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Abstract

Although people prefer to associate with winners, there is also a strong desire to support the loveable loser or underdog. In four studies, we demonstrate the *underdog effect* and its delimiting conditions. In Studies 1 and 2, participants rooted for the underdog in judgments of athletic, business, and artistic competition. In Study 3, participants watched animated clips of struggling and non-struggling geometric shapes; the results showed that participants showed more rooting, sympathy, and identification with struggling shapes than with non-struggling ones. Study 4 identified conditions under which people abandon the underdog, showing that participants rooted for the underdog only when both self-relevance and consequences were high. Theoretical implications of these findings are discussed.

Rooting for (and then Abandoning) the Underdog

Rousing stories of victorious underdogs have been around for a very long time. In I Samuel, 17, the Bible relates the memorable account of how the young David defeated the giant Goliath. "And there went out a champion out of the camp of the Philistines named Goliath…whose height was six cubits and a span. … And when the Philistine looked about, and saw David, he disdained him: for he was but a youth…. And the Philistine said unto David, …Come to me, and I will give thy flesh to the air, and to the beasts of the field. … And David put his hand in his bag, and took thence a stone, and slang it, and smote the Philistine in his forehead, that the stone sunk into his forehead; and he fell upon his face to the earth."

More recently, people in America have relived by book, television documentary, and film, the stunning victory of the racing horse Seabiscuit over triple crown-winner War Admiral in 1938. The movie version features Seabiscuit's owner's fearless assertion that "I have a horse that's too small, a jockey that's too big, and a trainer that's too old." Movies about underdogs in sports have been popular from *The Bad News Bears* to *Cinderella Man.* Stories about underdogs seem to touch something deep in the human psyche (Spencer, 1873). People, animals, or even inanimate objects perceived to face difficult challenges against a strong opponent seem to inspire our support.

The publishers of the children's classic "The Little Engine That Could" (Piper, 1930) make the credible claim that "The words 'I think I can' are as carved into our collective memory as 'I have a dream,' and 'One small step for man'." People, animals, or even inanimate objects perceived to face difficult challenges, against a strong opponent or a challenging situation, inspire our support. We define the underdog effect

as people's tendency to support or root for an entity that is perceived as attempting to accomplish a difficult task, and who is not expected to succeed against an explicit or implicit advantaged opponent. The goal of this paper is to demonstrate the underdog effect and then identify some boundary conditions.

Rooting for Underdogs

Why might people root for underdogs? In many cultures there are numerous popular underdog stories and tales of success spawned from humble origins fascinate people of all ages. Many cultural narratives relate stories of people facing difficult challenges, such as King Sisyphus condemned in Hades to roll a stone toward the top of a hill for eternity. We believe that such narratives reflect a script or archetype of struggle which engages support and sympathy. Similarly, "The American Dream" and the Horatio Alger stories of "rags to riches," embodied by individuals such as Andrew Carnegie, nourish our aspirations to overcome the imposed limitations of underdog status (Gardner, 1978; Scharnhorst, 1980). Cultural icons created by circumstance or the film industry – such as the American examples of Rocky, Rudy, Erin Brockovich, Seabiscuit, and Million Dollar Baby – provide endearing and exciting portrayals of successful underdogs. These heroic accomplishments of underdogs may serve as an inspiration as well as a guide for socially sanctioned behaviors. They may also provide hope to the masses – who aspire to successfully overcome the obstacles present in their own lives – and may suggest that the world can be a fair place in which all individuals have the potential to succeed.

In addition, all or nearly all of us have experienced struggle and been small and powerless—early in life and early in schools, jobs, and social organizations. Therefore, it

may be relatively easy for us to take the perspective of those who are also struggling or competing against formidable odds. We may find stories such as those of David and Goliath and The Little Engine That Could compelling because we have also been in psychologically similar situations. Because of our own experience of being an underdog and frequent exposures to many cultural narratives of underdogs, we easily recognize, identify, and sympathize with the struggles of an underdog.

In short, because we are likely to experience and observe numerous underdog challenges, we may identify with the struggles of overcoming such challenges and with others who face similar obstacles. In addition, there may be other plausible explanations for the underdog effect. First, if people perceive rooting for the underdog as unusual, doing so may satisfy their need for uniqueness (Lynn & Snyder, 2002; Snyder & Fromkin, 1980; Tian, Bearden, & Hunter, 2001). Second, if people perceive rooting for the underdog as just or fair, doing so may satisfy their need for fairness or equity (Allison & Messick, 1985; Folger & Kass, 2000). Third, when we see underdogs succeed, we hope that we too can succeed in difficult circumstances. Fourth, watching an underdog succeed is much more dramatic because the unexpected is more attention-getting. Fifth, since we expect the underdog to lose, rooting for him or her costs very little, but the vicarious rewards of an expected success of a disadvantaged protagonist are great (Goethals & Darley, 1977). These factors would play a contributory role in support for the underdog, but in this paper we focused on drawing boundary conditions rather than disentangling mechanisms.

Schadenfreude and the Underdog

While there has been little social psychological research on the underdog effect, there has been considerable research on our disliking for top dogs. An understanding of the psychology of perceiving another person's good fortune or misfortune can be traced to the seminal work of Fritz Heider (1958). Heider (1958) provided four types of reaction to the lot of another person. Concordant reactions types are when other's fortune gives us pleasure or other's misfortune makes us unhappy. On the other hand, when other's fortune causes envy or other's misfortune causes joy, these are classified discordant reaction types. *Schadenfreude* is a malicious joy that other's misfortune and suffering brings one's own pleasure (Heider, 1958, p. 278).

The concept of *Schadenfreude* has since received significant attention from social scientists (Brigham, Kelso, Jackson, & Smith, 1997; Feather, 1999; Feather & Sherman, 2002; Kim & Smith, 1993; Leach, Spears, Branscombe, & Doosje, 2003; Smith, Parrott, Ozer, & Moniz, 1994; Smith, Turner, Garonzik, Leach, Urch-Druskat, & Weston, 1996). According to Feather and his colleagues (Feather, 1999; Feather & Sherman, 2002), the key component of *Schadenfreude* is deservingness. In other words, perceptions that high status of a top dog (i.e., a tall poppy) is undeserved contribute to feelings of resentment, and this resentment fuels the individual to experience *Schadenfreude* when the undeserving top dog suffers a fall or experiences misfortune.

The tendency to root against the top dog may reveal a broad tendency to enjoy watching those riding high to take a fall. The common phrase "the harder they fall" signals that some pleasure derives from watching top dogs fail. In Heider's terms, research on *Schadenfreude* and tall poppies has focused on discordant reaction types. Our focus, however, is concordant reaction types toward an underdog: feeling pleasure in

underdog's joy and feeling pity for underdog's suffering. The top dog in our studies is different from a tall poppy for at least two reasons. First, the top dog in our studies was described as a deserving one (e.g., an established, large, and strong top dog). Second, the top dog does not fall from their status in our studies.

Limits on the Underdog Effect

Although we argue that the underdog effect is a firmly entrenched cultural and psychological phenomenon, we also suspect that the effect may have limited impact. Underdogs may capture our hearts, but at the same time, in our hearts we may recognize that underdogs are usually inferior to top dogs and thus may deserve their subordinate status. As a result, we do not typically predict that our beloved underdogs will actually prevail, and we may not actually support them over more successful social entities.

Anecdotal evidence supports the bounded quality of the underdog effect. For example, it is not uncommon to read news stories involving a small community's fierce opposition to the construction of a new Wal-Mart store in the area (Hicks, 2006; Smith, 2004). Wal-Mart, a giant Goliath, employing 1.6 million people worldwide who on Saint Patrick's Day alone sells more than Target sells all year (Fishman, 2006; Sandercock, 2005) Nevertheless, frequently, local residents and community leaders initially decry the arrival of the Wal-Mart, arguing that the giant retail store will ensure the collapse of small locally owned businesses that cannot offer the same low prices or product selection that Wal-Mart can. The resistance movement usually (but not always) fails, and the Wal-Mart facility is eventually built. Within a year or two, the Wal-Mart store is flourishing, thanks in no small part to the fact that the store attracts the business

of many of the same people who initially opposed its construction (Fishman, 2006; Smith, 2004).

Why do people dislike Wal-Mart and yet admit to shopping there? The love-hate relationship that people have for Wal-Mart is well-documented (Centrella, 2004; Fishman, 2006). The "love" component of the relationship refers to people's affinity for lower prices and one-stop shopping. The "hate" component refers to people's disdain for any large, highly successful entity that threatens the well-being of smaller, less successful entities. Although there are, in fact, some Wal-Mart detractors who stick to their principles and refuse to shop at Wal-Mart, many others support underdog businesses in their hearts but not with their wallets. In short, our tendency to root for the underdog may be quite limited, such that we are quick to abandon underdogs when it is in our interests to do so. People may support the underdog when their interests are unaffected by the competitive outcome, but they may switch their allegiance to the top dog when their interests are affected.

Past research on "moral hypocrisy" supports the idea that people will quickly abandon a moral principle if it suits their own interests (Batson, et al., 1997; Batson & Thompson, 2001; Batson, Thompson, & Chen, 2002; Batson, et. al., 1999). Batson and his colleagues showed that people will eschew what they know to be a fair procedure (such as flipping a coin) when distributing resources between themselves and others (Batson et al., 1997, Study 2). We might call this phenomenon "moral myopia" rather than moral hypocrisy because people who behave this way may not preach the relevant moral principle. Rather they may hold to it, but not apply it, perhaps because it isn't cognitively accessible when their interests are at stake.

Fairness also often takes a back seat to self-interest in studies of helping behavior. People are generally willing to help others but are sensitive to the costs of the helping act (Piliavin and Piliavin, 1972). McClintock and Allison (1989) found that people donate more money to a worthy cause when mailed requests include a postage stamp on the self-addressed return envelope. These findings in the helping literature hint at the limits on the underdog effect. People will help others who struggle, but not at the expense of their own well-being. Thus we hypothesize that people identify and sympathize with the underdog but that these supportive feelings are easily overridden by considerations of personal consequences.

Another distinction worthy of mention is that between rooting for an underdog and expecting an underdog to triumph. People may genuinely desire an underdog to prevail over the top dog, but they might never bet their own person cash on such an upset to occur. This again suggests that our irrational sentiments may clash from our rational expectations; while our hearts are with the underdog, our wallets may be with the top dog. One of the goals of this paper is to test this limit to the underdog effect.

<div align="center">Study 1</div>

We first examine the underdog effect in two different contexts of athletic and business competitions. Will participants root for a disadvantaged sports team or business over an advantaged one?

Method

Participants. The participants were 70 undergraduates at the University of Richmond who participated to fulfill an introductory psychology course requirement.

Design. The design of the study was a 2 (status: underdog, top dog) x 2 (domain: sports, business) mixed model design with repeated measures on the domain factor.

Procedure. Participants arrived individually at an experiment entitled "social perception." Participants read a scenario describing a competition and then were asked to complete a short questionnaire measuring their perceptions of the competition. One half the participants read a vignette describing an upcoming competition between two local basketball teams, whereas the other half read a vignette describing an upcoming competition between two businesses in the local community. The competitions in the two domains (sports and business) featured one strong competitor and one weak competitor. In the sports scenario, one basketball team with a won-loss record of 20-5 was about to play another team with a record of 6-21. In the business scenario, two construction companies were bidding on a job and one company had a past bidding record of 20-5 while the other was 6-21. Thus, the descriptions of the competition across domain (sports vs. business) were identical in every way. Participants were debriefed after completing the questionnaire.

Dependent measures. The main dependent measures of interest were how much participants rooted for the teams (or businesses) to win the game (or bid). Responses to these rooting questions were recorded on a seven-point Likert scale (1 = *not at all,* 7 = *great deal*), with higher numbers indicating greater rooting for.

Results and Discussion

Five participants did not accurately recall the won-lost records of the teams or businesses and were thus dropped from the analyses, leaving data from 65 participants.

We first performed a 2 (domain: sports, business) x 2 (status: underdog, top dog) ANOVA, with repeated measures on the last factor, on participants' ratings of how much they were rooting for the team or business to win the game or bid. The ANOVA revealed only a main effect of status, $F(1, 61) = 19.81$, $p < .001$. Participants were significantly more likely to root for the underdog team or business ($M = 5.00$) than the top dog team or business ($M = 3.52$).   The effect was significant for both the sports context (Ms = 5.25 and 3.36, respectively) and for the business context (Ms = 4.75 and 3.68, respectively). In summary, the results of Study 1 show a very strong underdog effect in the two competitive contexts of sports and business.

<div align="center">Study 2</div>

Our aim in Study 2 was to test the underdog effect in the very different domain of aesthetics. Do people root for underdog artists? Moreover, given that performance measures of artistic accomplishment are far more subjective than seen in athletic or business settings, we were curious how participants would judge the merits of an underdog artist's work compared to that of a top dog artist. If people show greater support for an underdog artist than for a top dog artist, we expected that they might also judge the underdog's artistic work to be superior in quality to that of the top dog artist.

Method

Participants. The participants were 55 undergraduates at the University of Richmond who participated in exchange for $5 payment.

Design. The design of the study was a 2 (status: underdog versus top dog) x 2 (rater: inexperienced in art versus experienced in art) between-subjects factorial design.

Materials. A painting done by a student randomly selected from an intermediate art class at the University of Richmond was used as the stimulus material for this study. The painting was of a landscape; the student painter was an above average student (B+ grade) in the class.

Procedure. Participants who were inexperienced as artists responded to an advertisement to participate in a study of social perception in exchange for $5. Thirty students responded to the ad, but three were dropped because they had some background or experience as artists, leaving a total of 27 inexperienced participants. Experienced participants were 28 students enrolled in an advanced art class at the University of Richmond. They also participated in exchange for $5.

All participants were asked to view the painting (described above) and to read a description of the artist who completed it. One half the participants, in the underdog condition, were told that the artist was young and new to the art community. These participants were informed that the artist had very little money and was trying to make a name for himself. The other half of the participants, in the top dog condition, were told that the artist was an older, established artist. These participants were informed that the artist was enjoying a successful and lucrative career as a painter. Participants then answered a few questions about the painting and the artist. Participants were debriefed after completing the questionnaire.

Dependent measures. The main dependent measures of interest were how much participants rooted for the artist to enjoy future success and how high in quality they believed the painting to be. Responses to all questions were recorded on a one to seven scale, with higher numbers indicating greater rooting for or higher quality.

Results and Discussion

Rooting for. We performed a 2 (status: underdog, top dog) x 2 (rater: novice, expert) ANOVA on participants' ratings of how much they were rooting for the artist to enjoy future success. The ANOVA revealed only a main effect of the status of the artist, $F(1, 51) = 14.07$, $p < .001$. Participants were significantly more likely to root for the underdog artist ($M = 5.21$) than the top dog artist ($M = 4.31$).

Perceived quality of painting. The ANOVA of participants' quality judgments revealed a very different pattern. Two significant effects emerged from this analysis. First, inexperienced participants gave the painting higher quality ratings ($M = 5.50$) than did experienced participants ($M = 4.61$), $F(1, 51) = 6.41$, $p < .05$. Second, despite the fact that all participants judged the same painting, the painting was judged to be higher in quality when it was believed to have been painted by the top dog artist ($M = 5.54$) than when it was believed to have been painted by the underdog artist ($M = 4.57$), $F(1, 51) = 7.48$, $p < .05$. The analysis yielded no interaction; both experienced and inexperienced participants' quality judgments were biased by the status of the painter.

The results of Study 2 nicely extend the results of Study 1 to the domain of artistic work. People appear to show greater support for underdog artists than for top dog artists. Curiously, this expression of support for the underdog artist did not carry over to their judgments of the quality of the underdog artist's work. It did not matter whether the judge of the artwork was a novice or an advanced art student; participants in both conditions rated the one painting that we used in this study as higher in quality when it was believed to be painted by the top dog than when it was thought to be painted by the

underdog. This finding suggests that our emotional support for underdogs belies an underlying belief that their work is really not very good.

<div align="center">Study 3</div>

How deeply ingrained is the underdog effect in the human psyche? As mentioned in the introduction of this article, we believe that human existence entails significant underdog experiences and that our western society promotes the cause of the underdog in fairy tales (e.g., Cinderella), stories (Little Engine That Could), mythology (Sisyphus), movies (Rocky), and dreams (Horatio Alger). We believe that such narratives reflect a strong script or archetype of struggle which engages support and sympathy. To the extent that the underdog concept is a central part of human experience and a fundamental part of human social perception, we might expect that our sensitivity to the plight of the underdog to be exceedingly high and pervasive across a wide range of perceptual contexts.

Therefore, in Study 3, we decided to expose participants to an abstract series of moving geometric shapes, with the goal of determining whether participants naturally bestow underdog status and underdog qualities upon shapes that move more slowly than others. This methodology is reminiscent of that used by Heider and Simmel (1944), who showed participants clips of animated shapes that appeared to chase or bump other shapes. Heider and Simmel's participants inferred causality from the movement of these shapes and also assigned dispositional attributes to the shapes as a result of the their behavior toward each other. The beauty of Heider and Simmel's work is that it showcased just how powerful and natural the attribution process is, emerging in judgments of simple lifeless objects.

Our goal in Study 3 was to demonstrate how powerful and natural our use of the underdog script is by presenting participants with four animated clips of moving shapes. As noted in our introduction, we believe that our sensitivity to underdogs is evoked when an entity is perceived as attempting to accomplish a difficult task and is not expected to succeed against an explicit or implicit advantaged opponent. Thus we included the following four within-subject conditions in Study 3: (1) a single non-struggling geometric shape; (2) a single struggling geometric shape; (3) a struggling geometric shape together with a benign non-struggling shape; and (4) a struggling geometric shape together with a malicious non-struggling shape.

We predicted that, overall, participants would root for a single struggling shape more than a single non-struggling shape. Such a finding would show that an entity's struggle, by itself, is enough to engender emotional support, even when the entity is by itself. We also predicted that the introduction of the social context would heighten participants' emotional support for the struggling entity, such that participants would especially root for a struggling entity when paired with a non-struggling one. Finally, we expected the strongest underdog effect to emerge when participants viewed a struggling shape whose progress toward achieving its apparent goal is overtly thwarted by a non-struggling shape.

Method

Participants. The participants were 60 undergraduate students at the University of Richmond who were paid $5 for their participations in a study entitled, "Perceptions of Shapes."

Procedure. Participants arrived at a computer laboratory in groups of three or four. Each participant was seated at a private computer station and was told that he or she would view four animated clips on the computer monitor. Participants were told to watch one animated clip at a time and to fill out a questionnaire about that clip before proceeding to the next clip. The clips were constructed from Flash animation software and were uploaded to the internet. There were four different clips, each clip was about 15 seconds in duration, and the order in which participants viewed the clips was counterbalanced. Participants were allowed to refresh their browser as many times as they liked before and during their completion of each questionnaire. The four clip conditions were as follows:

1. Single non-struggling entity. In this clip, a single dark grey circle proceeds at a steady pace from left to right across a horizontal line. The circle approaches an upward slope (a hill), and it maintains its same pace of speed as it traverses the hill. Figure 1 illustrates the position of the circle along the incline.

2. Single struggling entity. In this clip, a single dark grey circle proceeds at a steady pace from left to right across a horizontal line. The circle approaches a hill, but its speed noticeably declines as it traverses the hill.

3. Two entities, one struggling and the other benign and non-struggling. In this clip, two circles are shown. One circle proceeds at a steady pace from left to right across a horizontal line and, as in the two above conditions, the circle approaches a hill. As it does so, a second circle appears, colored a different shade of grey and moving at a noticeably faster pace than the first circle. The second circle overtakes the first circle and traverses the hill without losing any speed. The first circle, however, slows down

noticeably as it traverses up the hill. The decline in speed is the same as in the condition 2 described above.

It is important to note that the two circles were identical in size. Moreover, we counterbalanced the relative darkness of the circles; for half the participants the slower circle was a lighter shade of grey than the faster one, and for the other half the slower circle was a darker shade of grey than the faster one.

4. Two entities, one struggling and the other malicious and non-struggling. In this clip, there are two circles exactly as described in the condition 3. The only difference is that shortly after the second circle overtakes the first circle, the second circle reverses course and bumps the first circle backwards, causing the first circle to move down the hill. After bumping the first circle back down the hill, the second circle then resumes its original course up the hill at its former speed. The two panels in Figure 2 depict the position of the two circles when (1) the faster circle overtakes the slower circle, and (2) the faster circle reverses course and bumps the slower circle down the slope.

After viewing the four clips and questionnaires, participants were debriefed and excused from the experiment.

Dependent measures. Our main dependent measures of interest were the degree to which participants rooted for the circles, sympathized with them, and identified with them. These measures were recorded on a 1 to 7 scale with higher numbers denoting greater rooting, sympathy, and identification.

Results

Manipulation checks. After viewing each clip, participants were asked whether the circles maintained their speed or lost speed when they encountered the slope. Six

participants erred in their reporting of this information and were subsequently dropped from the analyses, leaving data from 54 participants.

Rooting for the circle. We first examined whether participants were more likely to root for a struggling circle than a non-struggling circle.   We conducted a one-way repeated measures ANOVA comparing participants' ratings of how much they rooted for the following four circles: the single non-struggling circle, the single struggling circle, the struggling circle with the benign non-struggling circle, and the struggling circle with the malicious non-struggling circle. The difference among the four circle conditions was highly significant, $F(1, 159) = 14.55$, $p < .001$. A contrast test showed that participants rooted less for the non-struggling single circle ($M = 3.98$) than for the struggling single circle ($M = 4.69$), the struggling circle with the benign non-struggling circle ($M = 5.11$), and the struggling circle with the malicious non-struggling circle ($M = 5.41$), $F(1, 53) = 35.09$, $p < .001$.

We were next interested in examining the data in the two social context conditions (condition 3 and 4). Conceptually, a struggling circle represents an underdog and a non-struggling circle represents a top dog. When the animated clips featured two circles – one struggling and one non-struggling – were participants more likely to root for the underdog circle than the top dog circle? We conducted a 2 (social context: benign top dog vs. malicious top dog) x 2 (target: underdog circle vs. top dog circle) repeated measures ANOVA on participants' rooting judgments. The analysis revealed a main effect of target, $F(1, 53) = 111.85$, $p < .001$, indicating that participants rooted much more strongly for the underdog circle ($M = 5.26$) than the top dog circle ($M = 3.36$).

We were next interested in examining the data in the two conditions featuring an underdog circle and a top dog circle: Were participants more likely to root against the top dog circle than the underdog circle? We conducted a 2 (social context) x 2 (target) repeated measures ANOVA on participants' rooting judgments. The analysis revealed a main effect of target, $F(1, 53) = 104.63$, $p < .001$, indicating that participants rooted much more against the top dog circle ($M = 5.08$) than the underdog circle ($M = 3.29$). Also of interest was the interaction effect that emerged, $F(1, 53) = 8.26$, $p < .05$. Although participants in both social context conditions were more likely to root against the top dog than the underdog circle, they were especially likely to do so when the top dog appeared to impede the underdog's progress. The simple effect test showed that participants rooted more strongly against the malicious top dog ($M = 5.50$) than the benign top dog ($M = 4.67$), $F(1, 53) = 13.12$, $p < .01$.

Identification with the circle. We next determined whether participants were more likely to identify with a struggling circle than a non-struggling circle. We conducted a one-way repeated measures ANOVA comparing participants' identification with the following four circles: the single non-struggling circle, the single struggling circle, the struggling circle with the benign non-struggling circle, and the struggling circle with the malicious non-struggling circle. The overall effect was statistically significant, $F(3, 159) = 3.82$, $p < .05$. The contrast test showed that participants were less likely to identify with the non-struggling circle ($M = 3.65$) than with the struggling circle ($M = 4.20$), the struggling circle with the benign circle ($M = 4.35$), and the struggling circle with the malicious circle ($M = 4.44$), $F(1, 53) = 13.38$, $p < .01$.

Sympathy for the circle. We next determined whether participants were more likely to sympathize with a struggling circle than a non-struggling circle. We conducted a one-way repeated measures ANOVA comparing participants' sympathy for the following four circles: the single non-struggling circle, the single struggling circle, the struggling circle competing with the benign non-struggling circle, and the struggling circle competing with the malicious non-struggling circle. The overall effect was statistically significant, F(3, 159) = 10.02, p < .01. The contrast test showed that participants were less likely to sympathize with the non-struggling circle (*M* = 3.50) than with the struggling circle (*M* = 4.43), the struggling circle with the benign one (*M* = 4.91), and the struggling circle with the malicious one (*M* = 4.78), $F(1, 53) = 13.08$, $p < .01$.

Underdog ratings. After participants completed all four animated clip questionnaires, they were asked to rate the degree to which they would consider the circles in each of the clips to be an "underdog." The four circles that participants judged were the single non-struggling circle, the single struggling circle, the unharmed social circle, and the harmed social circle. The rating scale ranged from 1 to 7 with higher numbers indicating a stronger belief that the circle being judged was an underdog.

The one-way repeated measures ANOVA revealed that the difference between the four circles was significant, $F(1, 159) = 23.76$, $p < .001$. Constrasts showed that participants were most likely to judge the struggling circle that was harmed as an underdog (*M* = 5.09), and that this mean was marginally significantly higher compared to that of the unharmed circle (*M* = 4.48) [$F(1, 53) = 3.59$, $p < .07$] and significantly higher than those of the single struggling circle (*M* = 3.82) and the single non-struggling circle (*M* = 3.32) [$F(1, 53) = 19.08$, $p < .001$, and $F(1, 53) = 39.59$, $p < .001$, respectively].

Discussion

Perhaps the most notable aspect of this study is that participants were able to complete the questionnaires. They had no hesitation about doing so. They did not think it odd or difficult to be asked how much they were rooting for rolling circles. And their answers showed clearly that they perceived some of the circles as underdogs, and that they rooted for those same circles. That is, our participants very readily perceived underdogs, and then rooted for them. These results suggest that the underdog effect is context- or domain-free. Even the most minimal inanimate objects – that don't speak, smile or look at all like a person or animal – can be personified and elicit our sympathy as underdogs.   There must be a highly accessible schema for this wide-ranging effect.

In our next study, we sought to identify an important boundary condition on the underdog effect, self-relevance. To assess the role of self-relevance in Study 4, we presented participants with a situation in which a community must decide which water testing company (underdog or top dog) should test the community's drinking water supply. We manipulated consequences by informing some participants that the water was being tested for either cancer-causing chemicals (high consequences) or water hardness/softness (low consequences). We manipulated self-relevance by telling participants that the water supply was their own community's (high self-relevance) or a far-away community's water supply (low self-relevance). Our prediction was that self-relevance would moderate the impact of consequences, with the greatest rooting for the top dog emerging (the Wal-Mart effect) when both consequences and self-relevance were high.

<div align="center">Study 4</div>

Method

    Participants. The participants were 56 middle-class adults between the ages of 18 and 45 living in Richmond, Virginia, who were paid five dollars each for their participation.

    Design. Participants were randomly assigned to one of four conditions in a 2 (consequences: low, high) x 2 (self-relevance: low, high) between-subjects factorial design.

    Materials and procedure. Participants read a scenario describing a situation in which a community must decide which of two water-testing companies should test the community's drinking water supply. Consequences were manipulated by informing some participants that the water was being tested for either cancer-causing mercury (high consequences) or water hardness/softness (low consequences). Self-relevance was manipulated by telling participants that the water supply was their own city's water supply (high self-relevance) or the city of Boise, Idaho (low self-relevance). The competitions described in the scenarios featured one advantaged competitor and one disadvantaged competitor. The disadvantaged competitor was described in each scenario as a small company with only 30 employees that is struggling to establish itself and has been in business for only 2 years. The advantaged competitor was described in each scenario as a large, successful, well-established company with over 100 employees that has been in business for 30 years. After reading each scenario, participants completed a questionnaire. After completing the second scenario and questionnaire, participants were debriefed and excused from the study.

Dependent measures. The main dependent measures of interest were how much participants rooted for and against the businesses to win the bids, how much they sympathized and identified with the two businesses, and how much they rated the seriousness of the consequences of the competition. We used the same wording of the questions and rating scales as in studies 1 and 2. For this study we also included two measures of behavior. The first behavioral measure asked participants, "Which company will you choose to assess the city's water supply?" The second measure asked participants, "Imagine you have $100 to invest in either or both companies. How much would you invest in each company?"

Results and Discussion

The data from two participants were excluded from the analyses because they failed to correctly identify which of the two businesses was advantaged or disadvantaged.

Check on the manipulations. As a check of our consequences manipulation, participants judged the seriousness of the consequences of the bidding competition to be significantly higher when the water was being tested for mercury ($M = 5.73$) than when it was being tested for hardness or softness ($M = 3.35$), $F(1, 58) = 35.82$, $p < .001$. As a check of our self-relevance manipulation, participants judged the situation to be significantly higher in self-relevance when the water supply being tested was that of their own community ($M = 6.27$) than when it was that of Boise, Idaho ($M = 4.41$), $F(1, 58) = 32.99$, $p < .001$. These data suggest that our manipulations were successful.

Rooting for judgments. Participants' mean rooting judgments are presented in Figure 3. We performed a 2 (consequences: low, high) x 2 (self-relevance: low, high) x 2 (status: underdog, top dog) ANOVA, with repeated measures on the last factor, on

participants' ratings of how much they rooted for each business to win the bid. The

analysis revealed two interactions, one between status and self-relevance, and one

between status and consequences, $F(1, 50) = 11.93$, $p < .01$, and $F(1, 50) = 6.07$, $p < .05$,

respectively. The status by self-relevance interaction showed that when self-relevance

was high, participants rooted more for the top dog ($M = 4.34$) than for the underdog ($M =$

3.09), $F(1, 58) = 5.09$, $p < .05$. But when self-relevance was low, participants showed no

difference in their rooting judgments between the underdog ($M = 4.59$) and top dog ($M =$

4.24), $F < 1$. The status by consequences interaction showed that when consequences

were high, participants rooted more for the top dog ($M = 5.40$) than for the underdog (M

$= 3.09$), $F(1, 58) = 6.77$, $p < .05$. But when consequences were low, participants showed

no difference in their rooting judgments between the underdog ($M = 4.80$) and top dog (M

$= 4.90$), $F < 1$.

Sympathy and identification judgments. In our analyses of sympathy and

identification ratings, we obtained only a main effect of status, $F(1, 58) = 9.67$, $p < .05$,

and $F(1, 50) = 5.95$, $p < .05$, respectively. Participants sympathized significantly more

with the underdog business ($M = 4.26$) than with the top dog business ($M = 2.84$), and

they identified more with the underdog business ($M = 3.83$) than with the top dog

business ($M = 3.03$).

Behavior measures. A significantly greater proportion of participants indicated

that they would choose the top dog business over the underdog business when self-

relevance was high ($M = .76$) than when self-relevance was low ($M = .24$), $F(1, 50) =$

8.01, $p < .01$. Moreover, a greater proportion would choose the top dog over the

underdog when consequences were high (M = .71) than when consequences were low (M = .29), $F(1, 50)$ = 4.35, $p < .05$.

Participants also reported that they would invest significantly more money in the top dog business when self-relevance was high (M = $55.30) than when self-relevance was low (M = $32.15), $F(1, 50)$ = 7.38, $p < .05$. Moreover, they would invest more money in the top dog business when consequences were high (M = $54.21) than when consequences were low (M = $33.24), $F(1, 50)$ = 6.07, $p < .05$.

In summary, the results of Study 4 suggest that although underdogs attract our sympathy, we really only pull for underdogs when the outcome of the competition has no bearing on our person well-being and when the impact is minimal. In general, we give underdogs our emotional support, but when our physical or material interests are at stake we are quick to abandon the underdog and give top dogs our behavioral and financial support.

General Discussion

The results of our studies suggest that people in our society have a highly accessible schema or script about struggling and overmatched entities, or underdogs, and that they root for them in comparison to advantaged entities, or top dogs. We have found underdog effects in several real and varied domains: sports, business, and the art world. In addition, when participants are asked how much they are rooting for circles rolling along a line, they readily respond and show reliable underdog effects. Underdog effects seem pervasive.

At the same time, there appear to be limiting conditions to the effect. Heider's (1958) "naïve analysis of action" argues that people look beyond observables to personal

or environmental "invariances" (p. 81) that account for behavior. One highly salient personal quality in Heider's account is whether a person, *p*, expresses a motive of self-interest.   Study 4 demonstrated the perceivers of competition may place self-interest and considerations of consequences ahead of their usual desire to support underdogs. Underdogs, it seems, are not loved unconditionally; our tendency to root for them appears to be qualified. Athletic competition is perhaps the one context in which underdogs are most visible in our culture, and we may focus on the underdog the most in athletic contexts precisely because there are so few "life and death" consequences associated with athletic outcomes.

Future studies might usefully address other limiting conditions, such as whether the underdog is moral, likeable, or competent. Interestingly, we found in Study 2 that rooting for the underdog does not necessarily lead to a positive evaluation of the underdog's work. Whereas participants rooted for the underdog artist, they actually evaluated his work more negatively than the work of the older, established artist. Participants wanted him to succeed but were critical of his work. The fact that the same painting was judged in both the underdog and top dog conditions suggests that while underdogs can easily capture our hearts, they have an uphill battle in winning over our minds. Study 2 also suggests that there is an important distinction between supporting or identifying with an underdog versus investing one's own resources in an underdog. Our hearts may be with the underdog, but our expectations for the underdog's success may undermine any actual behavior support that we're willing to give the underdog.

Our findings suggest that although rooting for the underdog is pervasive, the effect is a mile wide and an inch deep. We may feel morally good about rooting for the

underdog, but our positive reaction is quite malleable (Study 4) and masks an overall disrespect for the work that underdogs perform (Study 2). Consider what we might call the "Wal-Mart effect." While we might root for the neighborhood Mom and Pop electronics shop, we will most likely buy our new HD television set at Wal-Mart. Thus the underdog effect, like repeating well known prayers for some people, might represent a weak moral principle, or a "moral patina", that affects our sentiments but not necessarily other judgments or behavior.

We suggest that the "Wal-Mart effect" represent a case of "moral myopia" where participants show a discrepancy between their moral based yet relatively weak attitudes and actual behaviors, however, as Ajzen & Fishbein (1980) classic work explains this discrepancy may not be sufficiently apparent for them to take action to reduce the dissonance. However, results from study 4 indicate then when the stakes (purity of drinking water) or relevance is high, dissonance is overcome by changing the rooting behavior toward the underdog. In other words, when something significant is on the line these moral attitudes are left by the wayside. However, as our studies suggest, when relevance or importance are low people may be myopic in that they allow themselves to feel good by "rooting for" the underdog, even though their behaviors will not always follow suit. Either way, our findings suggest the underdog effect is widespread, although it may not exert much leverage.

What additional psychological processes might count account for these findings? First, the underdog effect itself could stem from many factors. As stated earlier, we were all once small children, we all have had to deal with superior others, and we have all experienced struggle. Perhaps it is our own -- perhaps limited but definitely nonzero --

experience as an underdog that accounts for the effect. Second, our culture has numerous

highly salient narratives about underdogs. Human beings seem to have a remarkable

tendency to identify with fictional protagonists who face daunting obstacles. Therefore,

we may also be able to account for the underdog effect by recognizing the powerful

combination of people identifying and feeling inspired by underdogs in cultural

narratives along with the reoccurring normative moral principles espoused in these

stories.

The pervasiveness of such accounts may help explain why the underdog effect

may be so prevalent (a mile wide). At the same time, the fact that such accounts are

relegated to cultural folklore may also explain why they may not have far reaching

behavioral ramifications (an inch deep). Also, it may be that the cultural narratives reflect

in turn the essentially universal human experience with struggle and relative weakness

and disadvantage that we noted above. Furthermore, each individual's experience as

underdog combined with cultural narratives may have worked together over the course of

human history to make a sympathetic response to underdogs an archetypical reaction.

Interestingly, while social psychologists have largely neglected the psychology of

the underdog, researchers in other disciplines have found the underdog phenomenon to be

of interest. Political scientists and economists have conducted some work on the

consequences of publicizing poll results prior to an election, and this work has identified

both bandwagon effects and underdog effects (McAllister & Studlar, 1991; Simon, 1954).

The bandwagon effect refers to an increased tendency to vote for the candidate who is

leading in a poll than for the trailing candidate. Bandwagon effects often result from

conforming to an inferred norm (Marsh, 1984). On the other hand, the underdog effect

occurs if voters sympathize with a candidate who is trailing in the polls (Gartner, 1976; Straffin, 1977). These political science studies do not report whether underdog candidates are judged to be less competent, which the results of our Study 2 would suggest to be the case.

Clearly, researchers have only begun to scratch the surface in identifying the web of psychological variables and processes that are likely to be associated with the underdog effect. In particular more research needs to examine the psychological underpinnings creating the underdog phenomenon. For example, future research may profitably address whether identification with underdogs mediates the effect. Additional work may also examine whether people feel morally validated when they express sympathy and support for underdogs. As mentioned in our introduction, we are intrigued by the connection between the underdog effect and past work on *Schadenfreude* that focuses on our frequent disdain for successful individuals (Brigham, Kelso, Jackson, & Smith, 1997; Feather, 1999). These are among the many issues that can be explored in further investigations utilizing additional methodologies in a variety of social and cultural contexts.

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Figure Captions

Figure 1. The position of a circle in Study 3 as it struggles to traverse an obstacle.

Figure 2. Study 3: The position of two circles, one struggling (in this instance, dark grey) and the other non-struggling (light grey). The top panel shows the non-struggling circle after it easily passes the struggling one. The bottom panel shows the non-struggling circle reversing course and bumping the struggling circle down the hill.

Figure 3. Study 4: Rooting for the underdog as a function of self-relevance and consequences.

Low Self-Relevance

High Self-Relevance