46	3.00	2.60	2.29	<i>p</i> = 0.1418
	Std Dev	1.32	1.06	1.25	1.06	<i>F</i> = 1.85
Flyer	Mean	2.42	2.59	2.63	2.31	<i>p</i> = 0.4247
	Std Dev	1.10	1.28	0.96	0.77	<i>F</i> = 0.94
Poster	Mean	1.96	2.41	2.37	2.31	<i>p</i> = 0.3593
	Std Dev	1.08	0.71	1.19	0.87	<i>F</i> = 1.08
Artwork	Mean	2.63	2.88	3.17	2.83	<i>p</i> = 0.3649
	Std Dev	1.06	1.41	1.18	1.09	<i>F</i> = 1.07
GIF	Mean	2.33	2.82	2.69	2.63	<i>p</i> = 0.4215
	Std Dev	1.01	1.07	1.17	0.88	<i>F</i> = 0.94
Social media ad	Mean	2.29	2.65	2.20	2.22	<i>p</i> = 0.4771
	Std Dev	1.08	1.17	1.10	0.97	<i>F</i> = 0.83
Social media post	Mean	2.29	3.06	2.90	2.58	<i>p</i> = 0.1122
	Std Dev	1.23	1.14	1.18	1.11	<i>F</i> = 2.03

\**p* < 0.05.

indicated a higher ranking for the “Use of Humor/Dark Humor” ( $M = 6.01$ ) than LEOs ( $M = 8.5$ ). This information can guide the creation of messaging that incorporates humor to engage firefighters effectively, provided that it is done sensitively and aligns with their preferences.

### Effect years' working on messaging responses

One-way ANOVA was performed to examine differences in year's working (0–5 years, 6–10 years, 11–19 years, 20 + years) on mean score

TABLE 18 Effect of years' worked on statement #4.

This ___ is meaningful to me.		0–5 years n=24	6–10 years n=17	11–19 years n=30	20 + years n=64	
Billboard*	Mean	3.29	2.76	2.77	2.47	$p = 0.0195$
	Std Dev	1.27	0.90	1.07	1.05	$F = 3.41$
Cartoon	Mean	2.29	2.47	2.37	2.22	$p = 0.8137$
	Std Dev	1.20	1.18	0.96	1.00	$F = 0.32$
Flyer*	Mean	1.88	2.24	2.57	2.30	$p = 0.0260$
	Std Dev	0.74	0.97	0.94	0.75	$F = 3.19$
Poster*	Mean	1.67	2.18	2.27	2.31	$p = 0.0225$
	Std Dev	0.70	0.81	1.08	0.85	$F = 3.30$
Artwork	Mean	2.50	2.47	2.80	2.73	$p = 0.6841$
	Std Dev	1.02	1.46	1.32	1.12	$F = 0.50$
GIF	Mean	2.50	3.00	2.55	2.58	$p = 0.3705$
	Std Dev	1.02	1.12	1.06	0.89	$F = 1.06$
Social media ad	Mean	2.13	2.35	2.23	2.19	$p = 0.8934$
	Std Dev	1.08	1.06	1.04	0.85	$F = 0.20$
Social media post	Mean	2.29	2.76	2.87	2.48	$p = 0.1932$
	Std Dev	1.04	1.03	1.17	1.07	$F = 1.60$

\* $p < .05$ .

TABLE 19 Effect of years' worked on statement #5.

The ___ made me think more deeply about mental health.		0–5 years n=24	6–10 years n=17	11–19 years n=30	20 + years n=64	
Billboard*	Mean	3.25	2.94	3.10	2.67	$p = 0.0583$
	Std Dev	1.15	1.09	1.06	0.86	$F = 2.55$
Cartoon	Mean	2.33	2.59	2.67	2.35	$p = 0.4665$
	Std Dev	1.09	0.94	0.96	1.04	$F = 0.85$
Flyer	Mean	2.13	2.35	2.77	2.56	$p = 0.0830$
	Std Dev	0.80	1.06	1.17	0.85	$F = 2.27$
Poster	Mean	1.92	2.24	2.37	2.35	$p = 0.2682$
	Std Dev	0.78	0.75	1.25	0.92	$F = 1.33$
Artwork	Mean	2.79	2.59	3.00	2.91	$p = 0.6853$
	Std Dev	1.06	1.42	1.36	1.06	$F = 0.50$
GIF	Mean	2.65	2.76	2.86	2.78	$p = 0.8983$
	Std Dev	0.98	1.09	1.19	0.84	$F = 0.20$
Social media ad	Mean	2.17	2.18	2.40	2.28	$p = 0.7879$
	Std Dev	0.96	1.01	1.04	0.84	$F = 0.35$
Social media post	Mean	2.38	3.00	2.97	2.63	$p = 0.1515$
	Std Dev	1.06	1.12	1.19	1.08	$F = 1.79$

\* $p < .05$ .

of responses to the questions (1 = best, 9 = worst). The results indicated a significant difference for the statement “credibility and trust among the first responder community” between first responders with 6–10 years’ experience and those with over 20 years’ experience [ $p = 0.0445$ ,  $F(3, 124)$

$F = 2.77$ ,  $p = 0.0445$ ]. While the ANOVA reached significance, *post hoc* examination with the Tukey HSD test for “positive/hopeful messaging” [ $p = 0.0402$ ,  $F(3, 124)$   $F = 2.85$ ,  $p = 0.0402$ ] did not reach significance between any groups. Full results can be found in Table 22.

TABLE 20 Responses to statements on effective advertising.

% Credibility/ trust among responder community	% Use of 'real' (not stock) photos	% Positive/ hopeful messaging	% Seeing my specific public safety discipline represented (e.g., LEO, dispatch, EMS, etc.)	% Strengths- based messaging	% Testimonials	% Humor/ Dark Humor	% Use of statistics/ numbers	% Seeing more people who look like me represented
1 = best	55.6%	13.1%	8.0%	9.5%	3.7%	0.7%	3.6%	2.9%
2	17.8%	29.9%	14.5%	10.9%	4.4%	5.8%	5.8%	4.4%
3	8.9%	12.4%	26.3%	12.4%	8.9%	8.0%	10.2%	5.8%
4	8.9%	14.6%	15.3%	15.3%	12.6%	11.7%	6.6%	7.3%
5	5.9%	6.6%	14.6%	15.3%	17.0%	15.3%	6.6%	8.8%
6	0.7%	10.9%	8.0%	12.4%	26.7%	21.9%	7.3%	5.1%
7	0.7%	2.9%	7.3%	13.1%	12.6%	18.2%	16.8%	17.5%
8	0.7%	5.8%	2.9%	8.0%	11.9%	13.9%	8.8%	18.2%
9	0.7%	3.6%	2.2%	2.9%	2.2%	3.6%	29.9%	30.7%
10 = worst	0.0%	0.0%	0.7%	0.0%	0.0%	0.7%	4.4%	0.7%

\* $p < 0.05$ .

## Reach

The next section of the instrument asked respondents to rank the best way to reach first responders with advertising for mental health from 1 (best) to 9 (worst). Choices included billboards, social media, internet search ads, TV ads, radio ads, station/department/communications center visits, conference/trade shows, and podcasts. Social media ranked the best out of all the ways to reach first responders with 50.4% of respondents ranking it first. Station/department/communication center visits came in second with 26.7% ranking it first. Podcasts were ranked the worst with 37.8% of respondents ranking it an 8 or 9. Radio ads were ranked second worst with 21.4% ranking it an 8 or 9. Table 23 displays responses for effective methods to reach first responders with messaging.

Two open-ended comments corresponded with this section in the instrument:

*"In regards to how to reach first responders, I do not understand the need for billboards, radio or TV ads. Everyone knows where we work! You need to focus on delivering the message to stations and facilities. Fire / Police Chiefs need to be educated to understand the true needs. HR directors need to be educated and treatment and counseling need to be available outside of normal HR channels."*

*"I think my department would benefit from some type of area or regional point of contact that they can become relational with and be there as an advocate to ensure the appropriate help is provided and to walk individuals through the process but most importantly help them see the process through with follow ups and encouragement. Regular station drop ins, critical incident debriefing, etc."*

## Effect of first responder profession on reach responses

One-way ANOVA was performed to examine differences in first responder profession group (fire service, EMS, law enforcement officers, dispatchers, other) on mean score of rankings to the reach categories (1 = best, 8 = worst). The results indicated a significant difference in ranking for billboards between LEOs and firefighters [ $p = 0.0159$ ,  $F(4, 126) = 3.18$ ,  $p = 0.0159$ ] with LEOs having a stronger preference. The results also indicated a significant difference in ranking for podcasts with both firefighters and dispatchers indicating a stronger preference for podcasts than those who identified as "other" [ $p = 0.0362$ ,  $F(4, 126) = 2.65$ ,  $p = 0.0362$ ]. It's important to note both of these mediums still were among the lowest ranked ways to reach first responders overall. Full results can be found in Table 24. The one-way ANOVA test did not achieve significance for years' working on any reach responses. The full results can be found in Table 25.

## Terminology

The final section of the instrument asked respondents to rate their preference of a variety of terms when used in advertisements targeting first responders on a Likert-type scale. The terms included: warrior, hero, bravest, mental health, stigma, mental wellness, resiliency, and

TABLE 21 Rankings for terminology.

Rating	% Warrior	% Hero	% Bravest	% Mental health	% Stigma	% Mental wellness	% Resiliency	% Behavioral health
Strongly dislike/dislike	26.9%	35.1%	17.9%	9.1%	17.0%	4.5%	3.0%	16.0%
Neutral	26.9%	20.1%	25.4%	22.0%	24.4%	18.0%	15.7%	35.9%
Strongly like/like	46.3%	44.8%	56.7%	68.9%	58.5%	77.4%	81.3%	48.1%

TABLE 22 Effect of first responder profession on terminology responses.

Terminology		EMS	Fire service	LEO	Dispatch	Other	p-value and F-value
		n = 21	n = 75	n = 12	n = 13	n = 10	
Warrior*	Mean	3.00	2.63	2.00	2.77	2.10	p = 0.0587
	Std Dev	1.05	1.14	0.85	0.83	0.99	F = 2.34
Hero*	Mean	2.95	2.93	1.85	2.46	2.40	p = 0.0066
	Std Dev	1.07	1.15	0.90	0.52	0.70	F = 3.74
Bravest	Mean	2.62	2.52	2.00	2.23	2.22	p = 0.2848
	Std Dev	0.97	1.06	0.71	0.60	0.67	F = 1.27
Mental health	Mean	2.14	2.19	1.92	1.92	2.33	p = 0.7185
	Std Dev	0.91	0.95	0.64	0.64	1.22	F = 0.52
Stigma	Mean	2.24	2.36	2.21	2.77	2.44	p = 0.5788
	Std Dev	1.04	1.00	0.80	1.01	1.01	F = 0.72
Mental illness	Mean	1.85	1.96	1.57	1.77	2.20	p = 0.3867
	Std Dev	0.67	0.93	0.51	0.73	0.92	F = 1.05
Resiliency	Mean	1.81	1.88	1.29	1.69	1.78	p = 0.1649
	Std Dev	0.75	0.85	0.47	0.85	0.83	F = 1.65
Behavioral health	Mean	2.80	2.51	2.62	2.15	2.22	p = 0.3373
	Std Dev	0.89	0.95	1.19	0.90	0.83	F = 1.15

\*p &lt; 0.05.

TABLE 23 Rankings for effective reach.

	% Billboards	% Social media (Facebook, Instagram, YouTube, etc.)	% Internet search ads	% TV ads	% Radio ads	% Station/department/communication center visits	% Conferences/trade shows	% Podcasts
1 = best	11.9%	50.4%	2.2%	0.7%	1.5%	26.7%	2.2%	1.5%
2	9.6%	26.7%	15.6%	8.1%	0.7%	19.3%	10.4%	8.1%
3	14.1%	13.3%	21.5%	8.1%	3.0%	16.3%	15.6%	8.1%
4	11.9%	4.4%	21.5%	15.6%	10.4%	9.6%	8.9%	17.8%
5	8.1%	3.7%	15.6%	22.2%	23.7%	8.9%	8.1%	9.6%
6	14.1%	0.0%	10.4%	19.3%	20.7%	12.6%	17.0%	5.9%
7	11.1%	0.7%	7.4%	20.0%	18.5%	5.9%	23.7%	11.1%
8	17.8%	0.7%	5.2%	5.9%	20.7%	0.7%	13.3%	32.6%
9 = worst	1.5%	0.0%	0.7%	0.0%	0.7%	0.0%	0.7%	5.2%

behavioral health. Of the available choices, respondents overwhelmingly preferred resiliency (81.3%), mental wellness (77.4%), and mental health (68.9%) ranking strongly like/like. While hero

(35.1%) and warrior (26.9%) were ranked dislike/strongly dislike most frequently of the choices. Table 21 displays responses for preference in terminology in advertisements.

TABLE 24 Effect of first responder profession on reach responses.

		EMS	Fire service	LEO	Dispatch	Other	
		n = 21	n = 74	n = 13	n = 13	n = 10	
Billboards*	Mean	4.38	5.42	3.46	4.85	3.60	<i>p</i> = 0.0159
	Std Dev	2.50	2.21	2.37	2.44	2.67	<i>F</i> = 3.18
Social media	Mean	1.52	1.81	2.15	2.23	2.50	<i>p</i> = 0.2138
	Std Dev	0.68	1.08	1.52	2.01	1.84	<i>F</i> = 1.47
Internet search ads	Mean	4.24	4.22	4.23	4.54	4.20	<i>p</i> = 0.9856
	Std Dev	1.30	1.93	2.24	1.61	1.62	<i>F</i> = 0.09
TV ads	Mean	5.38	5.35	5.00	5.38	3.80	<i>p</i> = 0.0913
	Std Dev	1.32	1.81	1.22	1.71	1.69	<i>F</i> = 2.05
Radio ads	Mean	5.71	6.16	6.00	6.15	5.00	<i>p</i> = 0.2474
	Std Dev	1.31	1.66	1.58	1.91	1.05	<i>F</i> = 1.37
Station/Dept/ communication center visit	Mean	2.76	3.03	4.00	2.92	3.80	<i>p</i> = 0.3016
	Std Dev	1.73	1.89	2.04	1.98	2.53	<i>F</i> = 1.23
Conferences/trade shows	Mean	6.10	4.92	5.77	5.31	5.50	<i>p</i> = 0.1716
	Std Dev	1.89	2.06	2.24	1.97	2.07	<i>F</i> = 1.63
Podcasts*	Mean	5.95	5.54	5.46	5.23	7.80	<i>p</i> = 0.0362
	Std Dev	2.50	2.09	2.67	2.39	0.79	<i>F</i> = 2.65

\**p* <.05.

Several open-ended comments corresponded with this section in the instrument:

*“Warrior”, ‘Bravest’, and ‘Hero’ is self glossing, most firefighters do not like attention and are indifferent to these descriptions. Plus I may not be feeling very heroic if I’m trying to seek help.”*

*“I believe a strength-based approach to marketing/education resources will better sell the reality of mental wellbeing that aligns with the first responder mentality by helping them feel empowered and take initiative to be stronger mentally (more resilient) at any point on the ‘wellbeing spectrum’ rather than exclusively focusing on those in crisis. In essence, messages that focus on helping first responders develop a perspective of ‘I have the power, I just need the tools.’”*

*“Talking about being brave actually reinforces the idea of feeling so weak. Talking about being proud actually pushes people to hide their ‘shame.’ And nobody wants to talk about the ugly stuff because that makes you relive the whole event.”*

## Effect of first responder profession and year’s working on terminology responses

One-way ANOVA was performed to examine differences in first responder profession group (fire service, EMS, law enforcement officers, dispatchers, other) on mean score of rankings (1 = best, 8 = worst). The ANOVA revealed a significant difference in mean score of responses for the term ‘hero’ with LEOs indicating a stronger preference than EMS and firefighters [*p* = 0.0066, *F*(4, 126) *F* = 3.74, *p* = 0.0066]. Understanding this preference can help in crafting messaging and communication

materials that align with the self-perception of first responders. Full results are provided in Table 22.

One-way ANOVA was performed to examine differences in year’s working (0–5 years, 6–10 years, 11–19 years, 20+ years) on mean score of responses to the questions (1 = best, 8 = worst). The results indicated a significant difference for the term “stigma” with first responders working 20+ years having less preference for the term compared to those with 11–19 years experience and those with 0–5 years experience [*p* = 0.0117, *F*(3, 124) *F* = 3.82, *p* = 0.0117]. Full results can be found in Table 25.

## Discussion

Communication serves as the backbone of any successful mental health promotion campaign. Given that their demanding professions often foster a culture that can inhibit help-seeking behavior and contribute to stigmatization surrounding mental health issues, effective mental health communication for first responders requires a deep understanding of their unique needs, challenges, and occupational factors. The analysis of the various images, reach strategies, messaging, and terms used in the study provides valuable insights into the effectiveness of different first responder mental health advertisements. It’s evident that not all forms of communication resonate equally with this specific audience, and the findings offer significant implications for designing future campaigns.

When looking at the eight images there were a few key takeaways. One was visuals with relatable content can have a positive impact but to stay away from images that use potentially stigmatizing imagery. Second, digital platforms can be an effective mode to reaching first responders.

TABLE 25 Effect of years' worked on terminology responses.

Terminology		0–5 years	6–10 years	11–19 years	20 + years	p-value and F-value
		n = 23	n = 16	n = 30	n = 58	
Warrior	Mean	2.78	2.44	2.70	2.47	p = 0.5498
	Std Dev	1.09	0.96	1.12	1.08	F = 0.71
Hero	Mean	2.77	2.44	2.70	2.81	p = 0.6774
	Std Dev	0.92	1.15	1.29	1.04	F = 0.51
Bravest	Mean	2.39	2.38	2.38	2.46	p = 0.9788
	Std Dev	0.99	0.81	1.05	0.97	F = 0.06
Mental health	Mean	1.82	2.00	2.17	2.27	p = 0.2201
	Std Dev	0.85	0.73	0.93	0.94	F = 1.49
Stigma*	Mean	2.09	2.29	2.10	2.71	p = 0.0117
	Std Dev	0.85	0.99	1.01	0.98	F = 3.82
Mental illness	Mean	1.86	2.06	1.90	1.90	p = 0.8989
	Std Dev	0.94	0.68	0.92	0.83	F = 0.20
Resiliency	Mean	1.87	1.56	1.83	1.76	p = 0.6748
	Std Dev	0.87	0.63	0.89	0.80	F = 0.51
Behavioral health	Mean	2.50	2.56	2.72	2.38	p = 0.4802
	Std Dev	0.91	0.81	1.03	1.01	F = 0.83

\*p <.05.

However, social media posts should be concise and informative. For messaging, 'real photos' and relatable content scored highest while the use of statistics and 'dark humor' ranked lowest. Dispatchers made clear in both the ranking of images and the messaging ranking that seeing their profession represented is important to them and is currently lacking in communications for first responders. This is in alignment with a recommendation made when studying military mental health campaigns that noted it is important to consider smaller audiences and develop richer content for that specific audience (Acosta et al., 2023). Findings indicate that years of experience and professional role shape how first responders respond to messaging and imagery. Responders with 20+ years of service showed distinct patterns compared to less experienced peers, and differences also emerged across professions. These insights highlight the importance of tailoring communication to both experience level and professional identity to ensure messaging resonates, maximizes impact, and aligns with first responders' self-perceptions.

Social media and station/department visits ranked as the best way to reach first responders. Many responders engage with social platforms, making it an accessible and direct channel for disseminating mental health awareness content. Other advantages of social media include "low cost, high scalability and self tracking." (Latha et al., 2020) Station and department visits ranking so high emphasizes the value first responders put towards interactions and connections with their peers. To resonate with this audience, messages should be delivered in spaces where first responders regularly congregate, such as fire stations, police departments, or dispatch centers. Moreover, the source of these messages is paramount. When messages are endorsed and conveyed by individuals in positions of trust and authority, they carry weight and authenticity. It is important to normalize the conversations surrounding mental health to increase help-seeking behaviors among first responders (Smith et al., 2021).

Lastly, terminology used in advertisements was ranked. It was found that the terms 'resiliency', 'mental wellness', and 'mental health' ranked highest, possibly due to them promoting initiative, empowerment and strength in first responders. Terms such as "warrior", "hero", and "bravest"

ranked lowest, most likely due to the fact that first responders' are not attention seekers and value humility. These communication strategies should be combined with tailored interventions. Tailored interventions could include access to occupationally competent mental health clinicians and mental health awareness and self-care training for first responders (Fisher and Lavender, 2023). Interventions provide a network of understanding and empathy within the community, ensuring that individuals can access the necessary support and resources when facing mental health challenges.

## Limitations

One notable limitation is the relatively small sample size recruited through convenience sampling. Consequently, the results may not be generalizable to the entire first responder population. Another limitation of this study pertains to the lack of validated statements used in the ranking of advertisements due to the novel and specialized topic of first responder mental health. No existing validated measures or statements were available for assessing the preferences of this specific audience, so the study had to rely on developing its own set of statements for ranking purposes. While these statements were carefully crafted, the absence of established validity could introduce potential biases or inaccuracies in the results.

## Conclusion

The path to effective mental health communication among first responders involves meeting them where they are, engaging trusted leaders, using strength-based messaging, and implementing comprehensive interventions. By having leadership as the driving force behind these messages, it sends a powerful signal to first responders communicating that mental health is a top priority of the organization.

Social media, when paired appropriately with on-site strategies, can be an integral part of contemporary communication, serving as an effective tool to reach first responders. While communication strategies are essential, they should be paired with comprehensive, tailored interventions. These results underscore the significance of adopting a proactive “reach in” strategy, rather than relying solely on “reach out” or crisis-oriented approaches.

Research for this article was conducted at Florida A&M University. However, the first author, Kellie O’Dare, Ph.D., has since transitioned to the University of Central Florida, Orlando, FL.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

The studies involving humans were approved by Florida Agricultural Mechanical University. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

KO: Writing – original draft, Writing – review & editing. LA: Writing – original draft, Writing – review & editing. LP: Writing – original draft, Writing – review & editing. BC-M: Writing – original draft, Writing – review & editing.

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