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Running head: Self-focus, perspective-taking, and egocentrism

Self-Awareness, Perspective-Taking, and Egocentrism

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ABSTRACT

The present experiment examined the effect of self-awareness on adult perspective-taking and egocentrism. After having indicated their own opinion on an ecology-related topic, university students estimated a fellow student's opinion on the same matter. Participants did so either in front of a mirror or not, and either after having received a cue for the fellow student's most probable opinion—his perspective—or not, resulting in a 2 (self-awareness: low vs. high) x 2 (cue: yes vs. no) between persons design. As expected, self-aware participants were more likely to correctly estimate the fellow student's most probable opinion, reflecting perspective-taking, if a cue for his/her perspective was provided. Moreover, self-awareness also reduced participants' false consensus beliefs (i.e. egocentrism)—when they had a cue for the fellow student's perspective. The results conceptually replicate and extend previous findings on self-awareness, perspective-taking, and egocentrism.

Self-Awareness, Perspective-Taking, and Egocentrism

It is known for long that focusing attention to the self can foster perspective-taking and thus reduce egocentrism (e.g., Hass, 1979, 1984; Stephenson & Wicklund, 1983, 1984). At first glance it may appear surprising that self-focus leads to increased consideration of other persons' points of view. However, according to objective self-awareness theory (Duval & Wicklund, 1972; Silvia & Duval, 2001; Wicklund, 1975), it is logic that self-focused attention has this effect. The reason is that focusing one's attention to the self means taking an external perspective and thus regarding the self as a unit that is distinct from others—which is the prerequisite for perspective-taking (Stephenson & Wicklund, 1983). If this condition is not fulfilled, as for instance among young children (Duval & Wicklund, 1972), one will regard the social world in an egocentric manner, which is the opposite of perspective taking (Piaget, 1924).

Objective self-awareness theory predicts further that self-focus increases the awareness of the most salient self-aspects and the most relevant social standards in a given situation (e.g., Gendolla, Abele, Andrei, Spurk, & Richter, 2005; Silvia, 2002). As a consequence, persons will try to reduce discrepancies between their behavior and that standard. One standard that is learned during socialization in Western cultures is that one should consider the opinions, feelings, and beliefs of others—one should not behave egocentrically in social settings (see Eisenberg & Strayer, 1987; Hoffman, 2001). Consequently, self-focused attention should enhance perspective-taking, because the consideration of others' perspectives is a standard for social interaction. However, research on self-awareness and perspective-taking also suggests that this effect depends on the accessibility of information about other perspectives—without this, others' perspectives cannot be taken. Consequently, self-awareness should foster perspective-taking and thus reduce egocentrism if people have cues for other persons' viewpoint—a hypothesis that was

tested in several experimental paradigms. These studies operationalized perspective-taking as considering another person's spatial perspective (e.g., Hass, 1979, 1984; Stephenson & Wicklund, 1984), or taking information about another person's knowledge (e.g., Stephenson & Wicklund, 1983) or his/her personal-cultural background into account (Scaffidi Abbate, Isgrò, Wicklund, & Boca, 2006). These studies revealed replicated empirical evidence that self-focused attention enhances perspective-taking and thus reduces egocentrism.

However, studies reported by Fenigstein and Abrams (1993) indicate what appears to be the opposite effect, namely that self-attention, and especially attention to the public aspects of the self, coincides with the egocentric assumption that one's own perspective is shared by others. Given that discrepancy, a study by Gendolla and Wicklund (2009) investigated the effects of private and public self-consciousness on perspective-taking under conditions of providing a cue for another person's perspective or not. The important cue variable was not considered in the Fenigstein and Abrams (1993) studies, which rather focused on a general false consensus effect—the tendency for individuals to overestimate the level to which other people share their beliefs, attitudes, and behaviors (Ross, Greene, & House, 1976) as a measure of egocentrism.

To provide a more adequate test of the role of self-focus on egocentrism and perspective-taking, Gendolla and Wicklund (2009) created groups of participants scoring low vs. high in private and public self-consciousness on the basis of their scores on the self-consciousness scale (Fenigstein, Scheier, & Buss, 1975). Participants, who were university students, then indicated their opinion on a political topic to assess their own perspective before they estimated the opinion of another student from the same university. In between both measures the presence vs. absence of a cue for the other student's opinion was manipulated—which was usually not made in the above-discussed studies on self-awareness and perspective-taking. Rather, in those studies a cue for another person's perspective was

always available as a prerequisite for perspective-taking. Half the participants received a cue for the other student's opinion—the predominant opinion of other students. The other half estimated the fellow student's opinion without that cue. On the one hand, replicating the finding by Fenigstein and Abrams (1993), participants who scored high in public self-consciousness at least tended to show a stronger false consensus effect. They showed lower discrepancies between their own opinion and their estimates of the fellow student's opinion than those scoring low in public self-consciousness. However, most relevant, the critical measure of perspective taking revealed a private self-consciousness x cue interaction: Participants scoring high in private self-consciousness were nearly six times more likely to consider the cue for the other student's most likely belief and estimated his/her opinion accordingly.

The Present Research

The present research aimed at conceptually replicating and extending the findings by Gendolla and Wicklund (2009) in a full experimental design. Gendolla and Wicklund found that private self-consciousness fosters perspective-taking in terms of the consideration of an available cue for another person's opinion. However, given the quasi-experimental design of that study, its conclusiveness is somewhat limited. Moreover, previous research on self-awareness effects on perspective-taking has usually not manipulated the presence of a cue for another person's perspective. As a prerequisite to assess perspective-taking, such cues for spatial perspectives (Hass, 1979, 1884; Stephenson & Wicklund, 1984), lacking information (Stephenson & Wicklund, 1983), or others' personal background (Scaffidi Abbate et al., 2006) were available in all experimental conditions. Thus, we aimed at further testing if cues for another person's perspective are really necessary for the fostering the effect of self-awareness, or if self-awareness alone is sufficient—the Gendolla and Wicklund (2009) finding is not replicated so far. Finally, if self-awareness can foster perspective-taking and

thus reduce egocentrism when a cue for another person's perspective is provided, one can assume that this should also turn out in a reduced false-consensus effect. The Gendolla and Wickund (2009) study did not find evidence for this. However, the effect on reduced false consensus as measure of lower egocentrism maybe not turned out because that study had not enough statistical power to detect it. This calls for another test with a rather big sample size. We addressed theses issues in the present experiment.

We used a similar paradigm as Gendolla and Wicklund (2009), but run a full experimental design to facilitate conclusions about causality. Participants first indicated their own opinion concerning an ecology-related topic and later estimated a fellow student's opinion on the same topic. To manipulate self-awareness, we used the most frequently applied method (Silvia & Duval, 2001): Confrontation with one's mirror image—a manipulation that refers to private self-consciousness (Wicklund & Gollwitzer, 1987). Half the participants estimated the fellow student's opinion in front of a mirror, while the other half was not confronted with their mirror image. Moreover, half the participants received a cue for the fellow student's most probable perspective on the ecology-related topic before their estimates. The other half estimated his opinion without this cue.

We expected a self-awareness x cue interaction effect in that self-awareness should foster perspective-taking, and thus reduce egocentrism, if a cue for the other person's opinion was provided. Under this condition, participants should be most likely to consider the cue in their estimates of the other student's opinion (i.e. increased perspective-taking) and show reduced false consensus (i.e. reduced egocentrism).

METHOD

Pretest: Assessing Opinions

As it was important to be able to present participants in the main experiment with a cue for perspective-taking in the form of a distribution of opinions, we asked a preliminary

sample of 100 university students (50 women, 50 men) for their opinion on the following issue: "Would you be willing to pay an extra amount on your electricity bill in order to guarantee that the energy stemmed from renewable sources?" Respondents indicated their opinion by marking one of the following alternatives on a 5-point scale: *absolutely against* (1), *moderately against* (2), *nor against/nor in favor* (3), *moderately in favor* (4), *absolutely in favor* (5). As presented in Figure 1, the modal opinion among this sample of students was "*moderately in favor*." The result of this pretest later served as cue for another person's perspective.

Main Study

Participants and Design

Participation was voluntary: Students were contacted on the campus and were invited to take part in the main study, which was conducted in the psychology building. $N = 120$ university students (70 women, 50 men, mean age 22 years) with different study majors agreed, showed up for the study, and were randomly assigned to the conditions of a 2 (self-awareness: low vs. high) x 2 (cue: yes vs. no) between persons design (30 participants per condition, the gender and age distributions were even in each condition). No participant was excluded from the analysis reported below.

Procedure

Full methods are reported, with all measures and manipulations taken. Participants were run in individual sessions. Upon arrival at the laboratory room they were invited to take a seat at a desk, learned that they should complete a questionnaire to assess their opinions on an energy-related topic, and were informed that their responses would be treated anonymously. In the *high-self-awareness condition*, a mirror was placed behind the desk, so that participants found themselves confronted with their mirror image as they were seated. The mirror was placed so as to appear to be part of the overall furnishing of the room—no

participant asked why it was there. In the *low-self-awareness condition*, the mirror was absent. Once seated, participants started to complete the questionnaire, which consisted of 3 pages in the cue-condition and of 2 pages in the no-cue condition. The pages of the questionnaire were presented in a fixed order:

On the first page, participants were asked to indicate their own opinion on the same issue as in the pretest. Participants were asked: "Would you be willing to pay an extra amount on your electricity bill in order to guarantee that the energy stemmed from renewable sources?" and answered again by marking one of the alternatives *absolutely against, moderately against, nor against/nor in favor, moderately in favor, absolutely in favor* on a 5-point scale. The second page was only presented in the cue-condition. Participants read "*An actual opinion poll at this university has revealed the following results*:" Then Figure 1 with the results of the pretests was presented, showing that the modal opinion of other students was "*moderately in favor*." This information was the cue for other students' perspective on the electricity-related topic and thus not presented in the no-cue condition.

The next page was again handed out to all participants and assessed the dependent variable. It showed a photo of a young man whose name was ostensibly "Marco," and who was said to be a 20-year-old student at the university. Participants were asked to estimate Marco's opinion on the electric bill question. The item was worded as follows: "*Marco is a student who is studying at your university. We are interested to know how you think Marco answered the question "Would you be willing to pay an extra amount on your electric bill in order to guarantee that the energy stemmed from renewable sources?*" Participants answered by marking their estimate on the same 5-point scale on which they had previously indicated their own opinion. At the end of the session, participants were debriefed and thanked. Although there was no bigger cover story for the experiment, no participant reported to have identified the purpose of the study.

RESULTS

Preliminary Analysis

First of all, we analyzed participants' own opinions to test for possible opinion differences between the conditions before the manipulations. A 2 (self-awareness) x 2 (cue) between persons ANOVA revealed no main effect for self-awareness, $F(1, 116) = 1.65$, $p = .20$, but a surprising main effect for the cue variable, $F(1, 116) = 24.12$, $p < .001$, $\eta^2 = .17$, that was qualified by a significant interaction, $F(1, 116) = 18.55$, $p < .001$, $\eta^2 = .14$. Post-hoc cell comparisons with Scheffe tests revealed that participants' own agreement with paying a higher price for ecologically produced electricity in the high-self-awareness/cue condition ($M = 1.60$, $SD = 1.13$) was significantly lower than in the other three conditions (ps < .003; high-self-awareness/no-cue: $M = 3.63$, $SD = 1.16$; low-self-awareness/cue: $M = 2.83$, $SD = 1.12$; low-self-awareness/no-cue: $M = 2.97$, $SD = 1.40$). Other cell differences were not significant (ps > .09). We will further deal with this finding below in an analysis of covariance.

Opinion Discrepancy: False Consensus

One index of false consensus, or egocentric responding, is the tendency to estimate a target person's opinion as being close to or identical with one's own opinion. To test the manipulation effect on this index of egocentrism, we first created opinion discrepancy scores by subtracting participants' own opinion from their estimates of the target person's opinion. Then we submitted the absolute discrepancy values to a 2 (self-awareness) x 2 (cue) between persons ANOVA. However, considering the above-reported a priori differences in participants' own opinion, we first tested with a 2 x 2 ANCOVA with participants' own opinions as covariate if there was a significant association between this measure and the discrepancy scores. This was not the case, $F(1, 115) = 1.06$, $p = .30$. Therefore, we analyzed the discrepancy scores with a conventional ANOVA.

Cell means and standard deviations appear in Figure 2. The ANOVA revealed no significant main effect of the cue manipulation ($F < 1$, $p = .39$), but a significant and strong main effect of self-awareness, $F(1, 116) = 27.29$, $p < .001$, $\eta^2 = .19$: Self-focused attention increased the discrepancy between participants' own opinion and their estimates of the target person's opinion ($M = 2.43$, $SD = 0.83$ vs. $M = 1.63$, $SD = 0.90$). Most relevant, this effect was moderated by the cue-manipulation, as reflected by the expected significant self-awareness x cue interaction effect, $F(1, 116)= 9.29$, $p = .003$, $\eta^2 = .08$. Focused comparisons with cell contrasts revealed that the cue for the target person's opinion led to higher discrepancies when self-awareness was high ($M = 2.60$, $SD = 0.77$) than when it was low ($M = 1.33$, $SD = 0.84$), $t(116) = 5.85$, $p < .001$, $\eta^2 = .23$.[1] By contrast, when no cue was provided, the difference between the low ($M = 1.93$, $SD = 0.87$) and high ($M = 2.27$, $SD = 0.87$) self-awareness conditions was not significant and the effect size was much weaker, $t(116) = 1.54$, $p = .13$, $\eta^2 = .02$. This supports our central hypothesis that high self-awareness reduces egocentrism and thus fosters perspective-taking under the critical condition that a cue for another person's perspective is provided.

Considering the Cue: Perspective-Taking

As second and most essential step in our analysis we tested if the self-awareness and cue manipulations had a combined impact on perspective-taking. Therefore, we analyzed how many participants in each condition considered the cue for the target person's perspective. This should have been indicated by estimating the target person to "*moderately agree",* which was the modal student opinion and the cue for perspective-taking in the cue condition. For this analysis, we considered only participants whose own opinion was different from "*moderately agree*". The rationale for this was that it is difficult to assess if participants in the cue condition who estimate the target person to have the same opinion as themselves do so, because they take the target's perspective or because they answer egocentrically.

Consequently, the sample for this analysis was reduced to $N = 88$ participants (50 women, 38 men, mean age 22 years).

The dependent variable was dichotomous: Either estimating the target person's opinion to be "*moderately agree*" or not. Therefore, we tested our hypothesis that self-awareness should foster perspective-taking if a cue for a target person's perspective is provided with a logistic regression analysis. As predictor variables we introduced the dummy-coded cue and self-awareness manipulations and their interaction term. The main effects of self-awareness, $B = 0.66$, Wald statistic = 0.79, $p = .37$, and the cue, $B = 1.05$, Wald statistic = 2.05, $p = .15$, both failed significance. However, most relevant, the expected self-awareness x cue interaction was significant, $B = 3.09$, Wald statistic = 5.27, $p = .02$, odds ratio = 22.00. As depicted in Figure 3, the percentages of perspective-taking participants supported our hypothesis.[3]

In the cue-condition, an additional χ^2 test found that significantly more participants in the high-self-awareness condition (27/28, i.e. 96%) estimated the target person to *moderately agree* than in the low-self-awareness condition (7/18, i.e. 39%), χ^2 (1, $N = 46$) = 18.81, $p <$ .001, Cramer's V = .64. By contrast, when no cue was provided, the difference between the high (4/22, i.e. 18%) and low self-awareness conditions (6/20, i.e. 30%) was not significant, χ^2 (1, $N = 42$) = 0.81, $p = .37$.

DISCUSSION

Based on previous theorizing and research on the effect of self-focused attention on perspective-taking (e.g., Hass, 1979, 1984; Stephenson & Wicklund, 1983, 1984), the present experiment tested the hypothesis that self-focus can foster perspective-taking and thus reduce egocentrism under the critical condition that a cue for another person's perspective is provided. We did so by conceptually replicating and extending a study by Gendolla and

Wicklund (2009) in a full experimental design, allowing conclusions about the causal relationship between self-focus and perspective-taking. Gendolla and Wicklund (2009) found that private self-consciousness, assessed with the self-consciousness scale (Fenigstein et al., 1975) fostered perspective-taking in terms of the consideration of an available cue for another person's opinion in participants estimates of that other person's opinion. High scores on the private self-consciousness scale have been reported to have the same effects as situational manipulations of self-awareness (Carver & Scheier, 1978). Considering this, the present experiment has conceptually replicated this effect in a fully experimental design. Importantly, when a cue for another person's perspective was provided, we additionally found that self-focused attention reduced "false consensus" beliefs—a finding that did not emerge in the Gendolla and Wicklund (2009) study. This indicates reduced egocentrism, since false consensus is an egocentric response in that people overestimate their similarity with others (Ross et al., 1976).

By definition, egocentrism is indicated when a person *disregards* a cue as to others' perspectives and imputes to them his/her own position (e.g., Flavell et al., 1968; Hass, 1979, 1984; Piaget & Inhelder, 1947; Steins & Wicklund, 1996; Scaffidi Abbate et al., 2006, Stephenson & Wicklund, 1983, 1984). Concerning false consensus as a measure of egocentrism, people who engage in a certain activity, hold a certain belief, or have a certain preference tend to overestimate the likelihood that others who engage in the same activity will hold the same belief or have the same preference (Krueger, 1998, 2000; Williams, 2013). However, as Dawes (1989) has pointed out, the use of one's own response to predict another's response is not necessarily "false" or egocentric, particularly when one's own position happens to coincide with the plurality or majority of the group. Thus, one needs a basis for correctness—a cue for the other perspective—to refer to participants' answers as "egocentric" or "false." This important cue variable was not considered in the Fenigstein and

Abrams (1993) studies, which rather focused on a general false consensus effect (Ross, Greene, & House, 1976) as a measure of egocentrism. The present study manipulated the presence of a cue for the target person's perspective and found that this cue reduced false consensus when participants focused their attention on themselves.

Thus, in summary, the present experiment found that people who faced their mirror image and were thus self-aware were much more sensitive to the presence of a cue for another person's perspective and (1) considered it in their estimations of the other person's opinion and (2) believed that the other person's opinion was more dissimilar than their own. Thus, the present experiment found complementary effects: Self-focused attention increased perspective-taking and simultaneously reduced egocentrism, its conceptual counterpart, if a cue for another person's perspective was available. By contrast, self-awareness alone—without any point of reference for the other person's opinion—had no impact on the process of acknowledging or neglecting the target person's perspective. The results showed no main effect of the self-awareness variable, but the expected self-awareness x cue interaction was significant.

Besides these replicated and new findings, the present research has also provided additional evidence for the critical role of a cue for another person's perspective for perspective-taking. Previous studies on the effect of self-focus on perspective-taking have considered the presence for such cues as a necessary given for studying perspective-taking and thus did not manipulate the presence of such a cue—it was present in all experimental conditions (Hass, 1979, 1884; Scaffidi Abbate et al., 2006; Stephenson & Wicklund, 1983, 1984). The first study that manipulated the presence of cue for another person's perspective was the one by Gendolla and Wicklund (2009). The present experiment could replicate and extend the effect that a cue for another person's perspective is a necessary condition for

increased perspective-taking and reduced egocentrism in a fully experimental design—this time also with a significant effect in terms of reduced false-consensus if people are self-aware and have a cue for another person's opinion. That is, the present experiment brought conclusive evidence that self-awareness fosters perspective-taking and reduces egocentrism under the critical condition that participants have a cue for another person's perspective.

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Footnotes

[1] For an easier understanding of the reported results, we have transformed effect sizes for 1 degree of freedom tests (*r*) to eta-square.

[2] To test for potential gender effects, we ran also a 2 (self-awareness) x 2 (cue) ANCOVA with participants' gender as covariate. The covariate itself had no significant effect ($F < 1$, $p = .54$) and the self-awareness main effect ($p < .001$) and the interaction ($p = .005$) remained significant.

[3] Given that participants' own opinions differed between the conditions before the manipulation, we additionally tested if this variable was related to the consideration of the cue for the target person's perspective. This was not the case, $B = -0.12$, Wald statistic = 0.23, $p = .62$. Moreover, controlling for participants' own opinion let the self-awareness x cue interaction intact ($p = .04$).

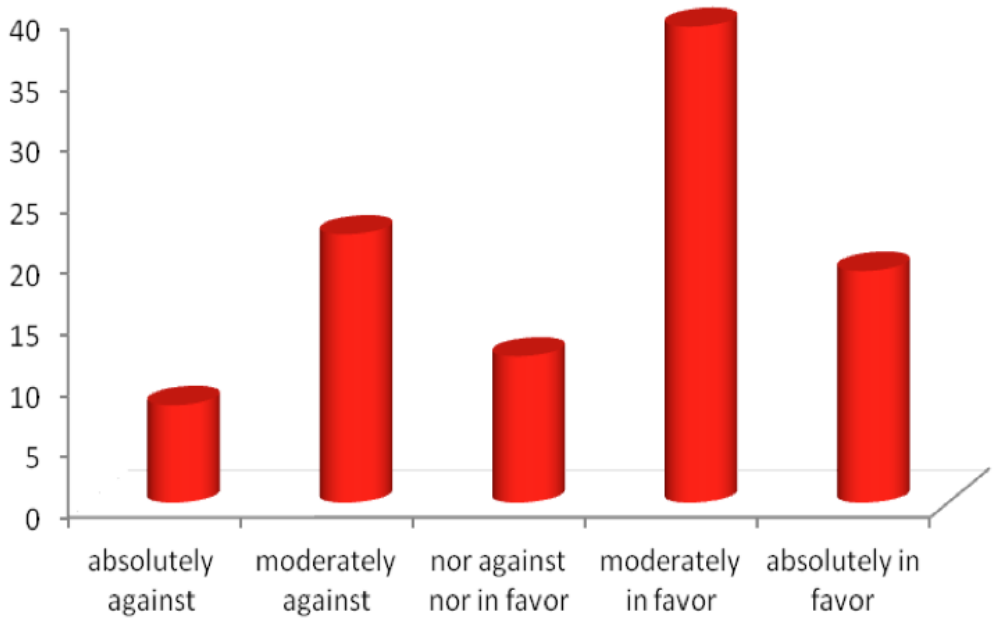


Figure 1

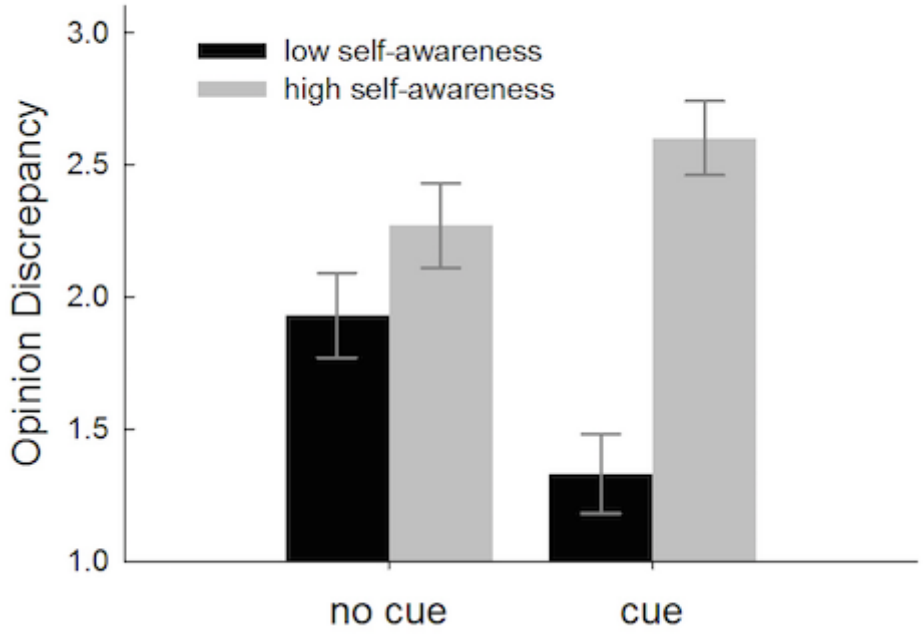
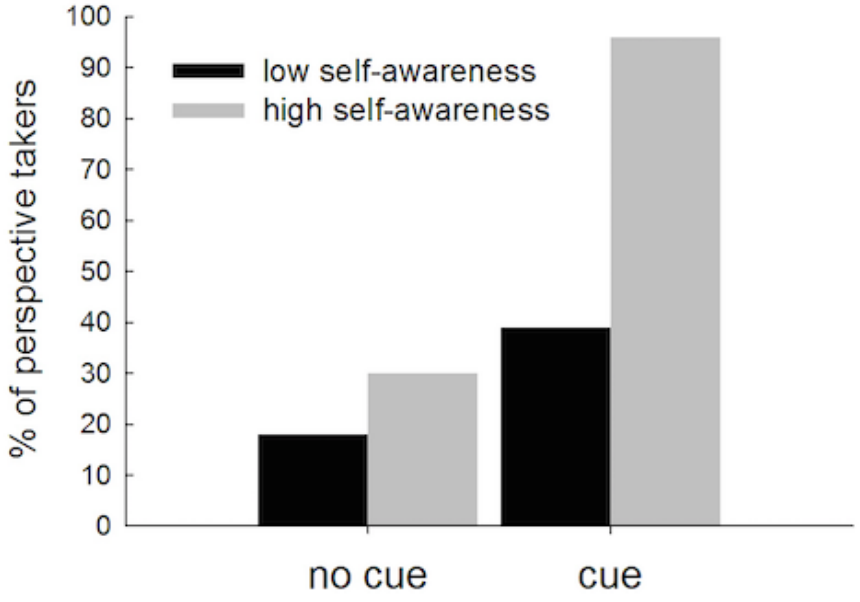


Figure 2


100
90
80
70
60
50
40
30
20
10
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% of perspective takers
low self-awareness
high self-awareness
no cue
cue

Figure 3