Running head: THE IRRATIONAL SIDE OF EGOCENTRISM

Out of Sight, Out of Mind:
On the Irrational Side of Egocentrism in Social Comparisons

Steven Chan
New York University

John R. Chambers
University of Florida

Justin Kruger
New York University

This paper is currently under further revision for submission.
Please do not cite or quote without permission of the corresponding author.

Corresponding author:
Steven Chan
Marketing Department
Stern School of Business
New York University
40 West 4th Street
Tisch Hall, Room 825
New York, NY 10012
Phone: (916) 549-7813
Email: schan@stern.nyu.edu
Abstract

When people compare themselves to others, they egocentrically focus on self-relevant information more than on (equally) relevant information of the comparison other. For instance, an entrepreneur may overconfidently believe new subsidies represent a competitive edge against competitors, forgetting that others also reap equal benefits. This myopic bias has been highlighted in judgments across many domains including competitions, personal health risks and entrepreneurship. In contrast to myopia accounts, we show that this tendency is in part explained by egocentrism—how the self looms larger than others. Across three studies, we measured (Study 1) and manipulated (Study 2 and 3) self-other accessibility differences to demonstrate how lowered egocentrism reduces social comparison biases. Our findings (Study 3) also show that modes of competition (the structure and rules of competition) can naturally vary in how self-other differences are emphasized and impact amounts of social comparison bias in competitive contexts.
Out of Sight, Out of Mind:

On the Irrational Side of Egocentrism in Social Comparisons

Social comparisons are common in everyday life. Whether comparing their intelligence with other students, their chances of winning a round of Texas Hold'em against other gamblers, their likelihood to contract a virus versus peers, or their ability to succeed with a startup venture relative to other entrepreneurs, people are interested in knowing their standing relative to others (Festinger, 1954). Fearing they may not be as academically gifted as their peers, students expend less effort studying and ultimately do worse in school (Marsh & Parker, 1984). Expecting that their business is more likely to survive in a competitive marketplace than other new businesses, entrepreneurs invest more and are more confident of their chances of success (Camerer & Lovallo, 1999; Moore & Cain, 2007). And convinced that they are less vulnerable to sexually transmitted diseases, people may take fewer precautions than advised (Menon, Block, & Ramanathan, 2002).

Yet, as often as people compare themselves with others, a wealth of research suggests that those comparisons are systematically biased. Most people believe that they are more happy, conscientious, socially skilled, and generous than the average person, and less neurotic, impatient, and immoral (Alicke 1985; Campbell 1986). They do so in defiance of simple laws of probability that state that not everyone can be better than average. They are overconfident in competitions, believing that they have a greater chance of winning than their competitor(s) (Windschitl, Kruger, & Simms, 2003; Moore & Kim, 2003).

Initially, researchers suggested that these tendencies reflected a fundamental motivation to see oneself in the most favorable light possible (Taylor & Brown, 1988; Alicke, 1985).
However, more recent work suggests that people occasionally see themselves in a less positive light (Chambers & Windschitl, 2004). Although people believe that they are above-average in their ability to perform easy tasks such as riding a bicycle and operating a computer mouse, for instance, they believe they are below-average in their ability to perform difficult tasks such as riding a unicycle or programming a computer (Kruger, 1999). Similarly, although they see themselves as having above-average chances of experiencing common desirable outcomes like finding a quarter lying on the ground, they believe they have below-average chances of experiencing rare desirable outcomes like finding a $50 bill lying on the ground (Chambers, Windschitl, & Suls, 2003; Kruger & Burrus, 2004). Collectively, these findings suggest that people overestimate their relative standing when absolute standing on the dimension is high and underestimate it when it is low.

Evidence now suggests that when people compare themselves with others, they myopically focus on and overweight their own strengths and abilities, paying less attention to and underweighting the (equally relevant) strengths and abilities of the comparison group (Chambers et al., 2003; Klar & Giladi, 1999; Kruger, 1999). We suspect, however, that all is not equal. We suggest that the self receives the lion’s share of the attention because it is the self. Specifically, we propose that social comparisons are not merely myopic, but egocentric. After all, representations of the self are some of the most accessible representations that people possess. Conceptual representations become more accessible the more they are activitated (Higgins & Bargh, 1987; Srull & Wyer, 1979), and we spend considerably more time thinking about ourselves than we do about others. This leads to the fairly straightforward prediction that people are likely to egocentrically focus on their own strengths and achievements more than the strengths and achievements of others when they compare the two. And yet, despite nearly a
decade of research on the topic (including many with “egocentrism” in the title), there are no data that explicitly rule in egocentrism.

The present research was designed to provide the first unequivocal evidence of egocentrism in social comparisons, as well as the biases that egocentrism engenders. In Study 1, we measured the difference in speed with which self versus other information is brought to mind and determine whether those differences mediate egocentric biases. In Study 2, salience of the competitor is directly manipulated without varying the amount of relevant information. And in Study 3, we tested whether varying competitive contexts which differ naturally in competitor salience affects social comparison biases.

The present account cannot be explained by any normatively defensible judgment strategy. The fact that one’s own driving ability is more salient than the driving ability of others does not mean that the latter should be ignored unless the difference in the salience of that knowledge is confounded with differences in the validity of that knowledge—a confound we remove in the present work. Thus, whereas past work explored reasons why underweighting others in social comparisons may be rational, the present work explores the irrational side of this egocentrism.

Study 1: Events

Participants in Study 1 compared themselves with their peers in terms of their chances of experiencing several events, some of which were common (e.g., dialing the wrong telephone number) and some of which were rare (e.g., finding a $50 bill on the floor). They did so in both an absolute sense (e.g., How likely are you to get the flu? How likely are your peers to get the flu?), and in a comparative sense (e.g., Compared to your peers, how likely are you to get the
flu?). In addition, we unobtrusively recorded the length of time it took participants to make each judgment.

We predicted that participants would be slower to judge their peers’ absolute chances of experiencing the events than their own chances. We also expected accessibility differences to moderate the typical above-average and below-average effects (for common and rare events respectively) such that these effects would be more pronounced among participants who are relatively slower to judge their peers’ absolute chances than their own (Chambers et al., 2003; Kruger & Burrus, 2004).

Method

Participants. University of Florida students (n = 104) enrolled in an elementary psychology course took part in this study for course credit.

Procedure. When they arrived at the lab, participants were seated at individual computer terminals and told that they would be asked some questions about themselves and the average student at their university. After some preliminary demographic questions, a screen informed participants that they would be rating their own and other people’s chances of experiencing various events (see Table 1 for a complete list). They then rated how their chances of experiencing 16 events compared with their peers’ chances (e.g., “Compared to the average UF student, how likely are you to get into an auto accident?” each from -4 = much less likely to +4 = much more likely), as well as their own and their peers’ absolute chances for each event (e.g., “How likely are you [is the average UF student] to get into an auto accident?” each from 1 = very unlikely to 9 = very likely), with the order of these three judgments fully counterbalanced across participants. These events (taken directly from Chambers et al., 2003) were either common or rare, and desirable or undesirable, with an equal number of events in each of the four
categories (common/desirable, common/undesirable, etc.). The computer recorded (in milliseconds) the time it took participants to make their judgments, starting when the question appeared on the screen and ending when they pressed a key to indicate their response (e.g., see Mussweiler & Epstude, 2009). After making their ratings for all events, participants were thanked, debriefed, and dismissed.

Results

To test our prediction that information about others is ordinarily less accessible than information about the self, we averaged response times to make absolute self- and peer-judgments across all 16 events. We then log-transformed these data (to normalize the distributions) and submitted them to an analysis of variance. A main effect of target ($F(1, 102) = 9.10, p < .001, \text{partial } \eta^2 = .08$) revealed that participants were generally slower to judge their peers’ absolute event chances than they were to judge their own, suggesting that other-information is indeed less accessible than self-information.$^1$

Did these self-other accessibility differences translate into biased comparative judgments? That is, were participants who were relatively slower to report their peers’ chances (than their own) even more likely to rate themselves above- and below-average than those who were relatively quicker? To test this prediction, we divided participants into groups based upon whether the difference in their average response times for absolute self and peer judgments was above (low other-accessibility group) or below (high other-accessibility group) the median. (The results are the same when this measure is treated as a continuous rather than categorical variable, but for brevity and simplicity we use the median-split procedure) We then compared these groups in terms of their average comparative responses for the 8 common and rare events in an analysis of variance, treating order condition as a covariate.
As expected, we replicated the familiar event frequency effect in event likelihood comparisons (Price et al., 2002; Chambers et al., 2003; Klar & Ayal, 2004; Kruger & Burrus, 2004; Weinstein, 1980): participants in general gave higher comparative ratings for common (M = 0.29) than for rare events (M = -1.22), F(1, 102) = 84.70, p < .001; partial η² = .46.² Follow-up tests comparing these averages to 0 (or “same as average”) confirmed that participants overestimated their chances for common events (one-sample t(103) = 3.60, p < .001, d = 0.35) and underestimated their chances for rare events (one-sample t(103) = -14.11, p < .001, d = 1.39). Consistent with our egocentrism account, however, a significant interaction revealed that the event frequency effect was more pronounced among low other-accessibility participants (M’s = 0.50 vs. -1.34) than among their high other-accessibility counterparts (M’s = 0.07 vs. -1.10), F(1, 102) = 6.63, p = .01, partial η² = .06. Table 1 presents these data.

Did low other-accessibility participants rate themselves more above- and below-average because they were even less focused on their peers’ chances (than their own) when making their comparisons? To find out, we conducted a multiple regression analysis for each participant predicting their comparative judgments (the dependent variable) from their absolute self and peer judgments (the independent variables) across all 16 events. These analyses yielded two standardized beta coefficients (βs) for each participant, one representing the unique relationship (across the events) between judgments of one’s own absolute chances and one’s comparative chances, the other representing the unique relationship between judgments of peers’ absolute chances and one’s comparative chances. These βs were then compared in a 2 (other-accessibility: high vs. low) X 2 (target: self vs. peers) mixed-model ANOVA (reverse-scoring the peer βs to enable appropriate comparison) to see the extent to which participants’
comparative judgments were predicted by their judgments of their own chances and their peers’ chances, respectively (see Kruger et al., 2008; Windschitl et al., 2003 for similar analyses).

As predicted, participants put more weight on their own absolute chances than their peers’ chances when comparing the two ($F(1, 101) = 231.66, p < .001$, partial $\eta^2 = .70$), the typical pattern of egocentric weighting observed in numerous prior studies (e.g., Chambers et al., 2003; Klar & Giladi, 1999; Kruger, 1999; Moore & Kim, 2003; Price et al., 2001). However, as Figure 1 reveals, this tendency was more pronounced among the low other-accessibility participants than among the high other-accessibility participants, $F(1, 101) = 7.41, p < .01$, partial $\eta^2 = .07$. Thus, low other-accessibility participants rated themselves more above- and below-average because they were even more egocentric than their high other-accessibility counterparts, giving less weight to (less accessible) information about their peers and more weight to (more accessible) information about themselves in their comparisons.

To provide further evidence that the weighting given to self and peer information is responsible for the difference in bias between high and low self-accessibility participants, we next conducted a mediation analysis. To do so, we created an index of the proposed mediator, the weighting given to self vs. peer information (self $\beta$ – peers $\beta$), and an index of the dependent variable, the difference between average comparative judgments for common vs. rare events (common – rare). This analysis provided strong support for our mediational model. In the first step, we found that high vs. low other-accessibility differences (the independent variable) were positively related to both the proposed mediator ($\beta = .22, p = .03$) and the dependent variable ($\beta = .27, p < .01$). The proposed mediator was also positively related to the dependent variable ($\beta = .76, p < .01$). In the final step, we found that the relationship between the independent and
dependent variables is reduced to non-significance when controlling for the mediator ($\beta = .10, p = .14$), which a Sobel test (1982) confirmed was a significant reduction, $Z = 2.20, p = .03$.

**Discussion**

The results of Study 1 provide initial support for the role of egocentrism in social comparisons. Participants were slower to assess their peers’ chances of experiencing events than to assess their own chances, and that difference moderated the size of the above- and below-average effects. Since this study relied on individual differences, it is possible that there might be other explanations besides egocentrism for the self-other difference in reaction times. A more direct test of the accessibility account would experimentally manipulate the salience of participants’ accessibility of the comparison group. Study 2 was designed to do precisely that.

**Study 2: Events Revisited**

Like Study 1, participants in Study 2 compared themselves to others in terms of their chances of experiencing both common and rare events. Unlike the original study, however, we manipulated the salience of each participant’s comparison target. In the low-salience condition, participants compared themselves with the average peer in their class; while in the high-salience condition they compared themselves with an unidentified peer sitting at the next computer (obscured from view by desk partitions). We predicted that participants in the high-salience condition would be more inclined to consider their comparison target when predicting their comparative likelihoods, and as a result, would show a reduced event frequency effect. Importantly, we predicted this would be true despite the fact that no additional relevant information was provided about the target in the high-salience condition.
Method

*Participants.* One hundred and seventy-one New York University (NYU) undergraduates earned course credit for an introductory marketing course in exchange for participating.

*Procedure.* The details of this study mimic those of Study 1 with a few important differences to note. The computer randomly assigned participants into one of two target salience groups. Those in the low-salience group received instructions to compare themselves with the “average (i.e. typical) student taking Intro to Marketing at NYU this term.” Those in the high-salience group had directions to compare themselves with the specific person at the computer station next to them “also taking Intro to Marketing.” Partitions at each computer station obscured participants from viewing their fellow participants during the study. The comparison events came from a more updated list in Kruger and Burrus (2004). The list included 28 events (see Table 2 for a complete list), and like the list from Study 1, it consisted of an equal number of events in each of the four categories (common vs. rare and desirable vs. undesirable). Ratings about participants’ own absolute chances for each event were then followed by ratings of absolute chances for the comparison target.

Results

We first predicted that participants would demonstrate the event frequency effect (as in Study 1) by providing higher comparative ratings for common versus rare events, with that tendency reduced in the high-salience condition. To test these predictions, we averaged the 14 predictions in each frequency group and submitted these averages to a 2 (common vs. rare category) x 2 (low vs. high-salience of the comparison target) mixed-model ANOVA. The results fully supported both predictions. First, despite the fact that the frequency of an event
would influence likelihoods for everyone, participants predicted higher comparative ratings for common \((M = 0.80)\) than rare events \((M = -0.67)\), \(F(1, 169) = 244.37, p < .001\), partial \(\eta^2 = .59\).

Follow-up analysis comparing these predictions to the null of 0 revealed they overestimated common events, \(t(170) = 92.38, p < .001\), and underestimated rare events, \(t(170) = -70.10, p < .001\).

Second, comparing the difference between common and rare predictions reveals that this effect was significantly reduced in the high vs. low-salience comparison target condition, \(F(1, 169) = 19.05, p < .001\), partial \(\eta^2 = .32\). Importantly, this was true despite the fact that the salience manipulation did not influence, except in one case, the absolute ratings of either the self or the comparison target \((ps > .1)\). Interestingly, the one exception for absolute ratings of common events for the comparison target does not lend support for alternative explanations to our egocentrism account since low-salience participants actually judged the comparison other’s absolute likelihood to experience common events as higher \((M = 6.30)\) than did those in the high-salience group \((M = 5.93)\), \(F(1, 169) = 7.07, p = .01\). Therefore despite the fact that absolute ratings would predict that low-salience participants (compared to the high salience group) would make lower comparative ratings for common events, the results show otherwise and are consistent with our egocentrism account where the lower accessibility of the comparison target, the lower the weighting of knowledge about the target in comparative judgments.

What, if not a change in the perceptions of the self or the comparison target accounted for this reduction? To find out, we next turned to an analysis of the differential weight placed on the self and the comparison target in the two salience conditions. For each participant we conducted a separate multiple regression predicting their 28 likelihood ratings from their estimates of their own and the target other’s absolute ratings, respectively. This analysis yielded two \(\beta\)s for each
participant: one an index of the unique relationship between participants’ estimates of their own absolute ratings and their predicted comparative likelihoods and the other an index of the unique relationship between participants’ estimates of the target’s absolute ratings and their predicted comparative likelihoods. If participants base their predictions more on their assessment of their own absolute ratings (of experiencing the various events) than on those of the target other, then the former should be larger than the latter. Of key importance, if the reduction in bias in the high-salience condition was caused by participants placing greater weight (as reflected by the beta values) on their assessment of the target, then that difference should be reduced in the high-salience condition. A 2 (self vs. target other) x 2 (low vs. high-salience condition) mixed-model ANOVA (reverse scoring the target other βs to enable an appropriate comparison) supported both predictions. Participants’ predictions of their comparative likelihoods were more closely related to their estimates of their own absolute ratings ($M = .56$) than to their estimates of the target other’s ratings ($M = .15$), $F(1, 161) = 224.18, p < .001$, partial $\eta^2 = .58$. Central to our egocentrism account, the difference in these self-other betas was smaller in the high ($M = 0.30$) vs. low-salience condition ($M = 0.48$), $F(1, 169) = 10.92, p < .001$, partial $\eta^2 = .25$.

Further evidence for our causal account comes from a meditational analysis. Our prediction is that changes in the weight participants placed on their estimates of their own absolute ratings (versus the target other’s) mediate the link between the salience manipulation and the difference in participants’ likelihood in experiencing common versus rare events (the vent frequency effect). For simplicity and to allow the use of the familiar Baron and Kenny (1986) procedure, we created two index variables: one for the proposed mediator and the other for the dependent variable. Specifically, we computed the difference between the self $\beta$ and the target other $\beta$ to create an index of the proposed mediator, and computed the difference between
participants’ comparative likelihoods for common and rare events to create an index of the dependent variable. These indices provided strong support for mediation. First, the independent variable (the salience manipulation) was significantly associated the proposed mediator ($\beta = .12, p < .01$). Second, the proposed mediator was significantly related to the dependent variable ($\beta = 1.00, p < .01$). Finally, the relationship between the independent and dependent variables was significantly reduced when controlling for the mediator, which a Sobel test (1982) confirmed was a significant reduction $Z = 1.77, p < .05$ (one-tailed).

Finally, we analyzed the reaction times for the absolute ratings as in Study 1 to support our contention that greater salience for the target other corresponds with greater accessibility as reflected in faster reaction times when responding to absolute ratings for the other. As predicted, the high-salience group had a faster average reaction time ($M = 1011\text{ms}$) than the low-salience group ($M = 1145\text{ms}$), $F(1, 169) = 3.62, p = .06$. No differences were observed for mean reaction times for absolute self ratings ($ps > .8$).

Discussion

The results of Study 2 further support our egocentrism account of myopia in social comparisons. By directly manipulating the salience of the comparison target, Study 2 achieved the same overarching result as in Study 1: an event frequency effect that was attenuated by accessibility of the comparison target. Participants overestimated their chances of experiencing common events and underestimated their chances for rare events. However, increasing the salience of the comparison target attenuated these effects. Furthermore, meditational analyses confirmed that the reduction in the latter was mediated by the reduction in the former, consistent with our egocentrism account.
We manipulated the salience of the comparison target by varying whether participants compared themselves with their average peer (low-salience) or the peer sitting at the next computer station (high-salience). It could be argued that the difference in the comparison targets may differ in more ways than simply salience. The intention of our manipulation was to vary the salience of the comparison target enough to observe attenuation of the event frequency effect without varying the amount of relevant information across conditions. Although the low-salience target is less individuated than the high-salience target, participants in the high-salience condition did not have additional information about the target other relevant to the event likelihood questions. Measures asking participants in the high-salience group whether they recalled personal information about the person sitting next to them did not affirm such knowledge.

Two other results support our interpretation of the salience manipulation as consistent with our egocentrism account. First, the absolute ratings about the target other did not differ in a way that would suggest low-salience participants believed their comparison targets were more (less) likely to experience common (rare) events as compared to the high-salience group. Second, the faster reaction times for high-salience participants in providing absolute ratings about the comparison target support our success in manipulating accessibility of the target other. Besides our egocentric differential accessibility account, no other explanation to our knowledge could explain this pattern of results.

Study 3: Star Wars

As it turns out there may have been another feature of social comparisons that naturally contribute to participants’ over and under-estimation. Many social comparisons involve a
competitive context where people must compare how they stack up against a particular type of comparison target: a competitor. Moreover, competitions can take one of two forms. In some cases, competitors compete with one another directly, such that each competitor’s actions have a direct influence on the other competitor(s). In other cases, competitors compete indirectly, and the actions of one are independent of the actions of the others. A schoolyard competition of strength, for instance, might be settled by arm-wrestling (an example of the former category), or with who can lift the most weight (an example of the latter).

The results of Studies 1 and 2 suggest that this subtle distinction might lead to very different levels of optimism among competitors. Specifically, it stands to reason that direct competitions naturally focus one’s attention on the strengths and weaknesses of one’s opponent(s) more than indirect competitions. If so, then whereas participants might overestimate their chances of winning when faced with a shared benefit (such as an easy trivia category) and underestimate their chances of winning when faced with a shared adversity (such as a difficult trivia category), that tendency should be reduced when competitors compete directly. Importantly, this should be true even if doing so does not convey any additional information about the opponent’s strengths and weaknesses, consistent with our egocentrism account.

The present study was designed to test that hypothesis and in so doing, extend our earlier findings about salience. Participants competed with one another in a videogame set in a “Star Wars” type universe. However, whereas some participants competed directly against one another via networked computers, others competed indirectly against a computerized opponent, with the winner being whichever player scored the most points.

Orthogonal to this manipulation we introduced a shared adversity inspired by the 1977 film. In some of the games, players had to use “the force.” Specifically, participants were
blindfolded and asked to destroy their virtual foe by harnessing the power of the force (just as Jedi Luke Skywalker did in the film). Since most participants, we reasoned, did not think themselves Jedi, playing a videogame while blindfolded constituted a serious adversity. Of course, the fact that their opponent would also be blindfolded means that it is not a unique adversity. Despite that fact, we expected participants to be less confident about winning the competition when they were blindfolded than when they were not. However, we expected this tendency to be reduced when participants thought that they would be competing directly, consistent with our egocentrism account.

Method

Participants. Thirty University of Illinois students enrolled in an introductory course in psychology earned partial course credit for participating.

Procedure. Participants were recruited in pairs. When they arrived at the lab, the experimenter explained (much to the delight of the participants) that the study would involve playing a futuristic combat videogame set in a “Star Wars” type fantasy universe. The game consisted of two virtual combatants, and each participant controlled one combatant. The object of the game was to score as many points as possible by striking their opponent with a laser weapon. After a 5-minute tutorial designed to familiarize each participant with the controls, the experimenter explained that there would be a total of 4 games played. In half of the games, the two participants would be competing directly via a networked computer (salient competitor condition), whereas in the other half they would be competing indirectly against the computer (non-salient competitor condition). Thus, for all games the winner was the player who scored the most points, but whereas for some games the virtual opponent was the other participant, in other games the virtual opponent was the computer.
Orthogonal to this manipulation, for half of the games there was a catch: players had to “use the force.” Participants were reminded of the famous scene in the Star Wars film in which Luke Skywalker’s trainer Obi-wan Kenobi taught Luke to use the force by fighting while wearing a “blast shield”—a helmet with no eyeholes. This, Obi-wan explained, would encourage Luke to “let go” and allow “the force” to guide his movements. The experimenter produced a replica of the blast shield featured in the film and explained that for some of the games they, too, would be wearing blast shields. Of key importance, participants were told that for these games both players would be wearing blast shields, thus neither player would have an inherent advantage over the other.

Participants then predicted the outcome of each of the 2 (salient vs. non-salient competitor) x 2 (force vs. no-force) games to come separately. Specifically, for each game participants indicated whether they thought that they would win or lose on a percent scale from 0% (there is no chance that I will win) to 50% (I am just as likely to win as to lose) to 100% (it is certain that I will win). (Participants also made their predictions on a dichotomous win/lose scale, but since the results of this less sensitive measure were virtually identical this measure is not discussed further.) Participants were encouraged to provide their best guess and ensured that their responses were anonymous and would not be shared with their opponent. Once the predictions were solicited participants were thanked, debriefed, and dismissed, with no actual game playing taking place.

Results

Our first prediction was that despite the fact that the adversity of having to play a videogame without being able to see the screen was shared by both participants, participants
would be less confident about their chances of winning in this condition. Our second prediction was that this effect would be attenuated when participants competed directly against each other.

A 2 (salient vs. non-salient competitor) x 2 (force vs. no-force) fully within-subject ANOVA with the dyad as the unit of analysis and the predictions averaged across the two players strongly supported both predictions. First, there was a main effect of force condition, $F(1,14) = 74.24, p < .001$, partial $\eta^2 = .84$, such that on average, participants were considerably less confident when they believed they would have to “use the force” ($M = 29.8\%$) than when they did not ($M = 61.3\%$). In fact, this was not only true on average, but for each and every dyad, and each and every person within those dyads. Follow-up one-sample $t$-tests against the null of 50% revealed that on average, participants were underconfident in the force rounds, $t(14) = 3.18, p = .007$, and non-significantly overconfident in the no-force rounds, $t(14) = 1.60, p = .14$. Second, and more important, we also observed the predicted 2-way interaction, $F(1,14) = 12.67, p < .01$, partial $\eta^2 = .48$. As Figure 2 reveals, the shared circumstance effect was considerably smaller when participants competed directly (salient competitor condition) than when they competed indirectly (non-salient competitor condition), consistent with our egocentrism account.

General Discussion

Past work has shown that when people compare themselves with others, they weight information about themselves more heavily than information about others. As a consequence of this myopia, they tend to overestimate their comparative standing when absolute standing is high and underestimate their comparative standing when absolute standing is low. For example, people rate themselves above-average in ability at driving a car (a domain where everyone’s
absolute ability tends to be high) but below-average in ability at programming a computer (a domain where everyone’s absolute ability tends to be low) because they tend to focus too much on their own absolute ability and underweight or ignore the abilities of the typical person.

Here, we considered whether this phenomenon can be explained in part by the fact that self-information comes to mind more rapidly and with greater subjective ease than (equivalent) information about others. For instance, when thinking about how one’s chances of catching a cold compare with others’ chances, occasions when one has suffered from a cold in the past are likely to come to mind more quickly than those of others, and thus, one is likely to conclude that one’s chances are above-average.

We examined the contribution of such self-other accessibility differences to social comparison biases in three experiments. In Study 1, we show that information about the self is brought to mind more quickly than information about others, and that difference mediates the magnitude of bias in social comparisons. In Study 2, we manipulated participants’ accessibility of the comparison group by changing the salience of the target while holding relevant information constant. Participants predicted their chances of experiencing both common and rare events. Path analyses revealed that participants based their predictions on their own absolute ratings of experiencing those events more than on their comparison target’s respective ratings. However, that effect was attenuated when the comparison target was more easily brought to mind (sitting next to the participant) than not (the average peer). Finally in Study 3, we demonstrate that the mode of competition matters in highlighting the salience of competitors. Participants who played a game directly against their opponent (head-to-head) exhibited less egocentric bias than those who played through an intermediary (the computer).
Collectively, our results show the social comparison biases at hand can be linked to a difference in the accessibility (or ease of retrieval) of self and other-knowledge. Biases can occur simply because self-knowledge tends to be more accessible or perceptually salient than other-knowledge. This accessibility difference can lead to biased comparisons even if there is no difference in the amount or quality of self and other-knowledge. The present research demonstrates that self-other accessibility differences constitute a unique, independent source of social comparison biases. According to our egocentrism account, many perspective-taking manipulations may work by increasing the accessibility of information about the comparison referent (or decreasing it when attention is shifted onto the self). As a consequence of this enhanced accessibility, previous accounts pointing at the tendency to overweight information about the self and underweight information about the comparison referent would be sharply reduced, yielding weaker above- and below-average effects.

Whether comparing their event chances, abilities, or entrepreneurial success, people tend to overweight self-assessments and underweight assessments of the comparison group, giving rise to both above- and below-average effects. Although much prior work has identified egocentrism as the cause of this myopia, very little work explicitly rules in egocentrism. In the present work, we show that comparisons are indeed egocentric. We demonstrated not only that self-information comes to mind more rapidly than information about a comparison group, but that those for whom self-information is especially accessible tend to be most myopic in their comparisons (and as a result, see themselves as most above- and below-average). Furthermore, we showed that increasing the salience of the comparison group led to corresponding decreases in egocentrism and above- and below-average comparisons. As a key implication from this research, we emphasize that changing the context of social comparison or competition, by simply
highlighting the presence of the other or competitor (without changes in amount or quality of information) can alone diminish the degree of social comparison bias. As for the theoretical take away, these results suggest that a major reason why comparisons are myopic is that others are simply “out of sight” and “out of mind”.

References


thinking. *Journal of Experimental Psychology: General*, 138, 1-21


Because the order of judgments was counterbalanced, approximately half of the participants made both absolute judgments (self and peers) before or after comparative judgments. Within this subsample, the target effect was qualified by a significant interaction with order of absolute judgments (self first vs. peers first), $F(1, 45) = 42.75, p < .001$, partial $\eta^2 = .49$. This interaction revealed that the second target was always judged more rapidly than the first target, but that difference was more pronounced when the self was the second target (Self: $M = 3.48$, Peers: $M = 4.85$) than when peers were the second target (Self: $M = 4.69$, Peers: $M = 4.49$).

There was also a main effect of event desirability ($F(1, 101) = 98.09, p < .001$, partial $\eta^2 = .49$), with participants reporting greater comparative chances for desirable ($M = 0.11$) than for undesirable events ($M = -1.04$), but this variable did not interact with self-other accessibility differences (nor does our egocentrism account suggest it would), $p > .05$. 
Table 1. *Average comparative judgments for high and low other-accessibility participants in Study 1.*

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Other-accessibility group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( M (SD) )</td>
<td>( M (SD) )</td>
<td></td>
</tr>
<tr>
<td><strong>Common events</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>have a starting salary greater than $25,000</td>
<td>0.48 (1.88)</td>
<td>1.29 (1.84)</td>
<td></td>
</tr>
<tr>
<td>greeted warmly at a family gathering</td>
<td>1.77 (1.42)</td>
<td>1.98 (1.70)</td>
<td></td>
</tr>
<tr>
<td>have someone hold the door open for you</td>
<td>1.06 (1.56)</td>
<td>1.38 (1.48)</td>
<td></td>
</tr>
<tr>
<td>see an old friend on the street</td>
<td>0.52 (1.73)</td>
<td>0.58 (1.98)</td>
<td></td>
</tr>
<tr>
<td>find rotten food in the refrigerator</td>
<td>-1.37 (1.66)</td>
<td>-0.31 (2.02)</td>
<td></td>
</tr>
<tr>
<td>catch the flu</td>
<td>0.04 (2.14)</td>
<td>-0.35 (1.90)</td>
<td></td>
</tr>
<tr>
<td>get into an automobile accident</td>
<td>-1.13 (1.92)</td>
<td>-0.63 (1.69)</td>
<td></td>
</tr>
<tr>
<td>dial wrong telephone number</td>
<td>-0.79 (1.80)</td>
<td>0.12 (1.61)</td>
<td></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>0.07 (0.72)</strong></td>
<td><strong>0.50 (0.86)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Rare events</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>win a car in a sweepstakes</td>
<td>-1.33 (1.61)</td>
<td>-1.58 (1.58)</td>
<td></td>
</tr>
<tr>
<td>be treated to an elegant dinner by a friend</td>
<td>-0.10 (1.79)</td>
<td>0.00 (1.67)</td>
<td></td>
</tr>
<tr>
<td>receive a unexpectedly large tax refund</td>
<td>-1.19 (1.69)</td>
<td>-1.17 (1.79)</td>
<td></td>
</tr>
<tr>
<td>find a $50 bill on the ground</td>
<td>-0.98 (1.64)</td>
<td>-0.96 (1.50)</td>
<td></td>
</tr>
<tr>
<td>fall down a flight of stairs</td>
<td>-0.42 (1.72)</td>
<td>-0.42 (1.64)</td>
<td></td>
</tr>
<tr>
<td>gain 80 pounds</td>
<td>-1.85 (1.66)</td>
<td>-2.21 (1.80)</td>
<td></td>
</tr>
<tr>
<td>be shot in the abdomen</td>
<td>-1.62 (1.80)</td>
<td>-2.13 (1.66)</td>
<td></td>
</tr>
<tr>
<td>be falsely accused of a serious crime</td>
<td>-1.29 (2.16)</td>
<td>-2.23 (1.78)</td>
<td></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>-1.10 (0.88)</strong></td>
<td><strong>-1.34 (0.88)</strong></td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Average comparative judgments for high and low-salience condition participants in Study 2.

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Salience condition</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common events</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
</tr>
<tr>
<td>How likely are you to own your own car someday?</td>
<td></td>
<td>0.62 (0.69)</td>
<td>0.99 (0.90)</td>
</tr>
<tr>
<td>How likely are you to have a starting salary greater than $25,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to own your own home someday?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to live past the age of 70?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to have your work recognized with an award?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to graduate in the top 1/2 of your class?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to travel to Europe in the next few years?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to get a ticket for driving too fast?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to gain 5 lbs in the next 10 years?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to catch the flu in the next 4 years?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to be involved with an automobile accident?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to experience a broken heart before age 40?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to fall behind in schoolwork?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to have a painful treatment by a dentist?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>0.62 (0.69)</td>
<td>0.99 (0.90)</td>
<td></td>
</tr>
<tr>
<td>Rare events</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
</tr>
<tr>
<td>How likely are you to own your own airplane someday?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to have a starting salary greater than $250,000?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to own your own island someday?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to live past the age of 100?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to have your work recognized with a Nobel Prize?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to graduate in the top 1% of your class?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to travel to the Moon during your lifetime?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to get a ticket for driving too slow?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to gain 5 lbs in the next week?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to catch the flu in the next 2 weeks?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to be involved with a boating accident?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to have a heart attack before age 40?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to fall behind in dental hygiene?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How likely are you to have a painful acupuncture treatment?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>-0.44 (0.71)</td>
<td>-0.92 (0.83)</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1

Low other-accessibility group (low salience manipulation)

Low other-accessibility group (low salience manipulation)

High other-accessibility group (high salience manipulation)
Figure 1. Path models depicting relationship between absolute judgments and comparative judgments for low and high other-accessibility participants in Study 1.

Figure 2. Mean optimism as a function of shared circumstance and competitor salience in Study 3.