

# Understanding the Impact of Awards on Award Winners and the Community on Reddit

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**Abstract**—Non-financial incentives in the form of awards often act as a driver of positive reinforcement and elevation of social status in the offline world. The elevated social status results in people becoming more active, aligning to a change in the communities’ expectations. However, the impact in terms of longevity of social influence and community acceptance of leaders of these incentives in the form of awards are not well-understood in the online world. Our work aims to shed light on the impact of these awards on the awardee and the community. We focus on three large subreddits with a snapshot of 219K posts and 5.8 million comments contributed by 88K Reddit users who received 14,146 awards. Our work establishes that the behaviour of awardees change statistically significantly for a short time after getting an award; however, the change is ephemeral since the awardees return to their pre-award behaviour within days. Additionally, via a user survey, we identified a long-lasting impact of awards—we found that the community’s stance softened towards awardees.

## I. INTRODUCTION

Awards are given as incentives in offline and online worlds [9]. Prior work looked into the use of awards in the offline world suggesting their ubiquitous nature [1, 17, 29]. Awards serve as tokens of recognition that result in heightened social status [38], with a substantial increase in the performance of individuals [9, 17, 19, 33, 36] in business and academic setting. These awards often come with a title like “best employee” or “volunteer of the month” that praise, applaud or appreciate the awardee for their contributions to the organization.

Online social networking platforms, closely emulate the offline world [34]; to do so they adopt awards, recognition, approval, changes in social status etc., in the form of likes (Facebook <sup>1</sup>), badges (Stack Overflow <sup>2</sup>), hearts (Instagram <sup>3</sup>), and awards (Reddit). The recognitions are often non-monetary, and they are a result of contributions made by the awardees towards the community they are part of [6, 12]. The majority of the online communities, particularly on Reddit, thrive on the altruistic behavior of the influencers (major content providers, active users) [25, 26, 30]. Reddit awards also follow a *title* associated with them, making the awards closer to their offline counterparts. So far, researchers have looked into the meaning of incentives in online social media

(in social media) [15, 35, 39]. However, there is no work on the effect of these awards on the awardee and the community. In this work we aim to bridge the gap.

Specifically, we note that awards might have an effect on two sides—First, on the awardee, and second on the community (i.e., users who did not get an award, but view them).

To that end, we investigated the effect of awards on different users in the online setting taking Reddit as a testbed. On Reddit, we split the participants (Redditors) in communities (Subreddit) into two groups: 1) users who get an award and 2) users who never got an award. We ask two specific questions:

**RQ1:** Do receiving incentives (in the form of awards) impact awardee’s behavior and engagement in the community? What are the changed factors?

**RQ2:** Do getting an award result in a changed community perception towards the awardee? How?

To answer, we hypothesize that award-winning affects the awardee’s engagement on the platform. We model the engagement of a user based on the text and the reception they receive. Our data includes three diverse subreddits, containing a total of 88K users, who made 200K posts and 5 Million comments, while exchanging 158 unique awards, given 14,146 times.

First, we establish that the activity of awardees increases once they make an award-winning post. We augment the theories from offline world by Frey [8, 9] and for the first time, using statistical analysis we show the heightened activity of awardees in online world decrease within 36 hours; which gradually comes closer to their pre-award behavior over time.

Second, we study the perception changes towards awardees from the perspective of other users using a large-scale user study. We demonstrate that 75% of our participants perceived the same users who commented on an awardee’s posts as different people before and after getting an award, whereas only 40% felt the same for non-awardees. Third, our survey results uncover a distinct difference in the language used towards awardees by non-awardees.

## II. RELATED WORK

**Effect of receiving awards on awardee:** Frey’s work studied the use of non-monetary awards as incentives [8]. The work established that awards motivate people to contribute to the public good.

<sup>1</sup><https://www.facebook.com/help/171378103323792>

<sup>2</sup><https://stackoverflow.com/help/what-are-badges>

<sup>3</sup><https://help.instagram.com/459307087443937>

However, awards might not have a positive or significant effect on awardee in some settings e.g., on the performance of a student [33]. We build on these varied findings of prior works on offline world and investigate the impact of awards in an online community, taking Reddit as a testbed.

**Change of social perception towards awardee:** Awards can be considered as social recognition which results in a positive feedback mechanism [2, 4, 21]. Specifically, awards result in recognition from community members and increased influence [5]. Multiple works have studied the effect of social media influencers in marketing products, personality perception, and trust-building in the community [7, 16, 24]—prior work revealed that even well-recognized YouTube influencers strive for community recognition continuously [27]. Overall, these works establish that influencers experience a positive change in social perception towards them [3, 11, 18, 20, 23] which they can leverage further (e.g., for disseminating crucial information). We build on this work to explore if *awards* might bring this change in social perception for general online users.

**Motivational factors for users on Reddit:** Prior research also looked into why people engaged in discussions on Reddit, data-driven studies found that Redditors seek emotional gratification; they need personal satisfaction and entertainment [13, 22, 28, 32] while engaging on the platform — findings from these studies favor positive engagement for prolonged participation in Reddit communities. To that end, our exploration using large-scale data from diverse subreddits revealed how Redditors received this gratification via incentives (i.e., awards). We observe a change in language use, a softened stance, and an increase in focus on community building as the impact of such incentives for Reddit users.

### III. TAXONOMY OF INCENTIVES ON REDDIT

The broader Reddit incentives are upvotes, Karma points, and awards. Coins, a virtual currency of Reddit, enable awarding and offer exclusive privileges to users on the platform.

**Upvotes** are a generic indicator of positive endorsement towards the Redditor (a Reddit user) who made the post. upvotes are similar to likes on Facebook and hearts on Instagram. Downvotes - an opposite version of upvotes is also present on Reddit, which expresses disagreement towards a Reddit post. A comment or post with enough downvotes gets collapsed from the default view; In contrary, a comment with most upvotes is shown on the top (right after the original post).

**Karma:** The ratio of upvotes and downvotes for all posts made on a user profile is a key evaluator of a Redditors *Karma*.<sup>4</sup>

**Awards:** Alongside upvotes and downvotes, users on Reddit can also give *awards* to fellow Redditors. However, importantly, awards require the Redditors to spend coins, unlike upvotes. Awards have individual names and descriptions attached to them. For example, “I would like to thank *USER<sub>X</sub>*” award. Using awards, the Reddit platform offers Redditors more accessible ways to share complex, insider, well-understood

	r/cmv	r/covid19pos	r/AITA
Total Posts	100,633	43,956	74,890
Total Comments	3,197,295	438,861	2,206,118
Total Users	33,960	21,408	33,719
Posts with awards	1,287	1,033	4,099
Total Awards	2,877	1,672	9,597
Total Unique Awards	122	73	98
USD spent on Awards	\$8,530.39	\$1,515.92	\$3,877.02
USD received	\$1,049.02	\$147.02	\$98.60

TABLE I: Overview of our datasets. We see a diverse community behaviour among the three subreddits. r/AITA has more activity in terms of number of comments, awards; but community members spend relatively less in giving away these awards. r/cmv community spends more and they award more USD (in the form of coins) to each other while being moderately active. Note that cost of 500 coins is \$1.99.

expressions easily. It is essential to note that some awards require Redditors to spend coins.

**Coins** are the currency of Reddit, and one can buy coins with money (USD, etc.). Other ways of accumulating coins include getting coins from others, being appointed as a subreddit moderator, and being a good community participant who gets many awards with a coin reward.<sup>5</sup>

#### A. Relationship between incentives

Intriguingly, these incentives are interrelated—some incentives are a direct derivative of others. Upvotes and comments on a post fetch Karma to original poster accounts (OPs);<sup>6</sup> Even though Karma, upvotes, and comments are social interaction indicators, they do not give an expendable asset to Redditors. Awards, however, are clear indicators of social recognition [31]. They can be bought using offline currency and awarded to the deserving user, working as an incentive.

**The Economic value of Reddit awards** The value of Reddit commerce around awards might be small but not insignificant. A bag of 500 coins on Reddit costs \$1.99. In our dataset, we find 158 unique awards, where the most frequent award *Hugz* costs 80 Reddit coins, and it was given 3,317 times. Overall, Redditors spent \$13,923.33 to buy awards in our dataset, which is a non-negligible amount. Thus, in this work, we focus on *Reddit awards* and check its impact on Redditors. Note that we report results in this work without delving into the impact of awards with different names (our experiment shows that our takeaways remain the same for individual types of awards)

### IV. DATA COLLECTION AND DESCRIPTION

Reddit is made of topic-based user communities called subreddits. To ensure generalizability of our study, we choose three diverse subreddits with themes spanning debates on personal views (r/cangemyview), asking judgment from random strangers (r/AmItheAsshole), and taking support from the community during a pandemic (r/covid19positive).

<sup>5</sup><https://www.reddit.com/coins>

<sup>6</sup><https://reddit.zendesk.com/hc/en-us/articles/205926439-Reddiquette>

<sup>4</sup><https://reddit.zendesk.com/hc/en-us/articles/204511829-What-is-karma->

Feature Name	Description
Total awards	number of awards received by the OP until the post
Upvotes	number of upvotes received by the OP until the post
Score	Score (a ratio of upvotes and downvotes) of a given post
Controversiality	Controversiality score as given by reddit.com
Depth	depth of a given comment with respect to the post (Direct comment on a post is at depth 1)
WC (word count)	number of words in a given post / comment (LIWC derived feature)
Clout	Quantitative confidence in a given post (LIWC derived feature)
Authentic	Quantitative measure of honest vs. hedging in text of a given post (LIWC)
Analytic	Quantitative indicator of analytic thinking expressed the post (LIWC)
ppronn	Use of personal pronouns in a given post (LIWC)

TABLE II: Key features extracted from the data using meta-data of user posts or comments. There are two distinct classes of features, one reflects the community behaviour (e.g., num\_comments, total\_awards), and the other reflects the choices made by an original poster (OP). E.g., is\_submitter, controversiality. We derived the language of posts/comments using LIWC and used cumulative values and means of all community and user features.

#### A. Reddit data collection

We constructed a dataset that contains posts, awards, and comments made on subreddits r/changemyview (also referred in this work as cmv), r/covid19positive, and r/AmItheAsshole (also referred as AITA). We leveraged <https://github.com/pushshift/api> pushshift API to collect all post ids for these subreddits. Then, we use the Reddit API <https://praw.readthedocs.io/en/stable/> to collect all the comments made on each post.

#### B. Data overview

We show the statistics of our dataset in Table I. The number of unique active users on r/changemyview is 33,960, who made 97.11 posts or comments per user. On the other hand, the number of active users on r/covid19positive is 21,408, with 22.8 activity points per user. r/AITA has 33,719 with 67.64 activity points per user. In our analysis, we find that user activity (the number of posts made per timestamp) is significantly high in the first 36 hours of getting an award and slowly fades away; Figure ?? shows this behaviour for a post.

### V. RQ1: CHANGE IN AWARDEE BEHAVIOUR

We now proceed to answer our first research question—what *community-centric*, *author centric* and *content-centric* features change for an awardee after getting an award. In addition to this, we also study the long-term impact of the features.

Time-slice	$T^2$	F-statistic	$p$
15 days vs 36 hours	6400.39	55.19	< 0.001
15 days vs <i>after</i> 36 hours	3450.23	30.87	< 0.001
15 days vs 15 days	1180.90	9.60	< 0.001

TABLE III: Multivariate paired Hotelling  $T^2$  test results on the three time-slices. There is a statistically significant difference between the awardee features before and after getting an award. Furthermore, decrease in  $T^2$  and F-statistic with time signifies that a decreasing difference.

#### A. Methodology

In order to estimate the effect of awards on Reddit users (e.g., the change in their posting behaviour), we consider three classes of features—*content-centric* (content of posts and comments), *community centric* (community interactions/decisions), and *author centric* (author behaviour). Content-centric features reflect the sentiment, language used, and topics the subreddit users cover. We derive content-centric features with the use of LIWC library [37]. Community-centric features include upvotes, the total number of awards, comments, depth of comment tree etc. Author-centric features are a reflection of choices made by award-winning Redditors. Further, the author-centric features are central to capturing an award-winning user's behavioural patterns (e.g., # posts, premium user etc.)

Estimating the impact of individual features gives us insights into the key underlying factors that turn an author into an influencer [10]. We split the activity of an award winner into *before* and *after* time slices; separated by an award winning post.

Firstly, to identify if there is a difference in user behaviour, we form a hypothesis: *awards do not affect user behaviour*. To examine this hypothesis we first use the multivariate Hotelling's  $T^2$  test [14] to check for significant differences between before and after getting an award ; then, we use the univariate  $T^2$  test [14] to estimate the most affected features due to award (decisive features that define an awardee's behaviour change). Furthermore, as we mentioned in Figure ??, awardees are primarily active within the first 36 hours of getting an award. To capture the distinction, we use three separate time-duration for the hypothesis testing:

- 1) **To compare the immediate effect of the winning:** 15 days before getting an award compared with 36 hours after getting an award (-15 days vs. +36 hours).
- 2) **To compare the gradual normalization of activity:** After 36 hours until 15 days of winning an award compared with 15 days before getting an award (-15 days vs. +36 hours to 15 days).
- 3) **To capture the complete cycle :** 15 days before getting an award compared with 15 days after getting an award - to capture the complete cycle of heightened activity to going back to normal activity (-15 days vs. +15 days).

#### B. Awardee behaviour change after getting awards

We show results from multivariate paired test in III and results from uni-variate Hotelling  $T^2$  in Table IV. At a higher

15 days vs 36 hours	15 days vs after 36 hours	15 days vs 15 days
Upvotes *	Upvotes *	Upvotes *
Score *	Score *	Score *
tot. awards*	Depth *	Depth *
Depth **	tot awards*	tot. awards*
Depth **	i	i
i (pronoun)	Depth **	Depth **
WC (# words)	Authentic	Authentic
Clout	Clout	Clout
Depth	pronoun	Upvotes **
Authentic	Analytic	Score **
Upvotes **	ppron	pronoun
Score **	tot. awards**	Analytic
Analytic	WC	ppron
pronoun	Upvotes **	WC
ppron	Score **	controversiality
posemo	controversiality	posemo
tot. awards**	posemo	tot. awards**

TABLE IV: Univariate Hotelling  $T^2$  results on r/changemyview subreddit. The three *after* time choices show the change in user participation and community perception. The features are sorted by  $T^2$  value. [\* : cumulative sum, \*\* : mean until the post]

level, the awardees behaviour and interaction did change after getting an award (all differences are significant in Table III). We make three key observations from our analysis.

**The difference between before and after getting an award decrease over time:** Table III shows all before award-after award differences are similar. However, a significant decrease in  $T^2$  and F-statistic with time signifies that the difference is decreasing, i.e., gradually, the impact of awards on awardee subsides, and they retract to pre-award behaviour.

**Change in engagement with posts in significant:** In all three time duration the number of *Upvotes* for all posts changes the most before and after getting an award; meaning, posts/comments made by awardees *after* they get an award tend to have more upvotes; the same is true for all three time-slices.

**Language used in posts change after getting an award:** Language-based features derived using LIWC also appear in the most changed features. We note that *WC* (word count) changes position over time, making it a more distinct feature in the earlier hours of an award winner’s interactions on the platform. Other key features *Authentic*, *Clout*, *posemo*, *negemo* signify a change in the style of language.

After establishing that the awards indeed change awardee behaviour, we ask if receiving awards changes the community’s outlook towards the awardees.

## VI. RQ2: CHANGE IN COMMUNITY BEHAVIOUR TOWARDS AWARDEE

To check if the community’s behaviour change toward an awardee in the long term, we took a survey-based approach.

### A. User Study Design

In our survey, we show the participants three randomly-shuffled pairs of Reddit comments; Then we asked questions about how the participants felt about the comments. In total,

we recruited 27 participants who were 18 years or older, from the USA, through the crowdsourcing platform prolific app. The survey took around 8 minutes to complete on average, and we compensated each participant with \$4.

**Survey setup:** In this survey description, we familiarized our participants with our context. We also presented examples of different types of comments for exemplification.

For every randomized comment pair, we asked a few questions to our participants—(i) would you agree or disagree that the Comment 1 was more “respectful” than Comment 2 (five-point Likert scale response) (ii) would you agree or disagree that the Comment 1 was “more respectful” than Comment 2 (five-point Likert scale response) (iii) do you think both the comments were made by same/different user and finally (iv) please briefly explain why do you think Comment 1 and 2 are made by same/different users.

The independent codes of our coders achieved a substantial agreement (Cohen’s Kappa  $k = 0.71$ ) Finally, the coders met and resolved the small number of disagreements in coding and assigned final codes.

**Codes to express justifications for the same/different commenter label:** Overall we identified four axes in our codebook (for analysing why our participants thought two comments might be written by different people) with multiple codes along each axes—(i) Emotional state of the commenter (e.g., aggressive, opinionated well-composed) (ii) Writing style (e.g., use of punctuation, grammatical construction, choice of words) (iii) Content type in the comment (e.g., factual, opinion, short explanation, long text) and (iv) Background and beliefs expressed in a comment (e.g., political leaning, general belief).

### B. Results

**Community comments changed towards an awardee after getting the award:** 75% of our participants identify the authors of comments on an awardee’s posts to be different people before and after the award (indicating the comment, though written by the same person, is perceived very differently).

**User community became more comfortable in their interaction with awardees** Participants felt that comments-before-awards were more formal towards the awardee compared to comments-after. We interpret this observation as a hint toward the phenomenon that the Reddit community generally becomes more agreeable to the awardees with more informal discussion.

**Community’s stance softened towards awardees** Our participants perceived that the comments-before-awards were *more well constructed* with facts than comments-after-awards, which identifies an increase in tolerance and decrease in the aggression of the Redditors towards awardees after they received an award.

Overall, our results identify that the Reddit communities have become more agreeable and softer in their approach toward award winners.

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