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Awards: Tangibility, Self-Signaling and Signaling to Others

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Awards: Tangibility, Self-Signaling and Signaling to Others

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Abstract

Awards are widely used as incentives. This paper situates awards in the broader incentives landscape and shows how the motivational value of awards can be understood through a framework that considers three sources of value: the tangible component of an award, the social signals it emits, and its self-signaling function. We identify and discuss several major characteristics of awards through the lenses of these three dimensions: the audience, scarcity, the giver's status, and the selection process. Based on our framework, we integrate the awards literature published across economics, psychology, management, and sociology journals to elucidate what has been learned and offer a roadmap for future experimental research on awards and incentives.

Keywords: awards, incentives, self-signaling, social signaling, tangibility

I. Introduction

Incentivizing agents to motivate desirable behaviors is at the core of many economic and social activities. Incentives, pecuniary or otherwise, take many forms. This paper focuses on awards, which are widely used but poorly understood (Frey & Gallus, 2017a). Despite a burgeoning literature on awards, our ability to understand their role as incentives is limited by a lack of definition on what counts as an award and what does not, as well as by the lack of a framework mapping the main dimensions that account for their motivational effects.

Defining awards is both difficult and important, given their wide variety of forms. Our definition of awards situates them within the larger incentives landscape. Awards are rewards that are conferred for merit (Oxford English Dictionary, 2024). More specifically, awards are formal recognitions typically granted by an organization or group, involving an audience of witnesses, with specified criteria and procedures. Awards are characterized by an explicit positive differentiation of a group of recipients, who are often labeled as recipients of said award, from a broader group of non-recipients. Many awards are recurring over time (either regularly or irregularly), and the repeated conferment builds a historical record of recognized individuals, groups, or organizations, enhancing the award's symbolic value.

The above characteristics distinguish awards from private feedback, praise, thank you notes, informal gestures of recognition (e.g., a spontaneous celebration of someone's achievements), and performance bonuses (sometimes confusingly referred to as awards). Yet the delineation from other incentives can be difficult, as in the case of fellowships, grants, badges, and certifications. Fellowships and grants blur the boundary because some of them are pure monetary payments that are not premised on the recognition of merit. The widespread and liberal use of these terms necessitates evaluation on a case-by-case basis. Badges are another interesting case, where one must distinguish between badges that function as certifications of having met basic standards (e.g., OSF badges) and those that recognize merit (e.g., Yelp Elites).

This article proposes a three-dimensional framework to systematically analyze the effects of awards, considering the award's tangible value, the social signals they emit, and their function as self-signals. These dimensions can have negative interactions, for example when an award's high social signaling value makes the recipient question their own motives for engaging in the behavior. They can also have positive interactions, for example when a higher monetary value helps establish an award by creating more positive social and self-signals. We apply this framework to review empirical studies of awards in the economics, psychology, management, and sociology literatures. This allows us to identify gaps and to propose hypotheses that can be tested in future work.

Our paper makes several contributions. First, we provide a simple framework through which the effects of awards can be analyzed across different organizational contexts. The three dimensions of tangibility, social signaling, and self-signaling reflect economic, social, and psychological mechanisms. We center our framework on the study of awards as *incentives*, which differentiates this work from the sociological research on awards that has focused on audience reactions .

Second, prior literature has emphasized the *differences* between economic incentives and awards (e.g., Frey, 2007; Frey & Gallus, 2016; Gubler et al., 2016). We differ from this work by including tangibility and thus, economic incentives, as a core dimension of our framework. This allows us to consider the complex interactions between economic mechanisms on the one hand, and social and psychological mechanisms on the other. It also allows us to analyze when and how awards have similar incentive effects as money, and when they serve as complements. Both cases are important for situating awards within the larger incentives landscape.

Third, previous work on the signaling functions of awards has mostly focused on signaling by the organization or by management (Gallus & Frey, 2017). We adopt a broader perspective on social signaling and moreover add self-signaling as a core dimension that is important for understanding the effects of awards. Our final contribution is to identify important characteristics of awards, which will guide future experimental work on the topic. We elucidate what the main characteristics of awards are (e.g., the selection process, the audience, the giver, the scarcity) and discuss these through the lenses of

our framework. By doing so, we provide a template for future studies on awards, which is a topic of growing interest to scholars within and beyond economics. Following in the footsteps of Parco et al. (2002), the framework will allow for future research to make and test predictions across settings, and to systematically vary key characteristics of awards to understand their implications.

More broadly, the paper also contributes to the literature on incentives and motivation. We extend past work that has covered when monetary and other tangible incentives backfire (Deci et al., 1999; U. Gneezy et al., 2011), and when and how work becomes a source of meaning that impacts performance (Cassar & Meier, 2018). Our article advances this research by emphasizing the unique nature of awards and by explaining how awards fit within the larger incentives landscape. With our framework, we move away from a discussion focused on extrinsic and intrinsic motivation (Deci & Ryan, 1987) to emphasize the complex interactions between economic, social, and psychological mechanisms. We argue that although awards are extrinsic incentives, they often function quite differently from monetary incentives. In the behavioral economics literature, awards are increasingly being studied as an intervention to motivate behavior—they benefit from being an extrinsic incentive that management can use, but at the same time, they do not need a monetary component and therefore tend to be less expensive, making them an attractive alternative (Gauri et al., 2021). We provide a framework through which to look at the findings in this area and highlight gaps that future work can examine. Through this, we contribute to the literature on non-pecuniary incentives and help shape the future trajectory of this under-researched field (Chen et al., 2021).

In what follows, we first introduce the three dimensions of awards. Section two examines interactions among these dimensions. Section three reviews the literature, highlighting the major characteristics of awards and how they influence the value of awards through the mechanisms of tangibility, social signaling, and self-signaling. We conclude with a discussion drawing attention to important areas for future research.

The Tangibility Dimension

Tangible incentives are those that have an economic value. They can be monetary or non-monetary. A tangible monetary incentive is an incentive with a clear dollar value that is fungible, such as cash, a check, or a gift card. A tangible non-monetary incentive is an incentive without a clear dollar value and which is not fungible. A watch given to employees as a holiday gift is an example.

Awards may or may not have a tangible component. When they do, the tangible component of awards can be trivial, as with a trophy. It can also be of significant value, as when professors are awarded one less class to teach for winning a teaching award. Adding a tangible component to an award, and in particular money, makes the award more easily comparable to other incentives, where the magnitude of the added financial incentive matters (Camerer & Hogarth, 1999; U. Gneezy & Rustichini, 2000; Parco et al., 2002). Tangible awards, both monetary and non-monetary, differ from regular monetary incentives because of their social and self-signaling functions. The monetary component can be secondary to the signaling functions: Brunt et al. (2012) examine the effect of an award given by the Royal Agricultural Society of England (RASE) scientific society on competitive entry and patenting, and find that the medals were viewed as more important than the monetary component. In a similar vein, The Nobel Prize grants a large dollar amount (tangible), yet a substantial portion of its value appears to lie in the honor of being selected or even just considered (social and self-signaling). The same is likely to be true of many corporate awards (e.g., Salesperson of the Year). We expect that the value of tangible awards is often higher than their cash value.

The Social Signaling Dimension

Social signaling arises in situations with asymmetric information where a person's actions can reveal information about themselves to others. Awards usually have a social signaling dimension, from which they derive some of their value (Gallus & Frey, 2017). For social signaling to arise, there must be an audience who learns about the award. The social signaling value of the award is higher the less readily the person's actions can be judged by others in the absence of the award. This can be because the

audience lacks the expertise to evaluate the person's work, or because the audience cannot observe what the person does. Winning a scholarly award or an award for exceptional technical achievements (e.g., being appointed IBM Fellow) signals ability—even to those who cannot understand the contribution itself. Receiving a medal for bravery in the battlefield signals to others that a person was brave—even without observability of the details of the actions. This is one proposed reason why Napoléon Bonaparte invented the Légion d'honneur, as the creation of the mass army meant that bravery became less observable than it used to be during small-scale raids or battles (Goode, 1978).

We can expect the social signaling value of an award to be higher the more “news” the award reveals and the more credible the signal. Based on this premise, awards that recognize merit in a desirable but counter-stereotypical domain should have strong social signaling value for the recipient, especially where performance evaluations are highly credible (e.g., for confirmatory awards based on clearly defined and observable metrics).

The Self-Signaling Dimension

People can be uncertain about their identity (Akerlof & Kranton, 2000), for example due to imperfect recall (Bénabou & Tirole, 2006). In these cases, people's actions can serve as self-signals about their “true type.” This idea has roots in social psychology, where self-perception theory posits that people's identities and self concepts are not fixed and not perfectly knowable by the individual (Bem, 1972). Instead, people infer what sort of person they are from observing themselves, in much the same way as we infer what sort of people others are by observing their behavior (Bodner & Prelec, 2003).

While actions can serve as a direct way to self-signal, receiving an award is not a choice that a person can make. Hence, the self-signaling function comes from the actions leading up to the award, and from others' choice to bestow the award. Awards may thus be expected to help recipients update their beliefs regarding their true type. For example, an individual who initially believes he or she is brave may validate this belief by demonstrating bravery in the battlefield. Receiving a medal magnifies the self-signal and further reinforces the belief.

Where individuals initially hold miscalibrated beliefs about their own performance or ability, for instance due to self-stereotyping that arises when working in fields associated with a different social category (e.g., women in STEM fields), awards may help align beliefs with actual ability (Gallus & Heikensten, 2020). Where individuals are unsure about what social groups they belong to and identify with, awards may serve to reinforce a sense of identity (e.g., Gallus, 2017).

II. Interactions among the three dimensions

The three dimensions of awards—social signaling, self-signaling, and tangibility—can interact directly or indirectly, and positively or negatively, to enhance or diminish an award’s overall value. As such, the different dimensions should not be viewed in isolation. Yet, the only study that systematically varies all three dimensions is Lourenço (2016). This is an opportunity for experimental research to advance our knowledge of the effects and mechanisms of awards. To inform future research, we lay out propositions for how interactions among the three dimensions can affect the motivational and performance effects of awards. Each section first covers the positive interactions, followed by possible negative interactions.

Interactions between social signaling and self-signaling

There are three key ways through which social signaling and self-signaling can be expected to interact positively, to indirectly and jointly affect the award’s value. First, a greater social signaling value can increase the recipient’s evaluation of the award’s significance, and, in turn, enhance its self-signaling value. A public awards ceremony strengthens the social signal because the audience enhances the credibility of the giver’s intentions—an individual recognized in front of others is less likely to question whether the praise is authentic. This public credibility can feed back into self-signaling by reinforcing the recipient’s sense of genuine achievement. The self-signaling function can also increase the social signaling value: once recipients internalize the idea that they deserve the honor, they may project greater confidence and competence in social settings, which cements their credibility in the eyes of others.

Second, a greater social signaling value can lead recipients to align their behavior with the values implied by the award, and vice versa. This mechanism can operate via a desire to meet expectations set by the award: “I received an environmental leadership award, so I better act in an environmentally responsible way.” The resulting behavior could entail belief updating, for instance through cognitive dissonance reduction. Once this self-signal is amplified, recipients may further engage in pro-environmental behaviors, which further reinforces the social signaling value of the award. Restivo & van de Rijt (2012) illustrate this cycle: Receiving a "barnstar" badge increased productivity of highly active but previously unrecognized Wikipedia editors by 60%, and also, importantly, increased the likelihood of receiving additional barnstars.

Lastly, social and self-signaling also interact positively and reinforce one another when beliefs about the award are updated. If others—especially respected peers, institutions, or the media—place high value on an award (giving it a high social signaling value), the recipient may revise their own beliefs about its significance. The positive external reactions serve as a recurring reminder of the award’s value, solidifying the recipient’s self belief. Likewise, if recipients internalize the award’s values and act the part, their behavior may positively shape social evaluations and thus the social signaling value of the award.

However, the interactions can also be negative. The first condition under which this can happen is when the underlying behavior has low or no social signaling value, and is not pursued out of continued intrinsic motivation. In such cases, getting an award may lead recipients to infer that they meet or exceed relevant performance thresholds, and may give them a license to shift their efforts towards other dimensions (Borjas & Doran, 2015; Malmendier & Tate, 2009; Robinson et al., 2021; Yu et al., 2024). The second condition is when the social signaling value is high, which may provoke crowding-out effects like the ones observed for other extrinsic incentives: recipients may start to doubt their own motivations (U. Gneezy et al., 2011). Though not in the context of awards, an experiment by Gneezy et al. (2012) demonstrates how self- and social signaling can conflict. In a restaurant setting, the authors manipulated whether diners paid privately (by putting money into a sealed envelope) or publicly (by paying the owner

directly). Their finding that diners paid more when asked to pay anonymously than when observed is consistent with a negative interaction among the two kinds of signaling: Being monitored by the owner interfered with the self-signaling mechanism, leading individuals to believe they would be paying because they “had to,” not because of their intrinsic qualities and motivations.

Interactions between tangibility and social signaling

Tangibility and social signaling can interact positively, such as when greater tangibility enhances the credibility of the award, when it increases competition for the award and thus the social signal of winning it, or when it draws increased audience attention. Thus, a larger tangible prize may be needed to establish the prestige and signaling functions of a new award, or to turn an award given for a behavior that is not signal worthy (e.g., attendance at school; Robinson et al., 2021) into something individuals would strive to achieve. Vice versa, the social signaling value can enhance the expected tangible returns from an award, as has been shown in the arts, in business and in other fields (e.g., Beer et al., 2022; Ginsburgh & Van Ours, 2003; Nelson et al., 2001).

Interactions between tangibility and social signaling can also be negative. The audience may infer that the award winners only exerted effort for personal gain, not because of their intrinsic qualities or motivations (Bénabou & Tirole, 2006). Ariely, Bracha, and Meier (2009) find that when prosocial actions are visible to others, individuals are motivated by the positive image these actions convey. However, introducing extrinsic monetary incentives can dilute this effect, as observers may question whether the actions are driven by genuine altruism or personal gain. This dilution is particularly pronounced in public settings, where actions are more visible, leading to a potential decrease in prosocial behavior due to crowding out.

In some social contexts, tangible monetary awards may be unacceptable, while non-monetary ones may be considered appropriate. Consider a medal awarded for bravery in the battlefield, where the addition of a precise monetary value may cheapen the commendation in the eyes of the public (U. Gneezy & Rustichini, 2000) or suggest a market-pricing based interaction (Gallus et al., 2022).

Interactions between tangibility and self-signaling

Tangibility and self-signaling can interact positively, in much the same way as social and self-signaling can interact: A greater tangible component can lead recipients to favorably update their beliefs about the award's credibility and importance, which can reinforce the self-signal. Vice versa, an enhanced self-signaling value can lead recipients to more strongly internalize the values or message of the award and act accordingly, which may bolster confidence and lead to improved tangible outcomes. These interactions should be isolated and tested in future experimental work.

The interactions between tangibility and self-signaling can also be negative. A larger tangible award may lead recipients to question whether they engaged in the activity because they care about it, or simply because of the tangible benefits that come with winning. Kirgios et al. (2020) highlight this tension in the domain of financial incentives, noting that although they are often effective at inducing good behavior, financial incentives can have self-image costs: those who receive them may view their action less positively. The authors resolve this tension by motivating participants with financial rewards and then giving them the opportunity to forgo those rewards to signal their past actions were intrinsically motivated. Similar behavior can be observed with some awards, where recipients donate the tangible component (Bengali & Santora, 2021; Hopkins, 2023). Gneezy and Rustichini (2000) demonstrate that explicit monetary incentives can replace an intrinsic sense of duty or goodwill with a transactional mindset, thereby altering both how individuals see themselves and how others view their motives. Related work by Bowles discusses how incentives can backfire by signaling that self-interested behavior is appropriate, thereby undermining self-signals (Bowles, 2008).

Awards differ from simple monetary incentives in that they necessarily involve a social signaling element—often visible to peers, superiors, or the broader public. Coupled with a potentially significant tangible dimension, this social component can make awards highly coveted forms of extrinsic incentives. At the same time, the behaviors and values emphasized by an award can trigger self-signaling and reputation-building dynamics that may encourage recipients to continue performing the desired behaviors or, in some instances, lead to adverse effects if the recognition negatively affects the self-signal. This

underscores the need for further research on how best to design and implement awards so as to capture their unique motivational benefits while minimizing potential pitfalls.

III. How the characteristics of awards shape their value

The extant body of research on awards has yet to agree on a set of characteristics that awards typically hold in common. We have advanced a definition of awards, and we moreover propose what can be considered key characteristics of awards. We discuss how they may influence the value of awards through the three dimensions of tangibility, social signaling and self-signaling. Specifically, we consider the audience, the scarcity of the award, the status of the giver, and key aspects of the selection process. We discuss these characteristics through the lenses of the three dimensions to show how they help us understand the motivational effects of awards.

Table 1 provides a summary of the literature on awards as incentives. Based on our theoretical framework, we code the awards studies that have been published in top economics and management journals to date (n = 37 papers). The table's aim is to thoroughly review and integrate the literature and to provide a quick way of which of the three dimensions most likely drove the effects of any particular award (see Column 2), what types of awards have been studied (see the columns on award characteristics), and what results were obtained. Table A.1 in the Online Appendix goes into more detail on each of the columns. As before, we draw on the literature where possible, but we note that many studies have analyzed the overall effects of a given award, without paying attention to how that effect may have been shaped by the specific award characteristics. Thus, where evidence is lacking, we offer conjectures that would benefit from careful experimental examination.

In Table 1, the columns on the characteristics of awards provide more information and facilitate judgment of which mechanisms may be at play. They follow available information about the award in the paper, and where possible, we attempt to supplement with information that can be found on the award by searching online. All awards in the table are public, by virtue of being an award. "Audience" specifies whether the award was expressly presented in front of a specific group (S) or was simply visible to the

public (P). “Scarcity” refers to whether the quantity of the award was artificially capped. “High-status giver” refers to the status of the person or organization conferring the award relative to the recipient. “Nomination” describes whether the selection process included no nomination, nominations by the self, or nominations by peers. In the “Criteria” column, “Relative” indicates competition (e.g., the award is given to the fastest runner); “Absolute” indicates crossing or fulfilling absolute criteria (e.g., the award is given to anyone who crosses the finish line). In the “Evaluation” column, “Subjective” indicates that the evaluation process included some form of subjectivity by the evaluators while “Objective” indicates that the evaluation process was explicitly tied to measurable performance dimensions. “O + Rand” indicates that the paper included some objective and random evaluations in the evaluation process; “Rand” is based on the agents’ perception (not on whether there was randomization behind the scenes). Finally, the “Results” column focuses on the effects of the award rather than addressing all programs that may have been studied in the paper.

We grouped the papers by outcome: whether the award had a positive effect on outcomes (n = 26 papers), negative effects (n = 7 papers), or mixed effects (n = 4 papers). Many of the studies display nuanced findings that resist easy classification, reinforcing the importance of examining the specific award characteristics and the contexts in which awards are bestowed.

Study	Main Dimensions	Award	Audience:			Characteristics of Award			Methodology: Experimental (E), Observational (O)	Population	Summary of results
			Specific group (S), Public (P)	Scarcity (capped)	High-status giver	Nomination: No (X), By others (O), By self (S)	Criteria: Absolute (A), Relative (R)	Subjective (S), Objective (O), Random (Rand)			
Positive Effects											
Ammann et al. (2016)	Social signaling	Business press awards given at a ceremony: e.g., Business Week's "Best Manager of the Year" award, Chief Executive, Electronic Business Magazine, Financial World, Forbes, Industry Week, Morningstar, Time, and Time/CNN	S	✓	✓	N/A	R	S	O: Event study with propensity score matching to analyze stock market performance of competitors of CEO award winners (treatment group) compared to competitors of predicted winners (control group). Diff-in-diff to study changes in risk-taking, operating performance, and innovation behavior. Data on awards from 1992-2008.	Competitors of CEO award winners and competitors of matched non winners	Positive cumulative abnormal stock market returns for competitors of award-winning CEOs after award. Competitors increased risk taking, operating performance, and engagement in patenting activities.
Anderson et al. (2015)	Social signaling, Self-signaling	Stack Overflow badges for voting on others' contributions	P	X	X	X	A	O	O: Model and analysis of user behavior on Stack Overflow. Estimated effect of badges on platform activity: voting on others' questions and answers, posting questions and answers.	Stack Overflow users	Site activity increased as users approached a given badge; users shifted effort towards incentivized actions.
Ashraf et al. (2014)	Social signaling, Tangibility	Star stamps "thermometer" display and possibility of certificate and ceremony	S	N/A	N/A	X	A	O	E: Field experiment with barber/hairdresser shops; measured the effect of awards (star stamp thermometer vs. large and small monetary piece rate vs. control) on condom sales to customers.	N = 771 stylists	Awards improved performance (i.e., increased condom sales). The effect of both the financial incentives and the non financial award was stronger for pro-socially motivated agents. Both were effective when their relative value was high.
Ball et al. (2001)	Social signaling	Star worn during the experiment (earned vs. random), conferred with applause by other subjects, preferential treatment by experimenters	S	✓	X	X	R	O + Rand	E: Lab experiment with assignment to high/low-status groups (earned vs. obviously random star awards) and high/low-pay conditions (\$10 vs. 10 hershey's kisses); measured effect on ultimatum game outcomes for high- and low-status groups.	N = 220 students	Status (award) had an effect on price and allocation of resources, even when status was attained through an obviously random process.
Beer et al. (2022)	Social signaling	Ribbon on computer screen	S	X	X	X	A	S	E: Lab experiment; participants played six rounds of a computerized game in which two buyers and two suppliers transacted in two periods and buyers could give suppliers symbolic award (control vs. private award vs. public award vs. private award but public quality provision); measured the effect on provision of quality and prices/profit.	N = 156 University of Michigan students	Receiving private symbolic awards led to higher provision of quality and higher buyer profits. Effect disappeared when awards were made public because buyers had to pay higher prices to get the good suppliers and because making the award public "crowded out the intrinsic value of the award for suppliers". Efficiency gains occurred only when the award was private and quality was public.
Bhattacharyya, Banerjee & Kankanhalli (2020)	Social signaling	Yelp Elite badge	P	X	✓	O or S	N/A	S	E: Quasi-experimental study with ex-post facto design; analyzed "Elite" reviewers who received the badge, "Elite" reviewers who received the badge multiple times, and "unrecognized" reviewers who had similar profiles, but did not receive the badge; measured contribution effort and quantity.	N = 750 reviewers	First-time recognition had positive efforts on contribution behavior (effort and quantity), but contribution declined with repeated recognition. For the deserving yet unrecognized reviewers, the researchers observed reductions in contribution effort and quantity.
Botelho & Gertsberg (2022)	Social signaling	Yelp Elite badge	P	X	✓	O or S	N/A	S	O: Analysis of Yelp field data; compared reviews by evaluators who received the Yelp Elite badge against reviews by evaluators who did not.	N = 619,125 reviewers	After evaluators received a Yelp Elite badge, the gap between their restaurant ratings where they referenced server gender as female versus male narrowed by more than half.
Brunt et al. (2012)	Social signaling	Medals and monetary prizes (totalling ~£1 million in current prices)	P	✓	✓	S	R	S	O: Analysis of archival data; analyzed effect of award on competitive entry and patenting after awards were given for certain innovations.	RASE inventions	Awards increased competitive entry and patenting; medals were more important than monetary prizes.
Card et al. (2022)	Social signaling	Econometric Society Fellowship	P	X	✓	O	R	O	O: Studied the nomination and selection of Fellows of the Econometric Society with respect to gender.	N = ~40,000 actively publishing economists	Conditional on achievement, there was a large negative gap in the probability that women were selected as Fellows in the 1933-1979 period. This gap became positive from 1980 to 2010, and has become large and highly significant in the past decade. The effect is driven by the nomination process: Since 2012 the Committee has had an explicit mandate to nominate highly qualified women.
Chan et al. (2014)	Social signaling, Self-signaling	John Bates Clark Medal and Econometric Society Fellowship	P	✓	✓	O	R	S	O: Synthetic control method; compared productivity (publications) and status (citations) of award winners with synthetic control group of non-recipient scholars.	Winners of Clark Medal and Econometric Society Fellowship vs. synthetic control	Winners were more productive and their previous publications drew more citations, indicating a status effect.

Cicognani et al. (2023)	Social signaling, Self-signaling	IBM World Community Grid badges for referrals (Bronze, Silver, Gold, Ruby, and Emerald)	P	X	X	X	A	O	E: Field experiment with IBM World Community Grid; tested effectiveness of symbolic awards (i.e., badges that are visible on each user's public profile page) in encouraging referrals; 3 treatments and a control, the entry level and steepness (the minimum number of new recruits that is needed to receive the first award, and the additional number of recruits that is needed to receive further awards) varied.	N = 384,168 IBM WCG users	Symbolic incentives more than double the number of recruiters and recruits compared to the control group, but the specific form of the incentive scheme does not matter. The incentive scheme with the highest initial threshold achieves the best results; providing an ambitious initial threshold induces people to exert more effort.
Favaron, Di Stefano & Durand (2022)	Social signaling	Michelin Guide restaurant and/or awarded a Michelin star	P	X	✓	O	R	S	E: Quasi experiment using a diff-in-diff design; treatment group consisted of restaurants included in the Guide, comparison groups were DC restaurants that failed to be included, and similar restaurants in Boston, a comparable city that Michelin has not entered.	N = 83 Michelin restaurants, 143 DC control, 83 Boston control	Awarded restaurants reacted to their new status position: Restaurants with high prior standing emphasized attributes that channeled authenticity and value (e.g., adjusted pricing, emphasized technique). Those with low prior standing acted on descriptive attributes (e.g., modified how their menus looked).
Gallus (2017)	Social signaling, Self-signaling	Edelweiss award given by board of senior community members to new contributors	P	✓	✓	X	R	S	E: Natural field experiment; for 11 consecutive months, 150 new Wikipedia editors per month were randomly selected (out of eligible pool) to receive symbolic award.	N = 4,007 new Wikipedia editors	The awards had a significant positive effect on newcomer retention, which persisted for over one year.
Gallus & Heikensten (2020)	Self-signaling	Math Master award for best in team, awarded either as (T1) private feedback, (T2) virtual award, or (T3) in public ceremony	S	✓	X	X	R	O	E: Lab experiment; tested effect of different recognition types (private feedback, virtual award, public ceremony with face-to-face exposure) on subjects' confidence to "speak up" and advance their idea to their group.	N = 378 students	Awards increased high-ability subjects' confidence to speak up and share knowledge.
Gallus, Jung & Lakhani (2020)	Social signaling	Recognition in front of management (official letter highlighting leadership and other demonstrated skills)	S	✓	N/A	X	R	S	E: Natural field experiment with NASA; tested effect of different award incentives (recognition by management vs. in front of online platform participants vs. local peers) on employee engagement with new innovation platform (also compared to mission incentive).	N = 11,192 NASA employees; Interview study (N=53)	Managerial recognition increased platform engagement by signaling appreciation and legitimacy of platform. Recognition in front of immediate peers or online was not found to be effective.
Gerhards & Siemer (2016)	Self-signaling	Public feedback with a ceremony (winner publicly praised, non-winning subjects asked to applaud and congratulate, photo inserted into winner certificates to be posted in lab for 2 weeks)	S	✓	X	X	R	O	E: Lab experiment; measured the effect of incentives (public vs. private feedback vs. control) on performance on slider and picture tasks.	N = 279 Goethe-University Frankfurt students	Both treatments led to performance increases compared to control; public no different from private rank information.
Kosfeld & Neckermann (2011)	Social signaling	Personalized congratulatory card signed by lab's managing director	S	✓	✓	X	R	O	E: Field experiment (award vs. control); measured the effect on performance on a data entry task.	N = 150 students	Award increased performance on data entry job (by 12% on average).
Kosfeld et al. (2017)	Social signaling	Smiley button publicly awarded by RA at end of work session	S	✓	X	X	R	S	E: Field experiment, 2 (low vs. high work meaning) x 3 (promise of recognition incentives vs. monetary piece rate vs. control) design; measured the effect of meaning and incentives on performance on data entry task.	N = 413 students	Recognition substantially increased performance only if workers' perceived meaning of the task was low.
Lacetera & Macis (2010)	Social signaling	Blood donation medals: awarded privately (pick up at local office) vs. in public (ceremony, name published in local newspaper)	P	X	✓	X	A	O	O: Longitudinal data analysis of the frequency of blood donations under different incentives (private award for 8th, 16th, and 24th donations; public award for 50th, 75th, and 100th donations).	N = 2,009 blood donors	Social image concerns led to increase in frequency of blood donations immediately before reaching quota, but only for public awards.
Levitt et al. (2016)	Tangibility	Award trophy	S	X	X	X	A	O	E: Field experiment; tested effect of different incentives for score improvement (\$10 vs. \$20 vs. trophy vs. 2 controls; also loss vs. gain; immediate vs. delayed) on students' effort provision on low-stakes tests.	N = 6,844 students	Both money and awards had a positive effect on test scores; awards were more cost-effective for younger students. Effect disappeared when announced to be given with delay.
Lourenço (2016)	Social signaling, Tangibility	Promised an award certificate: Gold, Silver, Bronze, Promising Rep, to be given by direct supervisor, signed by CEO, with public mention in company newsletter at the end of the experiment	S	X	✓	X	A	O	E: Field experiment (recognition for sales goal achievement vs. \$10-\$30 bonus vs. feedback vs. control); measured the effect on meeting sales goals.	N = 352 part-time sales representatives	Recognition (certificate) increased sales performance, as did monetary incentives. Monetary incentives and recognition are substitutes; negative interaction suggests crowding out between payoffs and social esteem motivations; feedback is independent.
Moreira (2017)	Self-signaling	Brazil's Math Olympiad "Honorable Mention"	S	✓	✓	X	R	O	O: Regression discontinuity design; compared student performance in classrooms with narrow winners vs. narrow losers of the award.	Brazil Math Olympiad participants	Award improved future educational outcomes of both the winner and classmates by enhancing ex post motivation and effort. Proximity to winner as key mediating channel: spillovers largest for classmates in the top quartile of the test score distribution.
Neckermann et al. (2014)	Social signaling, Tangibility	"Gold Reward" for social activities, certificate & \$150 bonus	S	X	✓	O	A	S	O: Panel data analysis; looked at how a call center award given for "valuable activities" such as substituting for colleagues affected subsequent employee performance on core tasks.	N = 155 call center employees	Increased core call center performance after winning award. Short-lived effect, mainly driven by underperforming agents.
Neckermann & Frey (2013)	Social signaling, Tangibility	Cooperation Award (hypothetical); varying type (gift, cash of up to \$10000), publicity (anonymous, intranet, intranet + ceremony), scarcity (number of recipients)	S	✓	✓	O	N/A	S	E: Hypothetical vignettes survey experiment; measured effect of hypothetical award for cooperation on knowledge sharing intentions.	N = 211 observations from 54 researchers	Prospect of ceremony led to increase in employee contributions by as much as increasing value of monetary prize from \$0 to \$1000

Restivo & van de Rijt (2012)	Social signaling, Self-signaling	"Barnstar" (editing badge on Wikipedia)	P	X	X	X	N/A	S + R	E: Field experiment; looked at effect of barnstar given by a Wikipedia contributor on recipients' contribution over following 90 days.	N = 200 Wikipedia contributors	Receiving a "barnstar" increased productivity of highly active but previously unrecognized editors by 60%. It also increased the likelihood of receiving additional barnstars.
Stemrod et al. (2019)	Social signaling, Self-signaling, Tangibility	Taxpayers Privileges and Honour Card program: acknowledges top 100 taxpayers with ceremony and benefits (e.g., gratis passports)	S	✓	✓	X	R	O	O: Difference-in-difference analysis; measured effect of the recognition program on reported tax liability (also compared this to a public visibility program).	Pakistani taxpayers	Social recognition increased reported tax liability.

Negative Effects

Borjas & Doran (2015)	Social signaling, Self-signaling	Fields Medal	P	✓	✓	X	R	S	O: Analysis of archival data; analyzed the shape of the age-productivity profile of mathematicians (Fields medalists and losing contenders) using data from the American Mathematical Society and the Mathematics Genealogy Project.	Fields medalists and non winning contenders	Winners' productivity declined; medalists began to "play the field," studying unfamiliar topics at the expense of writing papers.
Liao et al. (2023)	Social signaling, Self-signaling	Employees of the Year Award	S	✓	✓	O	R	S	O: Difference-in-difference analysis; measured collaboration responsiveness (how quickly employees responded to requests from colleagues) of nominees who did not win vs. non-nominees vs. award winners.	N = 160,830 collaboration records of 494 employees	Nonwinner nominees are less likely to collaborate with award winners, especially if they are structurally close to the winner (e.g., in the same team or department). The negative impact on collaboration is driven by emotional reactions (e.g., frustration, disappointment). Over time, nonwinner nominees increase their collaboration responsiveness to colleagues in general (excluding winners).
Li & Lu (2021)	Social signaling	"Best-Rookie" award given at company-wide meeting where their ranking and first quarter life insurance commission are publicly posted	S	✓	✓	X	R	O	O: Regression discontinuity design; analyzed effect of award program on life insurance commission earned in subsequent quarter.	N = 1,837 rookie salespeople	Barely winners earned less life insurance commission than barely losers in the quarter following the award, driven by winners earning less than previous quarter, while losers' earnings remained unchanged.
Malmendier & Tate (2009)	Social signaling	Business press awards given at a ceremony	S	✓	✓	N/A	R	S	O: Nearest-neighbor matching; compared firm performance for CEOs who received prestigious business awards to their prior performance and to matched sample of non-winning CEOs.	CEO award winners and matched non winners	Negative effect on firm performance as CEOs turned to outside activities.
Robinson et al. (2019)	Self-signaling	Attendance award certificate sent to students' homes, announced (prospective) vs. surprise (retrospective)	S	X	✓	X	A	O	E: Field experiment; measured the effect of attendance awards (prospective vs retrospective vs control) on student attendance.	N = 15,329 students	Awards led to worse attendance by signaling that recipients had surpassed the social norm and exceeded the giver's expectations on a non-signalworthy dimension (attendance). Recipients felt licensed to miss more school going forward. Negative effects after incentive removal indicates crowding-out.
Shi et al. (2017)	Social signaling, Self-signaling	CEO awards from business media given at a ceremony: Businessweek, Financial World Gold/Silver Awards, Forbes, Chief Executive, and Harvard Business Review	S	✓	✓	N/A	R	S	O: Difference-in-differences analysis and matching; compared change in acquisition activities of CEO award competitors' firms from pre- to post-award period to the change among a matched group of control firms over same period.	Firms with CEOs who are competitors to award winners vs. their competitor firms (who do not directly compete in same industry as award winning firms)	Non-winning competing CEOs' firms engaged in more intensive acquisition activities in postaward period; effect stronger the closer the CEO was to winning the award. Acquisitions during postaward period realized lower announcement returns compared to acquisitions by same CEOs in preaward period.
Yu, Liang & Xie (2024)	Self-signaling	Publons Global Peer Review Award	P	✓	✓	X	R	O	O: Difference-in-differences analysis and matching; examined the impact of the award on reviewers' subsequent number of reviews, matched individuals who received the award with nonwinners.	N = 711 winners and 762 non winners	After receiving the award, winners, on average, review about four fewer manuscripts, with the reduction exhibiting a V-shaped pattern.

Mixed Results

Ashraf et al. (2014) -- second paper	Social signaling, Self-signaling	Employer recognition award: congratulatory letter, revelation of names of top 2 and top 2 improved to others; Social visibility award: 1 of top 4 randomly selected for interview in local newsletter, revelation of names to others; Public social comparison: revelation of names to others	S	✓	✓	X	R	O	E: Field experiment; measured effect on test scores in health worker training courses; Conditions: Control (letter reporting own scores), T1/Private social comparison (letter + rank + score improvement rank), T2/Public social comparison (T1 + names of top 4 in class), T3/Employer recognition (T2 + top 4 get congratulatory letter from employer), T4/Social visibility award (T2 + one of top 4 randomly selected for interview in local newsletter).	N = 314 Zambian health workers	Zero net effect of awards (T3, T4): the positive effect of employer recognition and social visibility was offset by the negative effect of social comparison. Effects mainly driven by low-ability trainees.
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Foerderer, Lueker & Heinzl (2021)	Social signaling, Self-signaling	Google Play Awards	S	✓	✓	O	R	N/A	E: Quasi experiment using a diff-in-diff design; treatment group consisted of those app developers who won the award, control consisted of the runners-up.	N = 125 award nominees	Winning the award encouraged recipients to focus on releasing complement improvements rather than new complements, increased recipients' likelihood of multihoming, and increased new complement releases in the recipients' market niche by attracting other complementors.
Gauri et al. (2021)	Social signaling, Tangibility	Stars were displayed in a public place on a "Certificate of Excellence" + photograph and honorable handshake with the Permanent Secretary of Health in a special ceremony	S	N/A	✓	✗	A	O	E: Field experiment in two Nigerian states on bureaucrats performing identical tasks. Control vs. social recognition group, with the goal of improving record keeping in health facilities.	N = 140 facilities	Social recognition improved performance in one state but had no effect in the other.
Gubler et al. (2016)	Tangibility	Attendance award: eligible employees announced at monthly plant wide meeting, one randomly selected to receive \$75 gift card	S	✗	✓	✗	A	O + R	E: Quasi experiment, 1 treatment plant, 4 control plants of industrial laundry company; measured effect of award program on attendance and other performance dimensions.	N = 218 laundry plant employees	Award had positive effects on attendance of employees who previously had punctuality problems, but there was no habituation. Additionally, gaming, and crowding-out of internal motivation among employees who previously had good attendance, worsening performance also on tasks not included in the award program.

Table 1

Notes: The table provides an overview of the literature on awards as incentives. Column 2 summarizes which of the three dimensions most likely drove the effects of the award in question. Our interpretation correlates strongly with what the authors identify as the main mechanism, but there are cases in which we think another dimension, not mentioned by the authors, may also be at play (e.g., self-signaling). The columns on the characteristics of awards provide more information and facilitate judgment of which dimension is aided.

Audience

Social signal: An audience is necessary for an award to have social signaling value. Audiences can vary in size and type. The Audience column in Table 1 specifies whether the award was conferred in front of a specific group of people (e.g., peers/colleagues, managers/leaders, other ceremony attendees) (n = 24 papers) or the public writ large (n = 13 papers). While this was not discussed specifically in the papers, we can see that past work has considered various types of audiences: the general public, specific groups (e.g., Business Press Award attendees, peers in a given company), and even the experimenter and other participants in the context of lab experiments (Ball et al., 2001). We expect an award's social signaling value to increase with the size of the audience, as well as with its relevance. The audience may have tangible relevance (e.g., a boss deciding on promotions), or self-signaling relevance (e.g., patients whom one helped).

Award ceremonies are a major way of curating the audience. Within organizations, the presence of board members and senior leadership may increase the value of awards (Deloitte, 2019). Indeed, it is often the case that a large fraction of the costs of award bestowals can be traced back to the ceremony (English, 2014; McKinsey & Company, 2009). Table 1 shows that several studies have examined awards that involve a ceremony. Among those, Neckermann and Frey (2013) is notable for estimating the monetary value of a ceremony, finding that a ceremony increased employees' stated willingness to share important information with colleagues by as much as increasing the cash value of the award from \$0 to \$1,000. Lacetera and Macis (2010) find that awarding blood donors only boosts the frequency of donations among existing donors if the award is promised to be made public through an announcement in the local newspaper and a ceremony. These and other studies in the table point to the important motivational role played by the audience, which has yet to be studied more systematically in field contexts.

The choice of audience also necessitates consideration of risks. Indeed, not all awards are maximally public—in some cases, the social signaling function is deliberately curtailed. This may be because of negative consequences resulting from non-recipients' sentiments and envy (Li & Lu, 2022;

Liao et al., 2023; Nickerson & Zenger, 2008; Obloj & Zenger, 2017), or because recipients may fear social sanctions from peers and consequently adjust their behavior downward in order to “fit in” (Bursztyn & Jensen, 2015). Awards may moreover lead to inadvertent attrition of a firm’s talent if the awards serve as public quality signals (Akerlof, 1970; Gallus & Frey, 2016). These costs can explain cases where organizations explicitly ask employees to not disclose their receipt of an award to others (we are not aware of any research investigating such cases), and those where organizations carefully limit the audience that witnesses the award to higher-ups or to outsiders like the recipients’ families (Robinson et al., 2021).

Self-signal: The audience also affects the self-signal associated with an award. Receiving an award in front of an audience can confirm to the recipients that they are indeed among a defined group of honorees. With an audience, the giver puts their reputation on the line. This differentiates awards from positive feedback and praise, which can in principle be given to anybody, at no reputational cost to the giver, and may therefore serve as a less credible signal.

A few papers in Table 1 speak to how the presence or absence of an audience might affect the self-signaling function of awards, and point to interesting questions for future research. In a study on buyer-supplier relationships in the laboratory, Beer et al. (2022) found that receiving private symbolic awards led to higher provision of quality and higher buyer profits. The effect disappeared when awards were made public in part because buyers had to pay higher prices to get the good suppliers, but also because making the award public “crowded out the intrinsic value of the award for suppliers.” Efficiency gains occurred only when the award was private and quality was public.

Gallus and Heikensten (2020) find the opposite, but in a different context: In a laboratory experiment examining the effects of public awards on the gender gap in sharing ideas, a public ceremony closed the gender gap in contributions while privately provided awards did not. Further exploratory analyses suggest that the publicness and with it the visibility of the audience of non-recipients may have enhanced women’s trust in the award’s signal. Without an audience, some groups of people may be less

likely to believe that an award they received is reserved for special achievement, reducing the self-signaling value.

Future work can test these and other implications that different kinds of audiences may have for the self-signaling functions of awards. This is all the more important since standard monetary incentives and private feedback interventions lack this public accountability dimension. Experimental work can help systematically test when (and for whom) public recognition enhances or undermines the self-signaling function of awards.

Tangibility: The audience of an award can have significant implications for its expected tangible value to the recipient. Several studies highlight how winning an award can boost recipients' subsequent success in tangible ways, such as by increasing book sales, citations, or stock market returns for firms whose CEOs won awards (e.g., Ammann et al., 2016; Azoulay et al., 2014; Chan et al., 2014; English, 2014). In academia, Merton (1968) famously labeled the phenomenon of cumulative advantage the “Matthew Effect,” whereby recognition (including awards) tends to amplify the visibility and citations of already-productive scholars. Although it is plausible that similar benefits from winning an award could arise in workplace contexts—leading, for example, to promotions or improved performance evaluations—Table 1 shows that this remains a largely open question in need of systematic empirical testing.

Scarcity

Social signal: In creating an award, scarcity is often self imposed by the group conferring the award. Scarcity depends on the frequency of events and the number of awards bestowed per event. While other rewards can be given out frequently without losing value, awards derive part of their worth from their scarcity. Discussions around notable awards like the Nobel Prize (which has seen the addition of awards in new fields) or the John Bates Clark Medal (which started being given out more frequently) suggest that scarcity plays a major role. Indeed, for a long time observers have noted a proliferation of awards (e.g., Barro et al., 2011; Frey & Gallus, 2016; Goode, 1978). This may be facilitated at least in part by the fact

that the provision of awards is not inherently limited by a budget constraint if the award does not have a significant tangible component. Hansen and Weisbrod (1972) already noted that while awards are desired and often costless to produce, “it does not follow that allocative efficiency calls for an unlimited increase in their number.” This is largely due to the effect that a decrease in scarcity has on the award’s social signaling value. Giving the same award out too often, or handing out too many different awards in a given field, diffuses attention.

Determining the optimal number of recipients for a given award is non-trivial because reputation pooling among recipients may lead to positive interactions that increase the social signaling value of the award for each individual recipient—despite the apparent reduction in scarcity. The number of awards should also shape the reactions of non-winners, whose likelihood of winning in the future depends on the award’s scarcity. As Table 1 shows, these conjectures remain to be tested.

The table shows that in 21 papers, the awards in question were capped. Yet, the degree of scarcity is often simply taken as a fixed attribute of an award, and is not systematically studied to test its implications for social signaling. Though not explicitly on awards but rather recognition, Bradler et al. (2016) shed light on what the implications of different degrees of scarcity may be. The study who varied whether recognition was given to the top performer, the top three, or all eight workers. The authors found that recognition increased subsequent performance substantially when given to the best three performers out of a group of eight, and that these effects were driven by non-recipients who were subsequently working harder.

Self-signal: Scarcity also affects self-signaling: Receiving an award that is scarce may signal to the recipient that their performance is a rare achievement. In contrast, the proliferation of awards may reduce an award’s value. To mitigate such a loss in value while reaching a broader share of employees, organizations have been observed to diversify their award programs (Gallus, 2011). One form of diversification is horizontal diversification, where organizations create awards for different types of behaviors, such as awards for different performance categories (e.g., life insurance sales, auto insurance

sales, etc.). To the extent that these awards occupy separate mental bins, as posited by Best (2008), we may expect them to maintain distinct self-signaling value despite the proliferation. Similarly, vertically diversified award schemes may retain self-signaling value for recipients, especially if built on an outlined progression where recipients may expect of themselves to climb in the rungs of the award (e.g., in national honors systems).

Tangibility: We expect scarcer awards to have larger tangible implications, because of the stronger social signaling function (all else held constant). Naturally, scarcity can also directly affect the tangible value of a given award if there is a set budget and the tangible component coming with each award is a fraction of the total budget. Vice versa, the budget may affect decisions about scarcity, which should in turn affect the self- and social signaling value. Lastly, the tangible element of an award may be used to make up for the foregone signaling value of an award that is not kept scarce.

This illustrates how the three dimensions can interact, offering further avenues that future work on awards needs to investigate. We are not aware of any research on the relationship between scarcity, tangibility, and signaling, and consider it an important direction for future research.

Status of the giver

Awards must be conferred by another party—they cannot be purchased.¹ The giver can be a group or an organization, an organizational insider or an external party (e.g., media). Table 1 shows that extant research has analyzed the effects of awards with different kinds of givers, including prestigious academic associations (e.g., Chan et al., 2014), the business press (e.g., Malmendier & Tate, 2009; Shi et al., 2017), and senior leadership within organizations (e.g., Li & Lu, 2022; Liao et al., 2023; Lourenço, 2016). In the lab, most rely on the experimentalist as the giver (e.g., Kosfeld & Neckermann, 2011).

¹ Technically, it is possible to buy certain awards (trophies, orders, etc.). But these transactions are in the domain of collectibles and not relevant for the study of awards as incentives. They are also excluded by our definition of awards.

As stated by Goode (1978), for an award to be valuable, it is important that the giver “possesses prestige to confer on others” (p 152). Put another way, the status of the giver is an important dimension. Yet, we are not aware of research that has systematically varied the status of the giver. We consider this an opportunity, especially for lab experimentalists who may be in a better position to vary this dimension. Below, we focus on outlining several predictions. Most fundamentally, we propose that the value of an award increases in the status of the giver (where status is evaluated from the perspective of the awardee(s) in question). In 26 of the papers reviewed in Table 1, the awards in questions were presented by a high-status giver.

Social signal: The social signaling value of an award should increase with the status of the giver. In organizations with multiple different awards, the status of the givers relative to one-another can induce a ranking of those awards. Awards given by the CEO likely have a greater social signaling value than those given by middle management, all else equal. In cases where the giver has low status in the eyes of relevant reference groups, other benefits may be necessary for the awardee to respond favorably to the award.

Self-signal: The status of the giver may also impact the award’s value as a self-signal. Receiving an award from a high-status giver signals to the recipients that their actions are considered important. It may also lead the recipients to identify more strongly with the giver and their goals (Gallus & Frey, 2017). In a field experiment involving more than 4,000 new Wikipedia editors, Gallus (2017) found that receiving symbolic awards that were given by established community members increased newcomer retention by 20%, with the effects lasting for more than one year after the initial award bestowal. Notably, the awards also raised recipients’ likelihood of engaging in less visible extra-role behaviors. Increased self identification as a “Wikipedian” appears to have been an important mechanism behind these effects.

The same giver may have different implications for self-signaling than for social signaling. We conjecture that this is because of differences in perceptions of status and the ability to judge merit. Thus,

while the social signals may be highest for awards coming from senior leadership, the self-signaling value may be stronger if an award comes from givers at lower rungs of the organization, but who have greater ability to judge merit (including peers or even subordinates). Future experiments could usefully disentangle these differences and their self-signaling implications by varying what information recipients and the audience receive about the giver.

Tangibility: The tangible, economic consequences of receiving an award should also increase in the status of the giver. If an academic receives an award from a body that enjoys high status in the eyes of the public, such as the National Academy of Sciences, their market value as an expert witness or speaker should increase (Chan et al., 2014). Vice versa, if the giver's status is unclear, for instance because the awarding body is new, adding a significant tangible element can serve to establish the award, and thus make it a valuable self- and social signal. If the giver's status is low, the tangible element may be a substitute for the low signaling value. A large amount of money can serve to attract notable recipients, who can in turn increase the prestige of the award via reputation spillovers. While these conjectures remain to be tested, there is anecdotal evidence lending support. Most famously, the decision to attach a significant monetary sum to the Nobel Prize likely contributed to its establishment as an important award, despite the controversial legacy of Alfred Nobel himself. Today, the status of the Nobel Prize is so high that those who desire it apparently do so largely for its signaling value—the monetary element seems to have become an ancillary benefit and is at times even donated (Bengali & Santora, 2021; Hopkins, 2023).

Selection Process: Nomination, Criteria and Evaluation

Many important awards involve an elaborate selection process, which includes nominations (by contestants themselves, by others, or none), different criteria (absolute, relative), and evaluations (subjective, objective, with or without a transparently random component).

Social signal: We conjecture that having been nominated by experts sends a strong signal of merit. Self-nominations may change the signal, as it is known that the person aspired to receive the award. Interestingly, the majority of papers ($n = 24$) covered awards that were not nomination based; and where the awards that were investigated involved nominations, this fact was often not even mentioned in the paper. The award selection criteria are another important part of the selection process that influences the social signaling value. The criteria can be relative and hence competitive, such as when the best salesperson enters the Top Performers Club (e.g., see Ammann et al., 2016; Ball et al., 2001, and others in Table 1). They can also be absolute, such as when everybody who crosses a stipulated threshold is awarded (see Anderson et al., 2015; Ashraf et al., 2014; Cicognani et al., 2023, and others in Table 1). With absolute criteria, the social signaling value increases with the degree of difficulty and the signal-worthiness of the underlying behavior. With relative criteria, the status of contenders relative to whom the recipient was evaluated affects the social signaling value. In many cases, the identity of contenders is disclosed. The German national book prize even obliges finalists to attend the ceremony for them to be eligible to win. This makes it clear who the winners were evaluated against. In other cases, the list of final contenders is not disclosed or it is disclosed only with a significant delay (50 years in the case of the Nobel Prizes).

The effects of relative versus absolute criteria, and of whether the list of contenders is disclosed or not, have not yet been studied in the awards domain. 11 papers in Table 1 include awards that had absolute criteria, and 22 had relative criteria. One interesting question for future research to investigate is under what conditions relative criteria increase the value of an award, and when they backfire, possibly because of the implications for social relationships (Gallus et al., 2022). Studies in the social comparison domain suggest negative effects of social comparison information on psychological well-being and trust, with the type of comparison (upwards vs. downwards) often mediating effects (Brown et al., 2007; Dunn et al., 2012). Physicians given social comparison information in a field experiment suffered with respect to job satisfaction and burnout (Reiff et al., 2022). Similarly, field and online experiments that elicited people's willingness to pay for public recognition suggest that in contexts where people are familiar with

one another, publicly ranking them based on their performance on a given task (e.g., fundraising success) can create net negative psychological effects (Butera et al., 2022).

Lastly, whether the evaluation is purely objective or whether it contains subjectivity has implications for the social signaling value. Gallus and Frey (2016) introduced the related distinction between “discretionary awards” and “confirmatory awards.” Discretionary awards are based on subjective evaluations and can be given by surprise. Because discretionary awards rely on subjective judgment rather than solely objective criteria, they may be perceived as more authentic recognitions of merit, thus sending a stronger signal about the recipient’s unique contributions or qualities. Awards based on objective evaluations on the other hand often only amplify the visibility of already available information. For instance, in sales contexts, rankings of salespeople are often available to everybody, but the best salesperson additionally receives public appraisal. In these cases, the selection of who wins the award is largely automatic. The existence of the award may send general signals about the giver’s beliefs, but there is no specific signal about the giver’s beliefs and attitudes towards the recipient.

Self-signal: Nominations from others can be expected to strongly shape the self-signaling value of awards. This may be because the people nominating are in the best position to credibly judge merit, as in the case of awards for nurses, which are often based on patients’ nominations, service awards that are based on nominations from customers, or peer-based nominations in the sciences. Self-nominations, in contrast, may reduce the self-signaling value of awards.

In Table 1, 17 papers cover awards with an objective evaluation process and 16 with a subjective process. One interesting question for future research is whether (and under what conditions) knowing that an award has a subjective evaluation process might increase the value of an award as a self-signal, and when it may have inadvertent negative effects. Knowing that a panel of qualified individuals evaluated one’s work and found it deserving of recognition may make an award more meaningful.

We expect the selection process (nominations, criteria, evaluation) to have meaningful implications for who enters the consideration set, and for how individuals respond to receiving a given

award—in no small part because of the self-signaling implications. For instance, if awards rely on self- or social nominations, relative performance criteria, and/or subjective evaluations, past literature investigating gender gaps suggests that we may see fewer women entering and receiving awards—especially in male-typed fields (Croson & Gneezy, 2009; Exley & Kessler, 2022; Flory et al., 2015; Niederle & Vesterlund, 2007). These predictions have yet to be systematically tested. They may point to explanations and potential solutions for addressing the documented gender gaps in award bestowals in important fields of society, such as in the biomedical sciences where women have been shown to receive significantly fewer and less prestigious awards (Ma et al., 2019).

Tangibility: Awards that are based on nominations are expected to yield tangible value because of both the signal coming from the fact that an individual was nominated, and the signal from winning. Even without winning, the nomination by peers can be a valuable job market signal, while a self-nomination might signal a proactive agentic attitude, which may be valued by some employers. But again, there may be important heterogeneity that future research needs to investigate. For instance, it is possible that for women, a self-nomination is seen as inappropriately assertive, yielding negative economic consequences. Vice versa, a high tangible value of an award may attract nominations, and there could be unexplored gender heterogeneity. The criteria and evaluation should affect the tangible value of winning an award through the social signaling mechanisms discussed above. When the criteria is relative, and the evaluation is subjective, its value becomes more significant, both to the recipient and the audience.

Future experimental work could examine how intentionally varying aspects of the selection process (nomination, criteria, and evaluation) impacts the motivational value of awards. Card et al. (2022) take a step in this direction, focusing specifically on nomination. Conditional on achievement, they find a large negative gap in the probability that women were selected as Econometric Society Fellows in the 1933-1979 period. This began to change when the committee enacted an explicit mandate to nominate highly qualified women in 2012.

IV. Discussion

Awards are widely used as incentives. This paper situates awards in the broader incentives landscape. It shows how the motivational effects of awards can be understood within a framework that considers three sources of value: the tangible value of an award, its function as a self-signal, and its social signaling value. Our framework describes how the three dimensions of awards can interact in ways that increase or decrease the overall value of the award. It also makes clear that researchers interested in incentives more broadly may benefit from going beyond the dichotomy of extrinsic and intrinsic motivation, and instead think about how economic, social, and psychological mechanisms interact.

We believe that our approach is a useful guide to the study of awards, and that it will also enrich the study of incentives at large. To help lay the foundations for future research on awards, our review of the literature systematically provides information on the characteristics of the awards studied, and it summarizes which of the three dimensions most likely drove the effects observed (see Table 1). Our framework reveals important gaps, which offer avenues for future research. A large part of the literature we reviewed focuses on the social signaling dimension of awards, often through a sizable audience, some degree of scarcity, and a high-status giver. The self-signaling function of awards, and its interactions with tangibility and social signaling, emerges as a key area in need of more systematic research. We discuss where we believe that self-signaling meaningfully drove the effects, but this has rarely been directly investigated in the papers.

We have outlined directions for future experimental work in the sections above. To conclude, we offer four broader lines where research would advance our understanding on the unique motivational effects of awards.

- (1) First, what motivates people to strive to receive awards, and why might there be a disconnect between stated preferences and revealed behavior? We conjecture that ex ante award seeking behavior is driven more by the social signaling value than by the tangible and self-signaling value of awards. Upon award receipt, however, we expect self-signaling to play a fundamental and

understudied role. This paper discusses how we expect the different characteristics of awards to affect self-signaling.

- (2) Second, when and why does a tangible component increase an award's signaling value, and when is it counterproductive? This article discusses several conditions, such as how tangibility may substitute for an initially lower status of the giver, but more work is needed to test and expand on these predictions.
- (3) Third, how do social and self-signaling considerations influence peer- and self-nominations, and with what implications for who ultimately gets recognized? This appears to be especially important to examine in fields and for activities that are strongly associated with a given stereotype, where biased nominations and evaluations might cause recognition gaps that may perpetuate stereotypes.
- (4) Lastly, when and how can the social signals emitted by awards establish role models, which in turn create incentives for others to emulate the behavior? And when do awards lead to envy, which may cause recipients to disengage in order to avoid social costs? We discuss aspects such as the signal-worthiness of the underlying behavior and the intrinsic motivation to pursue it, but more research is needed to shed light on this important topic.

The literature on awards and incentives stands to gain if future empirical research focuses on the three dimensions we outline as well as their interactions, if it pays greater attention to self-signaling as a mechanism, and if it examines the relevant award characteristics. Controlled experiments in the lab and field will be critical for systematically varying key characteristics and isolating the mechanisms through which they affect behavior.

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