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I-O Can Has Meme? Using Memes to Engage Others With I-O Psychology Content

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Figure 1 Titular Meme



Note. This is an example of an internet meme, specifically an image macro. It was adapted from one of the earliest Internet memes depicting a cat asking for a "Cheezburger" (n.d.). Memes are ubiquitous, and they have become a major part of online interactions (Kitchener, 2018). Memes may be an accessible medium that organizations can use to connect with potential employees, customers, and the general public. Not only have memes been used by companies for marketing (e.g., Murray et al., 2014), but they also have been used for outreach by organizations as diverse as academic libraries (e.g., Woodworth, 2018), government influence campaigns (e.g., Zakem et al., 2018), and political campaigns (e.g., Graham, 2020). In this paper, we discuss the current state of Internet memes in the I-O psychology community as well as the potential that memes have as a communication medium for the field's outreach efforts. Indeed, one of the challenges that I-O psychology faces is its obscurity (Nolan et al., 2014; Gasser et al., 2001).

We analyzed intentional efforts to share I-O psychology ideas on the @iopsychmemes social media accounts. We identified which memes garnered the most engagement with social media users and examined differences across Facebook, Twitter, and Instagram. Additionally, we explored how those outside I-O on the popular website Reddit engaged with memes that reflect core I-O psychology concepts. The Reddit users who created and engaged with these memes are likely unconnected to our field, but their engagement with such memes suggests that they are interested in topics germane to I-O psychology and that they find such topics personally relevant. We examined Reddit users' comments and incorporated topic modeling to uncover themes in conversations Reddit users were having regarding I-O-relevant memes. In both cases,

we examined I-O psychology concepts that seem to resonate with these audiences so as to potentially inform future I-O psychology outreach efforts—especially with regard to reaching out to younger audiences, who are especially avid meme consumers (Fink, 2020) yet who have little direct exposure to our field. This paper's thesis is that memes have the potential to be a valuable tool for I-O psychology's outreach efforts.

What exactly is a meme? Recent definitions of *Internet meme* from media and communication scholars include "a unit of information ..., which replicates by passing on via Internet (e-mail, chat forum, social networks, etc.) in the shape of a hyper-link, video,

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image, or phrase" (Castaño Díaz, 2013, p. 97) and "a piece of culture, typically a joke, which gains influence through online transmission" (Davison, 2012, p. 122). Oftentimes, when Internet users share memes, they are not simply copying and pasting identical pieces of content (Börzsei, 2013). Many adapt others' memes to express their own ideas—effectively creating new iterations of memes as a result (e.g., Figure 1).

We begin with a personal account from the Meme Queen herself, our very own Lisa Kath, about her experience running the @iopsychmemes accounts—followed by an analysis of memes from Reddit.

Initial Analyses of Engagement for @iopsychmemes

My (Lisa Kath) high school senior taught me to make memes, and with encouragement from my graduate students, I made @iopsychmemes accounts on Instagram, Twitter, and Facebook around November 11, 2019. I did some simple analyses on followers and posts from the start of the accounts until March 6, 2020 (approximately 4 months). My follower count over this time increased on average 2 followers/day on Facebook (281 total), 7.5 followers/day on Twitter (856 total), and 12 followers/day on Instagram (1,469 total). The Instagram account got an early bump in followers for being highlighted by another popular account: @orgpsych. I also got encouraging comments such as, "It's like I found something I didn't even know was missing" and "This ticks all the boxes. You're doing a public service." This seems to be a good indication of interest in the content.

The majority of my Facebook and Instagram followers are women between the ages of 25–35 in the US, but 15% of my followers on Facebook are under 25, and 32% of my followers on Instagram are under 25 years old. This was great news, because, with **Keaton Fletcher** at Georgia Tech, I cochair the SIOP Visibility Committee's Students and Academia subcommittee, where we aim to increase the visibility of I-O psych and SIOP to students and teachers. Based on advice I got from the aforementioned high school senior in my house, I include #APpsych in my captions to better reach high school students. Although I thought this memes account would be a brief hobby, I now conceptualize it as part of my SIOP service.

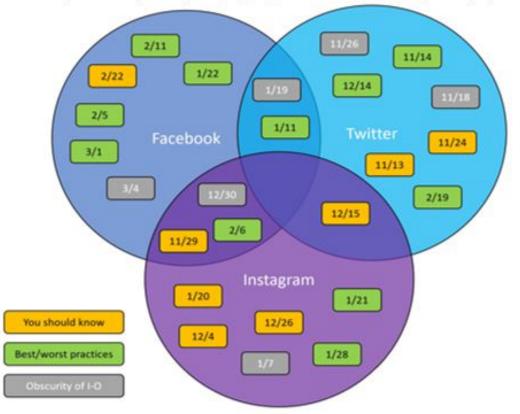
Finally, first author Wil Jimenez and I analyzed the content of the posts. I took the top 10 memes (based on engagement metrics) from each platform (identified by date of posting) and indicated overlap using a Venn diagram. Wil came up with the coding of the content into three broad categories: posts that (a) share a tidbit of information from our field that we wish people would know, (b) celebrate/disparage some best/worst practices, and (c) note the relative obscurity of I-O psychology. Each of these is color coded in Figure 2 (see Figure 3 for examples of engaging memes).

One observation that comes up right away is the relatively low overlap in high-engagement posts across the platforms, which may be old news to social media analysts. The low overlap may be an artifact of

the way engagement is measured or the algorithms that place posts in viewers' feeds. Another observation is that the earlier posts seemed to do better on Twitter, whereas more recent posts did better on Facebook. Popular Facebook posts had more overlap with Instagram and Twitter, whereas Twitter and Instagram only had one top 10 post in common.

Figure 2

Venn Diagram Depicting Engaging Memes Posted by @iopsychmemes



Note. Each box with a date represents a meme that was posted across all social media accounts on that date. Each meme was highly engaging within a platform or across two platforms.

With the content coding, it seems that popular posts were relatively evenly spread across the three content categories. It would be interesting to see if there were demographic differences across the three content categories in terms of engagement. It would also be interesting to see if there were other ways of coding the content that would better predict engagement. For example, there are several

Figure 3

Examples of Engaging Memes Posted by @iopsychmemes



I-O Psych Memes Biopsychmemes

I-O psychologists learn systems thinking, which means we see many links among org, team, & individual factors. Therefore, when asked a seemingly simple question, our fave answer is "It depends." #iopsych #iopsychmemes #psychology #SIOP #psychologymemes #psychmemes #APpsych



Not all personality tests are the same, and the Myers-Briggs Type Indicator (MBTI) is a persistently popular one that I-O psychologists love to hate, especially when used for #hiring. #talentmanagement #iopsych #iopsychmemes #psychology #psychologymemes #psychmemes #APpsych



OK, so we aren't the most well-known field, but gosh darn it, we are doing good stuff for the world of work. Learn more at SIOP.org @SIOPtweets #SIOP #hr #OHPsych #iopsych #iopsychmemes #psychology #psychologymemes #psychmemes #APpsych



Note. These screenshots are from @iopsychmemes's Twitter. Left panel: Example of a "You should know" meme (posted on December 15, 2019). Middle panel: Example of a "Best/worst practices" meme (posted on January 11, 2020). Right panel: Example of an "Obscurity of I-O" meme (posted on December 30, 2019).

ways in which meme templates are quantified in terms of their popularity or worth (Coscia, 2013). It is possible that some of these metrics could predict engagement based on the template alone. Not surprisingly, finding the right metrics to include in the model is a thought-provoking and time-consuming challenge.

Takeaways From Managing @iopsychmemes

Running the @iopsychmemes accounts has been a great adventure so far. I've been supported by several followers who will submit memes, and my graduate students and a colleague (Hi **Lacie Barber**!) have helped workshop memes before posting. But the question remains: Why?

First, I am passionate about increasing the visibility of our field. I have anecdotal evidence (the worst kind, I know) that these accounts do help increase the visibility of I-O psychology. Through Twitter, we were invited to give a presentation at a neighboring high school, so now those students can be considering I-O psychology before they've even gotten their high school diplomas! I've had a few students, both high school and undergrad, reach out through the account direct messages for career advice. So far, the requests have been very manageable, but long term, our subcommittee is working with **Roni Reiter-Palmon**, chair of the SIOP Education & Training Committee's Bridge Builders Subcommittee. We are working on building a database of I-O psychologists who might be willing to talk or email with students about our field, individually or in a group setting.

Second, I love sharing what we (as I-O psychologists) know with others. I am collaborating on some research with an MD who follows my meme account. She told me that one of my memes came to mind at work, and she asked herself, "Is our diversity plan focused only on recruitment, or are we also paying attention to retention?" That memes can stick in people's heads long enough for them to be useful to non-I-O psychologists is amazing to me.

Third, I love supporting the broader I-O community. I have encouraged educators and practitioners to use these memes in their classes, newsletters, and the like. I also enjoy comments that indicate bonding over shared experiences, like how often we say "it depends" in response to a question (I-O Psych Memes, December 15, 2019) or the pain of having cross-loaded items in an exploratory factor analysis (I-O Psych Memes, February 20, 2020).

In sum, so far, the minimal time invested in this outreach effort has been well worth it. I think the role of scientific communication in the sciences is starting to get its due, especially during the COVID-19 pandemic. Granted, I know I'm not out here saving lives with my spicy memes, but I do think it's been a worthwhile adventure. I invite you to send me your memes at iopsychmemes@gmail.com or start your own accounts! In my mind, there's never too much I-O psychology.

Analyzing Comments on Work-Related Reddit Memes

"IF YOUR EMPLOYEES HAVE TO BREAK RULES TO MEET PRODUCTION QUOTA YOU ARE MISMANAGING YOUR COMPANY" in a sans-serif font superimposed on a picture of a mallard duck. A still from a popular adult cartoon television series edited to look like a superhero is recommending that employers disclose salary ranges when they post job openings. This past winter, in just 1 week, these two images (see AcidActually, 2020; Elranzer, 2020) made it to "the front page of the Internet" and collectively garnered approximately 128,000 upvotes and 4,000 comments. These are examples of work-related memes posted on Reddit—specifically, on the subreddit r/AdviceAnimals—and they demonstrate how relatable I-O psychology is to laypeople.

Reddit is a popular social media platform comprising a multitude of online communities of interest, called subreddits, in which users share and engage with content.¹ In December 2019, Reddit was the fifth most visited website in the United States; it had more than 130,000 active subreddits and, on average, 430 million monthly active users and 21 billion monthly screen views (Reddit, 2019). According to Pew Research Center, most Redditors are male, White, between the ages of 18 and 29, and college educated (Barthel et al., 2016). The subreddit r/AdviceAnimals is a community with more than 8.4 million members (as of April 2020) who engage with memes generally in the format of a "two line joke over a re-usable character" ("Advice Animals," n.d.).

We used the *PRAW* Python package (Boe, 2016) to scrape top-level comments, which we processed and analyzed in R using *data.table* (Dowle & Srinivasan, 2019), *textmineR* (Jones, 2019), *tidytext* (Silge & Robinson, 2016), *tidyverse* (Wickham et al., 2019), and *wordcloud* (Fellows, 2018). Stopwords, punctuation, and numbers were removed from the comments, and each comment was tokenized as a maximum of two words. We used latent Dirichlet allocation (LDA) in our topic modeling of the comments (see Blei et al., 2003).2 We also searched the comments for words that were most characteristic of a topic to aid in topic interpretation.

Production Quota Meme's Comments

We found that extracting 29 topics from the production quota meme's 432 top-level comments resulted in the greatest topic coherence (see Appendix A). Of these topics, we interpreted 15 with seven consolidated into a triad and two pairs—ultimately resulting in 11 retained topics.

Multiple Redditors discussed the following:

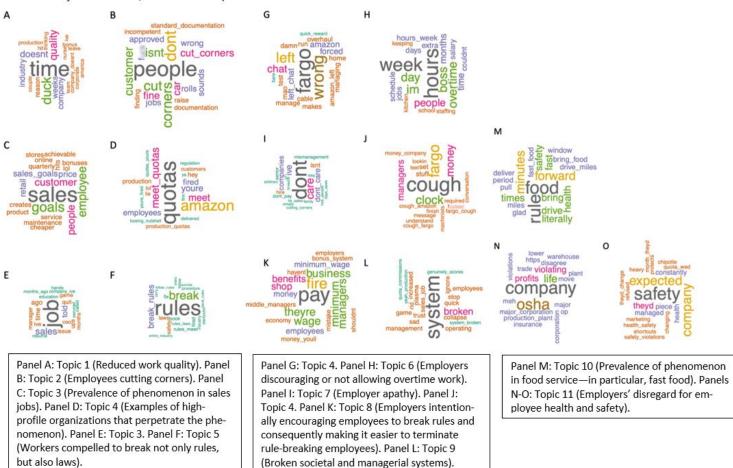
- Topic 1: Reduced work quality
- Topic 2: Employees cutting corners
- Topic 3: Prevalence of phenomenon in sales jobs
- Topic 4: Examples of high-profile organizations that perpetrate the phenomenon
- Topic 5: Workers compelled to break not only rules, but also laws
- Topic 6: Employers discouraging or not allowing overtime work
- Topic 7: Employer apathy
- Topic 8: Employers intentionally encouraging employees to break rules and consequently making it easier to terminate rulebreaking employees
- Topic 9: Broken societal and managerial systems
- Topic 10: Prevalence of phenomenon in food service in particular, fast food
- Topic 11: Employers' disregard for employee health and safety

Salary Meme's Comments

We found that extracting 27 topics from the salary meme's 506 top-level comments resulted in the greatest topic coherence (see Appendix B). Of these topics, we interpreted 20, with seven consolidated into a triad and two pairs—ultimately resulting in 16 retained topics. Multiple Redditors discussed the following:

• Topic 1: Factoring benefits into compensation

Figure 4[®] Word Clouds of Production Quota Meme's Topics



Note. Word size indicates probability that a given word belongs to a given topic.

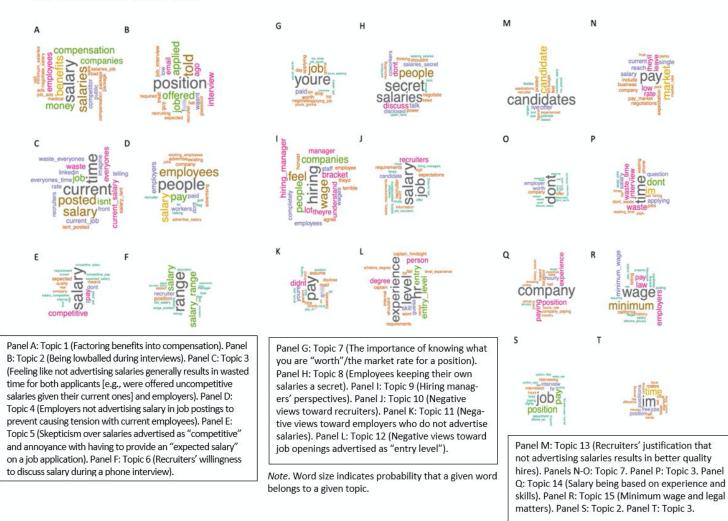
- 2: Being lowballed during interviews
- Topic 3: Feeling like not advertising salaries generally results in wasted time for both applicants (e.g., candidates offered uncompetitive salaries given their current ones) and employers
- Topic 4: Employers not advertising salary in job postings to prevent causing tension with current employees
- Topic 5: Skepticism over salaries advertised as "competitive" and annoyance with having to provide an "expected salary" on a job application
- Topic 6: Recruiters' willingness to discuss salary during a phone interview
- Topic 7: The importance of knowing what you are "worth"/the market rate for a position
- Topic 8: Employees keeping their own salaries a secret
- Topic 9: Hiring managers' perspectives
- Topic 10: Negative views toward recruiters
- Topic 11: Negative views toward employers who do not advertise salaries
- Topic 12: Negative views toward job openings advertised as "entry level"
- Topic 13: Recruiters' justification that not advertising salaries results in better quality hires
- Topic 14: Salary being based on experience and skills
- Topic 15: Minimum wage and legal matters

See Figure 5 for word clouds depicting the words that constitute the topics we retained in our analysis of the salary meme's comments.

r/AdviceAnimals Meme Topics in I-O Terms

The topics that emerged from comments on both of the r/AdviceAnimals memes clearly overlap with I-O psychology topics. In this section, we discuss example topics from each of the memes. Topic 11 of the production quota meme indicates that, from the perspective of some Redditors, some companies are neglecting occupational health and safety when they are compelling employees to break rules for the sake

Figure 5 Word Clouds of Salary Meme's Topics



of productivity. This is a poignant finding given that safety climate (i.e., *shared perceptions* regarding how much of a priority safety is compared to other priorities, such as productivity) seems to be a particularly important determinant of safe behavior – potentially even more so than the prevalence of occupational risks and hazards in the workplace (Nahrgang et al., 2011). Another example from the production quota meme is Topic 7, which suggests that some employers discourage or even prohibit employees from working overtime. Ironically, paying overtime work is generally more affordable than hiring more employees, and there is empirical evidence that suggests, on average, the more hours per week employees work at an organization, the lower the lost-time injury rate at the organization (Kaminski, 2001).

Unsurprisingly, several of the example topics from the salary meme imply negative job applicant reactions. For example, Topic 3 indicates that some Redditors believe that the employer practice of not advertising salaries often results in wasted time. Topics 5 and 12 indicate that some Redditors react negatively when the job opening advertises a "competitive" salary or an entry-level position, yet the requirements listed suggest otherwise or a job application requires providing an expected salary. Our field understands the importance of applicant reactions in the context of personnel selection (see Bauer et al., 2012). For example, previous research suggests that positive reactions during the selection process impact applicants' perceptions of the organization, intentions to accept a job offer, and intentions to recommend the employer to other job seekers (Hausknecht et al., 2004). Moreover, findings from a simulation study suggest that the level of information a job seeker receives, even during the initial recruitment stage, impacts applicant reactions and that the more favorable experiences an applicant has throughout the selection process, the more positive their reactions are (Saks & Uggerslev, 2009). Given the example salary meme topics that we discussed and the literature on applicant reactions, it would be prudent of employers to consider the impressions they are making through their job openings.

Discussion

The results of the present study indicate that there is an interest in I-O psychology topics beyond traditional settings. Memes and other social-media-related strategies are underused in I-O psychology outreach (Armstrong et al., 2020), and these results indicate their potential efficacy. The authors wish to share some key takeaways from this study:

1. Memes are a highly useful tool for sharing information. The present study indicates that memes can prove engaging to a wide

audience. Memes are exciting because they can be shared easily and created easily. We recommend that the I-O psychology community—academics, practitioners, and students alike—share these as a way to conduct outreach. Most importantly, anyone can share and anyone can create a meme, so crowdsourcing memes may be a useful form of outreach for I-O. Another application is asking students to share or create memes as part of a class assignment.

- 2. I-O psychologists can join the conversation or just listen. The results from the r/Advice Animals subreddit analyses indicate that everyday people are interested in what I-O psychologists study. The gap appears to be in how I-O psychologists approach these topics. Memes can distill concepts into easily accessible formats that lay people can engage with. Additionally, these memes can provide insight into the experiences of everyday workers outside of the traditional practitioner realm of I-O. For I-O psychologists who are prominent in our field on social media, such as Adam Grant and Steven Rogelberg, memes might be another way in which they share the field with a general audience. As evidenced by the @iopsychmemes accounts, memes can also be used to build an active online community that laypeople can engage with online.
- 3. *Memes are measurable*. Using the social media data from @iopsychmemes, practitioners and researchers can track the impact of I-O psychology on people inside and outside the field. This information is invaluable as SIOP and other organizations in the realm of work strive to be heard. We can also track how laypeople are discussing work on public forums such as Reddit—allowing for a more measurable "pulse" of the world of work.
- 4. *Memes are fun!* Memes can inject a bit of fun into the world of I-O. The authors of the present study had enormous fun writing this piece and believe that other I-O psychologists would enjoy the fun world of memes as well.

Notes

¹ For more information on Reddit, see Gordon Schmidt's (2019) entry in *The SAGE International Encyclopedia of Mass Media & Society*.

² See Tang's (2019) topic modeling guide that we adapted for analyzing Reddit comments.

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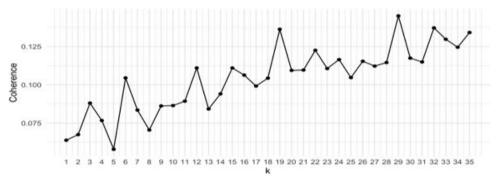
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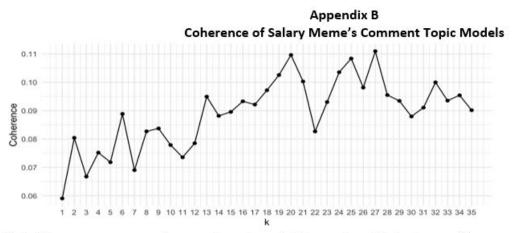
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Appendix A Coherence of Production Quota Meme's Comment Topic Models



Note. Coherence = average coherence for each model; *k* = number of topics in a model.



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