

The Cynical Genius Illusion:  
Exploring and Debunking Lay Beliefs about Cynicism and Competence

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### **Abstract**

Cynicism refers to a negative appraisal of human nature – a belief that self-interest is the ultimate motive guiding human behavior. We explored laypersons' beliefs about cynicism and competence and to what extent these beliefs correspond to reality. Four studies showed that lay people tend to believe in cynical individuals' cognitive superiority. A further three studies based on the data of about 200,000 individuals from 30 countries debunked these lay beliefs as illusory by revealing that cynical (vs. less cynical) individuals generally do worse on cognitive ability and academic competency tasks. Cross-cultural analyses showed that competent individuals held contingent attitudes and endorsed cynicism only if it was warranted in a given socio-cultural environment. Less competent individuals embraced cynicism unconditionally, suggesting that – at low levels of competence – holding a cynical worldview might represent an adaptive default strategy to avoid the potential costs of falling prey to others' cunning.

*Keywords:* cynicism; competence; lay theories; social perception

## The Cynical Genius Illusion: Exploring and Debunking Lay Beliefs about Cynicism and Competence

An increasing number of people seem to endorse a cynical view of human nature. Secondary analyses of large-scale surveys showed young adults to be less trusting of each other and more cynical about institutions than ever before (Twenge, Campbell, & Carter, 2014) and even web searches including the word “cynicism” have more than doubled relative to the overall number of searches since 2004 (GoogleCorrelate, 2017).

Cynicism reflects a negative appraisal of human nature, a belief that self-interest is the ultimate motive behind all human actions, even the seemingly good ones, and that people will go to any lengths to satisfy it (Leung et al., 2002; Stavrova & Ehlebracht, 2016; Wrightsman, 1964). Cynicism has roots in clinical and epidemiological literature where it is considered as the cognitive component of the broader construct cynical hostility (Cook & Medley, 1954; Smith, 1992). In so far as cynicism reflects negative beliefs about others’ moral character, it shares some similarities with trust (Rousseau et al., 1998), hostility (Wilkowski & Robinson, 2008) and Machiavellianism (Christie & Geis, 1970). However, its unique emphasis on the belief in the power of self-interest and its exclusively cognitive focus make cynicism distinguishable from these other constructs.

Existing research has painted a rather gloomy, unflattering picture of cynical individuals. Holding a cynical view of human nature has been associated with bad health outcomes and increased mortality risks, lower psychological well-being, diminished self-esteem, and reduced economic well-being (Chen et al., 2016; Everson et al., 1997; Haukkala & Uutela, 2000; Smith, 1992; Stavrova & Ehlebracht, 2016). Does this unflattering picture of cynicism correspond to what people tend to believe about cynicism and cynical individuals? Starting with Diogenes and Crates, cynicism has been associated with a clear and realistic, rather than dark and pessimistic, view of reality (Cutler, 2005). Among nineteenth- and

twentieth-century writers and popular figures, cynicism has often been seen as a sign of intelligence and wit. American writers Ambrose Bierce (2000/1906) and Lilian Hellman (1939) praised cynicism as an art of seeing the true nature of things, Bernard Shaw referred to cynicism as a “power of accurate observation” (1973/1894), and John Stuart Mill noticed that “it is thought essential to a man who has any knowledge of the world to have an extremely bad opinion of it” (1828). Similarly, in nowadays popular culture, the most cynical characters (e.g., think of Sherlock Holmes, House M.D., or Frank Underwood) are frequently painted as the most experienced, insightful, competent and knowledgeable ones.

The goals of the present research were twofold. Across four studies, we explored lay beliefs about the associations between cynicism and competence and, in a further three studies, we tested to what extent these lay beliefs correspond to actual empirical associations between cynicism and competence, calculated based on the responses of about 200,000 individuals from 30 countries.

### **Cynicism and Competence in Lay Beliefs**

Beside the fact that cynicism and wisdom are often intertwined in philosophy, literature and popular culture, there are multiple other reasons for lay people to associate cynicism with competence. Cynicism reflects a worldview that human nature is morally corrupt and human actions are driven by self-interest. The power of self-interest as the ultimate motive of human behavior has been discussed in multiple scientific disciplines (Cropanzano, Goldman, & Folger, 2005; Miller & Ratner, 1998). In evolutionary biology, self-interested behavioral strategies are sometimes described as fitness maximizing and therefore “smart” in evolutionary terms. In neoliberal economic theory, the ability to pursue self-interest is regarded as a sign of perfect rationality (*homo oeconomicus*). These ideas are widely accepted among lay people (Bay-Cheng, Fitz, Alizaga, & Zucker, 2015), suggesting that

adopting a cynical view and seeing others' behavior as driven by self-interest might constitute a sign of competence in lay people's eyes.

At the same time, lay people might believe cynicism to be diagnostic of substantial life experience. Many people tend to think of life as generally "nasty, brutish and short" (Norton, Anik, Aknin, & Dunn, 2011); hence, accumulating life experience can be considered as inevitably leading to the endorsement of a negative, cynical view. Indeed, research on generalized trust has recently shown that, once the perception of moral character is held constant, distrust can sometimes be seen as a sign of competence (Evans & van de Calseyde, 2017). Similarly, as people generally tend to exaggerate the degree to which others' behavior is driven by egoistic motives (Miller & Ratner, 1998; Miller, 1999), chronically high levels of suspiciousness and cynicism may be considered a sign of competence and experience in dealing with other people.

From an evolutionary perspective, the suspiciousness, precautionary reasoning and endorsement of the 'better safe than sorry' heuristic inherent to cynicism might be seen as features of a competent decision maker (Haselton & Nettle, 2006; Johnson, Blumstein, Fowler, & Haselton, 2013). According to the Error Management Theory (Haselton & Buss, 2000), in many domains the consequences of false negative errors (e.g., believing that someone is trustworthy when they really are not) have often been more costly than false positive errors (e.g., believing that someone is untrustworthy when they really are trustworthy) over human evolutionary history, making the cognitive system of modern humans biased towards false alarms. As endorsing a cynical view is reflected in a stronger propensity to avoid false negative errors (e.g., the best way not to misplace one's trust is not to trust at all), cynicism might be seen as a sign of competence. Taken together, these arguments suggest that, in laypersons' beliefs, cynicism might be positively associated with competence.

### **Cynicism and Competence in Reality**

Even though social observers might think that being too cynical is wiser than being not cynical enough, this belief might not mirror the real associations of cynicism and competence. Indeed, studies using the trust game showed that people typically earned more if they were willing to trust strangers rather than not (e.g., Fetchenhauer & Dunning, 2010). Longitudinal studies corroborated this idea, suggesting that cynical individuals earn lower incomes due to their ineptitude for cooperation and cynicism might therefore be not that smart in terms of financial success (Stavrova & Ehlebracht, 2016).

Further studies demonstrated that cynicism is more likely to be a worldview endorsed by individuals with lower rather than higher levels of education (Haukkala, 2002; Stavrova & Ehlebracht, 2018) and intelligent individuals' behavior was shown to be more likely to depart from the norms of self-interest (Solon, 2014). Higher levels of education and competence in a broader sense might help individuals detect and avoid potential deceit in the first place, thus reducing the probability of negative social experiences, which might in turn contribute to a more positive view of human nature (Yamagishi, Kikuchi, & Kosugi, 1999). Indeed a number of studies showed general cognitive ability to be negatively related to cynical hostility (Barnes et al., 2009; Mortensen, Barefoot, & Avlund, 2012) and positively related to trust (Carl, 2014; Carl & Billari, 2014; Hooghe, Marien, & de Vroome, 2012; Oskarsson et al., 2012; Sturgis, Read, & Allum, 2010). However, even though intelligent individuals are more likely to trust strangers, high IQ is not a good predictor of the ability to differentiate between trustworthy and untrustworthy targets (Bonnefon, Hopfensitz, & De Neys, 2013). In addition, a recent meta-analysis failed to detect an association between measures of cognitive ability and Machiavellianism – a concept that includes a “cynical beliefs about human nature” facet (O'Boyle, Forsyth, Banks, & Story, 2013).

Even if a high level of competence might not allow people to accurately discriminate between honest and dishonest interaction partners, it might allow them to correctly recognize situations or environments where cynicism regarding other people's motives and intentions might be warranted or not. In other words, high levels of competence might allow individuals to correctly identify the "corruptness" of their environment and adjust their level of cynicism to match it. Following this reasoning, high-competence individuals might hold adaptable attitudes and recur to cynicism only when it seems warranted, while their less competent counterparts might show more cognitive rigidity and – relying on the "better safe than sorry" heuristic – tend to endorse cynicism indiscriminately. Consistent with evolutionary principles, such a "better safe than sorry" strategy can prove efficient when one lacks the ability to correctly identify the relevant features of the socio-cultural context one is confronted with and determine whether cynicism is warranted or not (Brumbach, Figueredo, & Ellis, 2009; Gross, 1996). In this sense, at lower levels of competence, holding a negative, cynical view as a default (assuming that people are guided by self-interest unless proven otherwise) might represent a more viable strategy than holding an overly positive view of others' morality.

In the present research, we assumed that even though cynicism might be positively associated with competence in laypeople's beliefs, in reality, more competent individuals are less, rather than more, likely to endorse a cynical worldview, giving rise to what can be described as a "cynical genius illusion". Consistent with the evolutionary arguments laid out above, we also predicted that the negative association between competence and cynicism will depend on the environment's socio-cultural climate. Highly competent individuals will be more likely to endorse cynicism if they live in a country where cynical views seem justified – e.g., in a country with corrupted institutions and a weak rule of law, whereas low-competence

individuals will embrace cynicism regardless of the characteristics of the socio-cultural environment they face.

### **Overview of Studies**

In Studies 1 to 3, we explored the content of lay beliefs about how cynicism and competence are related to each other. Using experimental vignettes, we examined whether individuals believe that cynical targets outperform non-cynical targets in various cognitive tasks and whether laypeople think that there is an optimum level of cynicism to achieve top cognitive task performance. Studies 4 – 6 explored to what extent these lay theories reflect reality. Study 4 examined the associations between cognitive ability, academic competencies and cynical beliefs in a large nationally representative sample of German adults. Study 5 tested whether the level of cognitive ability in adolescence predicts the level of cynicism in young adulthood. Study 6 documented the association between cynicism and competence across 30 countries and tested whether competent individuals are more likely to adjust their level of cynicism to their environment, while less competent individuals recur to cynical views indiscriminately.

Materials and data for Studies 1 – 3 can be accessed at the project's Open Science Framework page: [https://osf.io/tdms5/?view\\_only=7df18abd4a444006a43556bfdddfb57b](https://osf.io/tdms5/?view_only=7df18abd4a444006a43556bfdddfb57b). The data used in Studies 4 – 6 are property of research institutions that designed and conducted the respective studies and can be accessed at their website (as referenced in the text).

### **Study 1a**

Study 1a examined whether participants expected a cynical vs. a non-cynical individual to perform better on a variety of cognitive tasks and to score higher on a range of measures of cognitive ability.

Given the literature on the primacy of the warmth or morality dimension in social perception (Goodwin, Piazza, & Rozin, 2014), we additionally measured participants' beliefs regarding the performance of a cynical vs. a non-cynical person on a range of social tasks that require interpersonal warmth and social intelligence rather than cognitive abilities and academic competence.

Finally, as multiple studies have shown people to judge similar (vs. dissimilar) others as more likeable and socially attractive (Byrne, 1961; Montoya & Horton, 2013), we tested whether individuals' competence judgments of a cynical vs. a non-cynical target depended on their own level of cynicism.

## **Method**

To be able to detect even a small effect ( $d = .20$ ) with 80% power, we recruited 206 individuals from MTurk. Power analyses (here and in Studies 1b – 3: one sample t-test, two-tailed,  $\alpha = .05$ ) were conducted using G\*Power 3 (Faul, Erdfelder, Buchner, & Lang, 2009). Eleven individuals failed an attention check question (that required them to select a particular response option instead of answering the question), resulting in a final sample of 195 ( $M_{\text{age}} = 37.71$ ,  $SD_{\text{age}} = 11.69$ , 53.3% male) individuals.

Participants were introduced to two persons – Person X and Person Y – who were described as either holding a “cynical” or an “idealistic” view of human nature. A cynical (vs. *non-cynical / idealistic*) person was described as believing that “people are selfish rather than altruistic (vs. *altruistic rather than selfish*) and that most of them would (vs. *would not*) lie, cheat or betray if they could somehow gain by it”; that “people generally cannot (vs. *can*) be trusted” and that “they do not (vs. *do*) genuinely care about others' well-being”. The description further stated that Person X “scrutinizes (vs. *does not scrutinize*) the motives underlying apparently selfless acts”. Participants then saw a list of tasks and were asked to assign each task to either someone like Person X or to someone like Person Y, with the goal

to maximize the likelihood of a successful task completion. Fifteen tasks required strong cognitive abilities (e.g., solve a math problem, proofread a college essay). Six tasks required social skills (e.g., cheer up a lovesick teenager). All tasks were presented in a random order. Afterwards, participants indicated whether they believed Person X or Person Y to score higher in eight cognitive abilities, such as analytic skills, problem solving skills, and the like. The list of all tasks and abilities can be seen in Figure 1. Participants' choices of a cynical person for cognitive tasks and cognitive abilities were averaged and the obtained variable was used as an indicator of cognitive competence judgment (Cronbach's  $\alpha = .89$ ). Participants' choices of a cynical person for social tasks were averaged and the obtained variable was used as an indicator of social competence judgment (Cronbach's  $\alpha = .87$ ).

Individual differences in cynical beliefs were measured with an 8-item version of the Cook-Medley cynical distrust scale (Cook & Medley, 1954; Greenglass & Julkunen, 1989). Sample items are "I think most people would lie to get ahead" or "Most people make friends because friends are likely to be useful to them" (Cronbach's  $\alpha = .90$ ). Responses were given on a five-point scale ranging from "strongly disagree" to "strongly agree". Half of the participants completed the cynicism scale at the beginning, the other half at the end of the study.

## Results

The percentage of participants (including 95% confidence intervals) who believed that a cynical (rather than a non-cynical) person would do better on each task and ability test is shown in Figure 1. On average, participants thought that a cynical person would outperform a non-cynical person on cognitive tasks ( $M = .70$ ,  $SD = .26$ ,  $t(194) = 10.55$ ,  $p < .001$ , test-value  $.50$ ,  $d = 0.76$ ,  $CI_d [0.60; 0.91]$ <sup>1</sup>) and that a non-cynical target would outperform a cynical

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<sup>1</sup> Here and throughout the paper: 95% CI.

target on social tasks ( $M = .06$ ,  $SD = .19$ ,  $t(194) = 32.04$ ,  $p < .001$ , test-value  $.50$ ,  $d = 2.29$ ,  $CI_d [2.02; 2.96]$ ) (see Figure 2).

To see whether participants' judgment of a cynical vs. a non-cynical target's social and cognitive competence depends on their personal level of cynicism, we ran two multiple regression analyses with cognitive and social competence judgments as dependent variables. Participants' cynicism score, the order in which they filled in the cynicism scale vs. accomplished the judgment task, and the cynicism by order interaction were entered as predictors. Neither model explained a significant share of variance (social competence:  $R^2 = .01$ ,  $F(3,191) = .38$ ,  $p = .77$ ; cognitive competence:  $R^2 = .003$ ,  $F(3,191) = 1.22$ ,  $p = .30$ ). Further, none of the predictors reached significance (all  $ps \geq .10$ ). Hence, even individuals who scored low in cynicism themselves believed a cynical target to be able to solve cognitive competence tasks and cognitive ability tests better and social competence tasks worse than a non-cynical target.

### Study 1b

Study 1b was a replication of Study 1a, with the following changes: First, to make sure that our findings are not due to a contrast effect between social and cognitive tasks, we included only cognitive competence measures. Second, we made a slight adjustment to the description of a non-cynical person by replacing the words "idealistic views" (which could have been associated with naivety or gullibility) with the words "positive views". We also counterbalanced whether a cynical or a non-cynical target was presented on the left (vs. right) hand side and no longer included a measure of individual differences in cynical beliefs. Participants ( $N = 190$ ) were recruited on MTurk.

The results replicated the findings of Study 1, such that participants ascribed higher competence to a cynical (vs. a non-cynical) person, albeit a smaller effect size was obtained this time ( $M = .56$ ,  $SD = .28$ ,  $t(189) = 2.77$ ,  $p = .006$ , test-value  $.50$ ,  $d = 0.20$ ,  $CI_d [0.06;$

0.34]. A detailed description of this study is presented in the Supplementary materials.

Overall, the “cynical genius belief” turned out to be robust, although sensitive to differences in the manipulation and the judgment elicitation procedure.

## Study 2

Study 2 sought to replicate the findings of Studies 1a and 1b in a different population – German University students. Importantly, we used a potentially more ecologically valid manipulation of targets’ cynicism by showing participants cynical vs. non-cynical targets’ responses to the cynical distrust scale used in Study 1a.

### Method

Participants were undergraduate students enrolled in a social science program at a large German university. The study was conducted in a paper-and-pencil mode at the end of an introductory psychology lecture. As the class was regularly attended by 100-150 students, we expected to reach a sample of at least 100 individuals, which would give us > 99% power of detecting an effect size of  $d = 0.48$  (average effect size across Studies 1a and 1b). The questionnaire was distributed among all students present in the class (the participation was voluntary), resulting in 137 completed questionnaires ( $M_{\text{age}} = 22.55$ ,  $SD_{\text{age}} = 5.01$ , 36% male).

The study design was the same as Study 1a, except for the following changes. We used a novel manipulation of targets’ cynicism. Participants were introduced to two persons “who took part in one of our previous studies on beliefs about human nature” (Person X and Person Y). To manipulate targets’ cynicism, we showed participants Person X’s and Person Y’s responses to the eight items of the cynical distrust scale used in Study 1a (Greenglass & Julkunen, 1989). The scale’s title was not mentioned in the instructions. Responses of a cynical target mirrored the actual responses of a participant whose cynicism score was in the highest quartile of the cynical distrust scale in Study 1a. Responses of a non-cynical target

mirrored the actual responses of a participant who scored in the lowest cynicism quartile in Study 1a. The manipulation is shown in the Supplemental Materials. Whether a cynical or a non-cynical target was presented on the left (vs. right) hand side was counter-balanced (and this factor did not affect any dependent measures, all  $ps > .80$ ).

After getting acquainted with the responses of Person X and Person Y, participants were asked whom (Person X or Person Y) they would assign to a series of different tasks with the goal to maximize the likelihood of a successful task completion (we used the same tasks as in Study 1a). Participants' preferences for a cynical person for cognitive and social tasks were averaged into indicators of cognitive and social competence judgment, respectively (Cronbach's  $\alpha = .82$  and  $.92$ ).

## Results

A one-sample t-test with 0.50 as a test-value showed that participants were more likely to assign a cynical (vs. non-cynical) target to cognitive tasks ( $M = .62$ ,  $SD = .25$ ,  $t(136) = 5.63$ ,  $p < .001$ ,  $d = 0.48$ ,  $CI_d [.31; .66]$ ). The opposite pattern emerged for social tasks: participants were more likely to assign a non-cynical (vs. cynical) target to social tasks ( $M = .13$ ,  $SD = .28$ ,  $t(136) = 15.51$ ,  $p < .001$ ,  $d = 1.33$ ,  $CI_d [1.09; 1.55]$ ) (Figures 1 and 2).

## Study 3

In Studies 1a, 1b and 2, participants could assign the tasks to either a cynical or a non-cynical target. While this method has a certain external validity (e.g., in organizational settings, managers often have to assign a task to either one or the other employee), it did not give participants a possibility to express a preference for a moderately cynical or non-cynical target. This is important, since sometimes individuals with moderate scores on certain traits (e.g., happiness) are ascribed the highest competence levels (Barasch, Levine, & Schweitzer, 2016). Therefore, in Study 3, we implemented a continuous choice method, allowing participants to indicate the optimal level of cynicism required for a successful performance

on cognitive (and social) tasks. In addition, to further increase the generalizability of our findings, we recruited a sample from a new population – British adults.

### **Method**

Participants were recruited on a British crowdsourcing site for academic research named Prolific Academic. To detect even a small ( $d = .20$ , Study 1b) effect size with 80% power, we set our sample size target at 200 participants. 198 individuals completed the questionnaire; 46 failed an attention check (the same as in Study 1) and were removed, resulting in a final sample of 152 individuals ( $M_{\text{age}} = 30.34$ ,  $SD_{\text{age}} = 9.33$ , 38.8% male).

Like in Study 2, participants were shown responses of two randomly selected participants from a previous study, Person X and Person Y. Participants read that in this previous study, Person X and Person Y were shown three pairs of statements and were asked to select the one they endorsed more: “Generally speaking, most people can be trusted” vs. “You can never be careful enough when dealing with other people”; “Most people try to be fair” vs. “Most people would try to get advantage of you if they got the chance” and “Most of the time people try to be helpful” vs. “Most of the time people are looking out for themselves” (taken from “the faith in people scale”: Rosenberg, 1957). The cynical target was described as having endorsed the second statement of each pair and the non-cynical target was described as having endorsed the first. Whether a cynical or a non-cynical target was presented on the left (vs. right) hand side was counter-balanced (and this factor did not affect any dependent measures, all  $ps > .43$ ).

Afterwards, participants were asked to indicate who – Person X or Person Y – is better suited for a series of tasks (the same cognitive and social tasks were used as in Study 1a and 2). However, in contrast to these previous studies, participants were told that “people like Person X and Person Y are extreme points on a continuum. Between these extremes, there are many people who are a mix of these types – some more like Person X, some more like Person

Y and some right in between”. Using an 11-point scale (from “0” to “10”), they specified “a person that will have the highest probability of successfully completing the task by setting their desired mix of Person X and Person Y” (each scale point was labeled, starting from ‘100% like Person X’ to ‘100% like Person Y’, the scale midpoint (‘5’) was labeled ‘50% like Person X and 50% like Person Y’). Participants’ ratings for cognitive and social tasks were averaged into cognitive and social competence judgments, respectively (Cronbach’s  $\alpha = .86$  and  $.88$ ).

## Results

A one-sample t-test with “5” (‘50% more like Person X and 50% more like Person Y’) as a test-value showed that, for cognitive tasks, participants’ desired mix of cynical and non-cynical tendencies was 56% (cynical) to 44% (non-cynical),  $M = 5.57$ ,  $SD = 1.26$ ,  $t(151) = 5.61$ ,  $p < .001$ ,  $d = 0.46$ ,  $CI_d [.29; .62]$ , see Figures 1 and 2. That is, participants believed that a slightly more cynical target would do better on cognitive tasks than a target whose worldview represents a perfect balance with equal levels of cynical and non-cynical tendencies. In contrast, for social tasks, participants’ desired mix of cynical and non-cynical beliefs was 22% (cynical) to 78% (non-cynical),  $M = 2.16$ ,  $SD = 1.67$ ,  $t(151) = 21.79$ ,  $p < .001$ ,  $d = 1.77$ ,  $CI_d [1.51; 2.02]$ .

## Studies 1 – 3: Discussion

Overall, a clear majority of our participants expected cynical individuals to perform better on a range of cognitive tasks and cognitive ability tests than non-cynical individuals. This effect was obtained in three different populations (from three different cultures) using different vignettes, suggesting that a “cynical genius” belief is quite widespread. At the same time, individuals clearly differentiated between cognitive and social competences and rated cynics favorably with respect to the former but not the latter. Importantly, allowing our

participants to set an optimum level of cynicism needed for cognitive tasks showed that they generally preferred an elevated (although not very high) level of cynicism to a moderate one.

#### **Study 4**

While in Studies 1 to 3 we explored lay beliefs about the association between cynicism and competence, in Studies 4 to 6 we examined to what extent these beliefs reflect underlying empirical relationships. In Study 4, we examined the associations between cynicism and different measures of competence, including education, general cognitive ability, and academic competencies in a large-scale nationally representative sample of German adults. To make sure that the potential associations between cynicism and competence are not due to any confounding variables, we took into account basic socio-economic characteristics, test language proficiency and the Big Five personality traits, as they have been shown to be related to both cynicism (Stavrova & Ehlebracht, 2016) and competence (Rammstedt, Danner, & Martin, 2016).

#### **Method**

We used the data from the adult cohort of the National Educational Panel Study coordinated by the Leibniz Institute for Educational Trajectories (Blossfeld, Roßbach, & von Maurice, 2011; NEPS, 2008-2014). Although the study has a longitudinal design (with 7 waves of data collection covering the time from 2007 to 2015), neither competence nor cynicism measures were administered more than once. Cynicism was measured in wave 6 (2013/14), reading, mathematical, scientific, and computer competencies were measured in waves 3 (2010/11) and 5 (2012/13), and general cognitive ability and vocabulary skills were measured in wave 7 (2014/15). That is, the measurement of our variables of interest was spread over four years. As cynicism has been shown to have a high temporal stability (Stavrova & Ehlebracht, 2018), we treated the data as a cross-sectional dataset. After

removing cases with missing values on the variables used, the final sample consisted of 9,197 individuals (aged between 24 and 66 in 2010;  $M_{\text{age}} = 49.89$ ,  $SD_{\text{age}} = 10.81$ , 49.6% male).

*Cynicism.* Cynicism was measured with the following three items that originated in the faith in people scale (Rosenberg, 1957): “Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?”, “Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?”, and “Generally speaking, would you say that most people can be trusted or that you cannot be too careful in dealing with people?”. This scale has an appropriate reliability (Cronbach’s  $\alpha = .76$ ) and has been used to measure cynicism in previous research (Stavrova & Ehlebracht, 2016). Responses were given on an 11-point scale.

*Competence.* The dataset included measures of both domain-general cognitive ability (general intelligence) and domain-specific cognitive competencies (Artelt, Weinert, & Carstensen, 2013). Measures of domain-general cognitive ability included a non-verbal reasoning test (similar to Raven’s progressive matrices) and a measure of information-processing speed. Measures of domain-specific cognitive competencies included reading competence (comprehension and reading speed), mathematical competence, scientific literacy, and computer competence (informational and technological literacy – ICT literacy). A detailed description of the tests is given in the Supplementary materials. Participants’ scores on each competence test were estimated using the Item Response Theory by data providers (for a technical report, see Pohl & Carstensen, 2012). As the two measures of domain-general cognitive ability and the four domain-specific cognitive competencies showed strong inter-correlations ( $r$ s between .30 and .65), we standardized each measure and averaged them into an index of cognitive competence that we used in the main analyses (Cronbach’s  $\alpha = .87$ ).

*Education.* Participants reported the highest level of education they attained using the ISCED-97 classification system (10-point scale ranging from 0 = no formal education to 10 = PhD or an equivalent).

*Big Five personality traits.* The Big Five were measured using a brief instrument that was designed to accommodate large-scale surveys, BFI-10 (Rammstedt & John, 2007). The subscales were measured with two items each (correlations between the items: extraversion  $r = .49$ , agreeableness  $r = .08$ , conscientiousness  $r = .29$ , neuroticism  $r = .34$ , openness  $r = .31$ ). Responses were given on a 5-point “strongly disagree” – “strongly agree” scale.

Further control variables included age, gender (1 = male, 0 = female), whether German was a mother tongue (1 = yes, 0 = no), and household income in euros (an average was taken across the years with present income values).

## Results

Individuals scoring high on the competence index tended to endorse cynicism less than individuals with lower competence scores ( $r = -.25, p < .001, CI [-.27; -.23]$ ; see Table 1). This effect was highest with respect to reading ( $r = -.26, p < .001, CI [-.28; -.24]$ ) and lowest with respect to information processing speed ( $r = -.07, p < .001, CI [-.10; -.05]$ ). Replicating existing findings (Stavrova & Ehlebracht, 2018), higher levels of education were also negatively associated with cynicism ( $r = -.22, p < .001, CI [-.24; -.20]$ ).

To make sure that the negative associations between cynicism, competence and education are not due to a potential confounding with language proficiency, socio-demographic differences (age, gender, household income) and the Big Five personality traits, we conducted a multiple regression analysis with cynicism as the dependent variable, competence index and educational attainment as main predictors, and the other variables mentioned above as controls.

Model 1 (Table 2) showed that education ( $b = -.09, p < .001, CI [-.11; -.08], \beta = -.14$ ) and competence index ( $b = -.41, p < .001, CI [-.45; -.36], \beta = -.19$ ) explained about 8% of the variance in cynicism,  $F(2, 9194) = 381.39, p < .001$ . In Model 2, we entered the control variables that, all together, explained an additional 6.3% of variance,  $F(9, 9185) = 75.25, p < .001$ . The effects of education and competence index on cynicism remained significant ( $b = -.07, p < .001, CI [-.09; -.06], \beta = -.11$ , and  $b = -.52, p < .001, CI [-.57; -.46], \beta = -.24$ , respectively).

### Study 5

While Study 4 documented negative associations between competence and cynicism in an adult population (aged between 24 and 66), Study 5 focused on adolescents and young adults (aged between 16 and 23). We examined whether basic cognitive abilities in adolescence (at the age of 16 – 18) predict the endorsement of cynical worldviews one to seven years later, in young adulthood.

### Method

For this study, we used the data from the German Socio-Economic Panel (GSOEP). GSOEP is a longitudinal household study of the German population that has been conducted annually since 1984 (Wagner, Frick, & Schupp, 2007). Although the survey focuses on an adult population, since 2006, it includes an elaborate cognitive ability test that is only completed by household members at the age of 16 – 18. For the present analyses, we combined the data on cognitive ability obtained at the age of 16 – 18 (completed between 2006 and 2012) with the data on cynical beliefs collected in 2013 as part of a regular annual questionnaire. In 2006, 835 16 – 18-year-olds completed the cognitive ability test. Since then, it has been completed yearly by between 155 and 302 17-year-olds, resulting in the overall sample of 1,872 adolescents. Of those, 879 (52.5% male) completed the annual survey in 2013 that included a measure of cynicism and thus constituted our final sample.

## Measures

Cognitive ability was measured with a 27-minute version of the I-S-T 2000-Test (Amthauer, Brocke, Liepmann, & Beauducel, 2001; Solga, Stern, von Rosenblatt, Schupp, & Wagner, 2005). It was developed to measure fluid intelligence – basic cognitive ability that includes processing speed, working memory capacity, logical reasoning, and problem solving ability. The test included 20 word analogy tasks, 20 progressive matrices, and a 10-minute numerical ability test. Participants' correct responses were summed up as a measure of their overall cognitive ability (Cronbach's  $\alpha = .88$ ). A detailed documentation is available in Schupp and Herrmann (2009).

Cynicism was measured with the following five items that stem from the faith in people scale (Rosenberg, 1957) and were used to measure cynicism in previous research (Stavrova & Ehlebracht, 2016): “Do you believe that most people would exploit you if they had the opportunity or would attempt to be fair toward you?” (1=would exploit, 2=would be fair), “Would you say that for most of the time, people attempt to be helpful or only act in their own interests?” (1=attempt to be helpful, 2=act in their own interest), “On the whole one can trust people,” “Nowadays, one cannot rely on anyone,” “If one is dealing with strangers, it is better to be careful before one can trust them.” The latter three items were measured on 4-point scale ranging from “strongly agree” to “strongly disagree”. The responses were recoded such that higher values reflected a stronger level of cynicism, standardized and combined into a cynicism scale (Cronbach's  $\alpha = .72$ ).

Control variables included monthly household income after taxes in euro (in the year when cognitive ability was measured), gender (1 = male, 0 = female), age (in the year when cognitive ability was measured), time lag between the measures of cognitive ability and cynicism, range: 1 – 7 years) and migration background (1 = yes, 0 = no).

## Results

Cognitive ability at the age of 16 – 18 was negatively associated with cynicism measured one to seven years later ( $r = -.17, p < .001, CI [-.23; -.11]$ ; see Table 3).

To examine whether the association between cognitive ability and cynicism is robust against controlling for socio-demographic characteristics, we conducted a multiple regression analysis. Model 1 showed that differences in cognitive ability alone explain 2.8% of the variance in cynicism,  $F(1, 877) = 26.42, p < .001$ . The effect of cognitive ability was  $\beta = -.17$  ( $p < .001$ ). Adding age, gender, time lag between measures of cognitive ability and cynicism, migration background, and household income explained an additional 1.6% of variance,  $F(5, 872) = 2.96, p = .01$ . The effect of cognitive ability remained significant ( $b = -.013, p < .001, CI [-.018; -.008], \beta = -.15$ ). No other variables were significantly related to cynicism, except for household income ( $\beta = -.11, p < .001$ ).

Additional analyses focusing on a subsample of participants who completed the cognitive ability test as adolescents in 2006 and cynicism seven years later (in 2013), as young adults ( $N = 265$ ), provided similar results. The correlation between cynicism and cognitive ability in this subsample was  $r = -.21, p < .001, CI [-.32; -.09]$  and robust against all the control variables listed above ( $b = -.02, CI [-.03; -.01], p = .002, \beta = -.20$ ).

### Study 6

Study 6 examined the association between cynicism and competence (education, literacy, numeracy and computer literacy) across 30 countries varying in the degree to which a cynical view of others is warranted (operationalized via control of corruption and rule of law). Evolutionary scientists have argued that the most successful strategies for survival and reproduction are rarely rigid and inflexible but rather contingent on the specific conditions individuals are facing (e.g., Gross, 1969). Consequently, we hypothesized that highly competent individuals will endorse cynicism more if they live in a corrupted vs. less corrupted socio-cultural climate. In contrast, less competent individuals, due to their inability

to accurately detect trustworthiness cues in their environment, will recur to cynicism indiscriminately, *i.e.*, regardless of whether it is warranted or not.

## Method

We used the data from the Survey of Adult Skills, which is part of the Program for the International Assessment of Adult Competencies organized by OECD (2017). The survey was conducted in 30 countries between 2011 and 2015 and included the data of about 200,000 adults. A stratified sampling method was used within each participating country. After removing cases with missing values on key variables (cynicism, literacy, numeracy and education), our sample comprised 192,115 individuals (aged between 16 and 65, 46.8% male). The competencies assessed included literacy, numeracy, and problem solving in technology-rich environments (ICT literacy). As the latter was not assessed in four countries (Cyprus, France, Italy, Spain) and was only completed by parts of the sample in other countries (for details, see OECD, 2016), the analyses of ICT literacy were based on the data from 26 countries and a smaller overall sample (130,110 individuals, aged between 16 and 65, 47% male). Also, income values were missing in about 30% of the sample; therefore, the analyses including income were based on a smaller sample size (see Table 5).

## Measures

*Cynicism.* To measure cynicism, we used the following two questions included in the survey: “There are only a few people you can trust completely” and “If you are not careful, other people will take advantage of you” (adapted from Rosenberg, 1957). Responses were given on a 5-point scale ranging from “strongly disagree” to “strongly agree” and averaged into a cynicism scale ( $r = .51, p < .001$ ).

*Competencies.* The literacy test consisted of 76 items measuring the ability to identify and locate the needed information, draw inferences and interpret and evaluate (e.g., assess credibility) different types of texts. The numeracy test included 76 items aimed at assessing

participants' simple arithmetic skills, ordering and sorting abilities, the ability to use measuring devices and formulas, to interpret mathematical or statistical information. The ICT literacy test consisted of 14 items and measured individuals' ability to use digital technology (e.g., searching through websites to acquire relevant information, using email applications, spreadsheets and similar). More information about these measures is provided in the Supplementary Materials and by OECD (2016, p. 28).

*Education.* Education was measured using seven categories (from “primary or less” to “tertiary”).

*Social climate.* We used two indicators of the degree to which a country's social climate can be considered as justifying cynical views or not: control of corruption and rule of law. Both indicators are part of the World Governance Indicators (Kaufmann, Kraay, & Mastruzzi, 2007). They are based on data from 31 different surveys measuring the citizens' and experts' perception of the degree to which power holders in a country use it for personal gain (control of corruption) and to which citizens “have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence” (rule of law) (Kaufmann et al., 2007). Higher values – higher control of corruption and rule of law – describe socio-cultural climates where a cynical worldview is less warranted. Lower values, that is, less control of corruption and less rule of law, describe countries where cynicism is more likely to be justified. As control of corruption and rule of law were highly correlated ( $r = .95$ ,  $N = 30$ ,  $p < .001$ ), we combined them into an index.

Control variables included gender (1 = male, 0 = female), age (in 5-year intervals), migration background (1 = yes, 0 = no), and monthly income in (country-specific) percentile-ranks (ranging from 1 = less than 10% to 6 = 90% or more). At the country-level, we

controlled for countries' GDP per capita in dollars, retrieved from the World Bank Database (2015).

## Results

Country-level statistics are shown in Table 4. On average across countries, cynical individuals had lower levels of education than their less cynical counterparts ( $r_{\text{average}} = -.19$ ,  $p_{\text{average}} < .001$ ,  $CI_{\text{average}} [-.21; -.16]$ ). Similar patterns were obtained with respect to literacy, numeracy (both  $r_{\text{average}} = -.16$ ,  $p_{\text{average}} < .001$ ,  $CI_{\text{average}} [-.18; -.14]$ ) and ICT literacy ( $r_{\text{average}} = -.14$ ,  $p_{\text{average}} < .001$ ,  $CI_{\text{average}} [-.16; -.12]$ ). As shown in Table 4 and Figure 3, these associations are negative and significant in the largest majority of the countries studied.

Next, we examined whether the effect of competence on cynicism was moderated by the respective country's social climate. Thus, we conducted a series of multilevel regression analyses with group mean-centered competence values, country-level social climate and their interaction as predictors, and cynicism as dependent variable. The results are shown in Table 5. As shown there, the effects of education, literacy, numeracy, and ICT literacy on cynicism were significantly moderated by country social climate ( $b = -0.04$ ,  $p = .001$ ,  $CI [-0.06; -0.02]$ ;  $b = -0.14$ ,  $p = .001$ ,  $CI [-0.22; -0.06]$ ;  $b = -0.13$ ,  $p = .002$ ,  $CI [-0.18; -0.05]$ ;  $b = -0.12$ ,  $p < .001$ ,  $CI [-0.19; -0.06]$ , respectively). The pattern of these interactions is shown in Figure 4. The degree to which individuals with higher education and higher scores on literacy, numeracy, and ICT literacy (one standard deviation above mean) endorsed cynicism depended greatly on the respective social climate: the harsher the social climate, the more these high-competence people embraced a cynical worldview (education, literacy and numeracy:  $b = -0.32$ ,  $p = .001$ ,  $CI [-0.47; -0.17]$ ; ICT literacy:  $b = -0.30$ ,  $p < .001$ ,  $CI [-0.45; -0.15]$ ). In contrast, the cynicism level of less educated individuals and individuals with lower scores on literacy, numeracy and ICT literacy (one standard deviation below mean) was less impacted by their country's social climate (education:  $b = -0.19$ ,  $p = .005$ ,  $CI [-0.31; -0.07]$ ;

literacy and numeracy:  $b = -0.19$ ,  $p = .006$ , CI [-0.31; -0.07]; ICT literacy:  $b = -0.18$ ,  $p = .021$ , CI [-0.33; -0.04]). Finally, individuals with minimum level of education and competencies endorsed cynicism indiscriminately of how harsh their country's social climate was (education:  $b = -0.01$ ,  $p = .12$ ; literacy:  $b = 0.09$ ,  $p = .35$ ; numeracy:  $b = 0.06$ ,  $p = .54$ ; ICT literacy:  $b = 0.04$ ,  $p = .72$ ). Models 2 shows that these interaction effects were robust when controlling for gender, age, income, migration background, and country's GDP (s. Table 4).

### **Studies 4 – 6: Discussion**

Even though the lay theory linking cynicism to higher levels of competence is quite popular (Studies 1 to 3), it appears not to hold up against empirical evidence. In contrast to what many people tend to believe, cynical individuals are typically not more but rather less competent than their less cynical counterparts. Study 4 detected a negative association between competence and cynicism across diverse measures of competence (educational attainment, general cognitive ability and academic competencies) in adults and Study 5 showed that cognitive ability in adolescence predicted less cynicism up to seven years later.

Study 6 found a negative association between cynicism and competence in almost each of 30 countries examined. Importantly, these cross-cultural results showed that high-competence individuals were better able to adjust their level of cynicism depending on their socio-cultural environment. In contrast, their less competent counterparts embraced cynicism almost regardless of the degree to which such a worldview was warranted in their socio-cultural context or not.

### **General Discussion**

The academic literature has consistently painted a dim picture of cynicism, linking it to bad health outcomes, lower well-being, poor relationship quality, and decreased financial success (Chen et al., 2016; Haukkala, Konttinen, Laatikainen, Kawachi, & Uutela, 2010;

Stavrova & Ehlebracht, 2016). In contrast, in popular culture, cynicism seems to have a better reputation. For example, in film and fiction, the most cynical characters (e.g., Sherlock Holmes or Dr. House), although lonely and unhappy, are frequently painted as the most intelligent, witty, experienced, and knowledgeable ones. In the present studies, we explored lay beliefs about the association between cynicism and competence and tested whether these beliefs reflect empirical associations between these traits. Our results revealed that lay people tend to endorse the “cynical genius” belief – that is, believed that cynical individuals would do better on a variety of cognitive tasks and cognitive ability tests than their less cynical counterparts. An examination of empirical associations between cynicism and competence based on the data of about 200,000 individuals from 30 countries debunked the “cynical genius” belief as illusionary. Cynical individuals are likely to do worse (rather than better) on cognitive tasks, cognitive abilities and competencies tests, and tend to be less educated than less cynical individuals.

What is the source of the discrepancy between lay beliefs and reality? Literature on the negativity bias (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001) and loss aversion (Kahneman & Tversky, 1979) might give a clue. Findings from these research fields suggest that pain associated with negative outcomes (e.g., betrayed trust) is stronger than pleasure associated with positive outcomes (e.g., rewarded trust). Consequently, individuals might be more aware of the negative consequences of other people’s gullibility than of the positive consequences that a trusting stance and positive view of human nature often convey.

In addition, according to insights from trust research (Fetchenhauer & Dunning, 2010), when people endorse a cynical stance concerning others and consequently forgo trust, they usually do not even get a chance to learn whether their untrustworthiness assumption was correct and being cynical thus spared them a “loss” – or whether it was incorrect and therefore denied them a “win”. In other words, cynicism often precludes the possibility of

experiencing negative outcomes. As a result, it might be perceived as a smarter, more successful strategy and cynical individuals might be attributed higher levels of competence than their less cynical counterparts. After all, they are highly unlikely to be betrayed, deceived, and exploited, whereas it usually remains unknown whether their cynicism resulted in missed opportunities.

Finally, the abundance of smart and witty cynics in fiction might fuel the “cynical genius illusion” as well. As the primary goal of fiction is entertainment, fictional worlds are typically more dangerous, their villains are meaner, and the costs of mistakes are higher than in reality – or, as Barack Obama put it referring to the *House of Cards* series: “Life in Washington is a little more boring than displayed on the screen” (Obama, 2014). In these hostile and dangerous worlds created for our entertainment, cynicism is warranted and often turns out to be essential for survival, suggesting that those who endorse it are likely to be the smart ones. Our cross-cultural analyses indirectly support this idea, showing that the negative association between competence and cynicism gets weaker with increasing levels of environmental hostility, such that in the most corrupt countries in our sample, competent individuals are not necessarily less cynical than their less competent counterparts (s. Table 4).

This observation inevitably leads to the conclusion that whether the “cynical genius” belief represents an illusion or not must depend on the socio-cultural environment. While we explored the empirical association between cynicism and competence across 30 countries, our conclusions regarding the perceived association are restricted to three Western countries: U.S., U.K., and Germany. We acknowledge that it is highly important to explore lay beliefs in other cultural contexts as well. It is possible that cross-cultural differences in the perceived association between cynicism and competence are also explained in part by the degree to which cynicism is warranted in a particular socio-cultural context, with a stronger “cynical genius” belief in more vs. less corrupt countries. In this case, perceived and actual

associations between cynicism and competence might co-vary at the country level, suggesting that there might be some truth to the “cynical genius illusion” after all.

Although our reliance on large-scale publicly available datasets (Studies 4 – 6) facilitated a precise assessment of the empirical associations between cynicism and competence, it did not allow for a direct comparison between the actual empirical associations and lay beliefs about these associations within a given sample. As we took great care to ensure the conceptual equivalence between the measures of the former (e.g., perceived ability to solve math problems) and the latter (e.g., actual performance on numeracy tests), we are confident in the validity of our conclusions. It is also important to note that even though the “cynical genius belief” emerged consistently across the studies, its effect size showed substantial variation across the measures of cognitive competence, with the strongest effect obtained for items reflecting mathematical competence and the weakest effect obtained for items associated with verbal skills. It seems that people like to think that those who are good at scrutinizing numbers must also be good at scrutinizing other people’s intentions. Finally, besides a belief in cynics’ “cognitive competence”, our participants showed an even stronger belief in cynics’ “social incompetence”. This belief as well as the question of whether it corresponds to reality might be worth a separate, more thorough (e.g., using more diverse social tasks) investigation.

While we have shown cynicism to be positively associated with competence in lay beliefs, it is less clear what causal theory people use to explain this association. Do they think that cynicism makes people more competent or that higher levels of competence turn people into cynics? A similar question arises with respect to the causality of the empirical associations between competence and cynicism. On the one hand, higher levels of cognitive ability, academic competence, and education might protect from adverse life experiences, not only as they allow discovering potential fraud but also as they increase the chances of living

in a safe and friendly environment, providing more evidence for a positive than for a negative view of human nature and consequently preventing cynicism development. Our findings showing that cognitive ability in adolescence contributes to decreased levels of cynicism in adulthood provide some preliminary support for a causal effect of competence. However, another causal direction is possible as well: as cynicism is closely related to distrust (Singelis, Hubbard, Her, & An, 2003), cynical (vs. less cynical) individuals might be more distrustful of the opinions and knowledge of others, a behavior that can eventually prevent them from expanding their knowledge and understanding. We hope that future studies will pick up here and explore the causal directions underlying both perceived (*i.e.*, lay beliefs) and empirical association between competence and cynicism.

To conclude, the idea of cynical individuals being more competent, intelligent, and experienced than less cynical ones appears to be quite common and widespread, yet, as demonstrated by our estimates of the true empirical associations between cynicism and competence, largely illusory. As Stephan Colbert, an American comedian, writer and television host, phrased it, “cynicism masquerades as wisdom, but it is the furthest thing from it”.

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Table 1

*Means, Standard Deviations, and Correlations among the Variables, Study 4*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1 Cynicism	4.22	1.65	-	-	-	-	-	-	-	-	-	-	-
2 Competence index	0.00	0.77	-.25***	-	-	-	-	-	-	-	-	-	-
3 Education	6.28	2.51	-.22***	.44***	-	-	-	-	-	-	-	-	-
4 Gender (1=male, 0=female)	0.50	0.50	.02*	.08***	.08***	-	-	-	-	-	-	-	-
5 Age	49.89	10.81	-.02*	-.40***	-.09***	.02*	-	-	-	-	-	-	-
6 German mother tongue (1=yes, 0=no)	0.94	0.23	.00	.16***	.04***	.03**	.10***	-	-	-	-	-	-
7 Conscientiousness	3.38	0.94	.05***	-.21***	-.09***	-.14***	.14***	-.02***	-	-	-	-	-
8 Agreeableness	3.59	0.61	-.15***	-.09***	-.04***	-.13***	.05***	-.06***	.16***	-	-	-	-
9 Openness	4.06	0.72	-.09***	.11***	.13***	-.10***	.03***	.02	.10***	.13***	-	-	-
10 Neuroticism	2.58	0.83	.10***	-.03***	-.04***	-.21***	-.07***	-.02*	-.11***	-.05***	-.08***	-	-
11 Extraversion	3.50	0.93	-.06***	-.04***	-.01	-.12***	-.05***	.01	.15***	.06***	.18***	-.18***	-
12 Household income	3412.51	2321.60	-.18***	.26***	.25***	.06***	-.01	.02	.01	-.03**	.03**	-.08***	.04***

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 2

*Multiple Regression Results Involving Cynicism, Study 4*

Predictor	Model 1		Model 2	
	B	$\beta$	B	$\beta$
Step 1				
Competence index	-.41	-.19***	-.52	-.24***
Step 2				
Education	-.09	-.14***	-.07	-.11***
Step 3				
Gender	-	-	.19	.06***
Age	-	-	-.02	-.13***
Native speaker	-	-	.32	.05***
Income	-	-	-6e-05	-.09***
Extraversion	-	-	-.09	-.05***
Agreeableness	-	-	-.44	-.16***
Conscientiousness	-	-	.15	.07***
Neuroticism	-	-	.15	.07***
Openness	-	-	-.02	-.01***
Multiple $R$	.28***		.37***	
$\Delta R^2$	.02***		.06***	
Adjusted $R^2$	.08***		.14***	

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 3

*Means, Standard Deviations, and Correlations among the Variables, Study 5*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1 Cognitive ability	32.75	9.99	-	-	-	-	-	-
2 Cynicism	0.00	0.69	-.17***	-	-	-	-	-
3 Gender	0.51	0.50	-.02	.01	-	-	-	-
4 Age	17.30	0.65	.04	-.02	-.02	-	-	-
5 Income	3298.09	1992.32	.20***	-.14***	-.04	-.03	-	-
6 Migration background	0.02	0.15	-.06	-.03	-.004	.08*	-.01	-
7 Time lag	2.52	2.23	-.03	-.04	-.02	-.53***	.09**	-.01

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 4

*Zero-Order Correlations per Country (Sorted by Social Climate, from Weakest to Strongest**Rule of Law and Control of Corruption), Study 6*

Country	n	Correlation between cynicism and education	Correlation between cynicism and literacy	Correlation between cynicism and numeracy	Correlation between cynicism and computer literacy	Social climate
Russia	3,861	-.043*	-.066***	-.038*	-0.016	-0.81
Italy	4,584	-.197***	-.167***	-.184***	n/a	0.16
Greece	4,916	-.141***	-.062***	-.087***	-.149***	0.18
Slovak Republic	5,688	-.113***	-.051**	-.076***	-0.016	0.35
Lithuania	5,046	-.180***	-.146***	-.164***	-.171***	0.62
Czech republic	6,078	-.132***	-.112***	-.107***	-.114***	0.67
Poland	9,359	-.111***	-.148***	-.138***	-.178***	0.67
South Korea	6,646	-.113***	-.089***	-.087***	-.042*	0.76
Spain	5,956	-.198***	-.140***	-.123***	n/a	0.86
Slovenia	5,287	-.202***	-.199***	-.193***	-.180***	0.87
Israel	5,298	-.214***	-.199***	-.199***	-.175***	0.91
Cyprus	4,391	-.094***	-0.03	-.036*	n/a	1.06
Estonia	7,573	-.190***	-.154***	-.143***	-.157***	1.22
France	6,850	-.245***	-.183***	-.199***	n/a	1.36
Chile	5,182	-.079***	-.065***	-.045*	-.115***	1.42
US	4,893	-.247***	-.199***	-.206***	-.196***	1.47
Belgium	4,971	-.266***	-.186***	-.187***	-.133***	1.48
Japan	5,170	-.132***	-.103***	-.102***	-0.027	1.52
UK	8,780	-.249***	-.223***	-.215***	-.176***	1.69
Ireland	5,957	-.238***	-.187***	-.187***	-.156***	1.70
Germany	5,369	-.212***	-.289***	-.247***	-.232***	1.72
Canada	26,629	-.194***	-.173***	-.172***	-.134***	1.78
Austria	5,020	-.227***	-.256***	-.230***	-.190***	1.84
Netherlands	5,075	-.292***	-.246***	-.245***	-.209***	1.91
Singapore	5,391	-0.018	0.024	.034*	-.119***	1.93
Sweden	4,454	-.239***	-.238***	-.237***	-.152***	2.05
Norway	4,935	-.302***	-.273***	-.268***	-.194***	2.06
Finland	5,442	-.229***	-.173***	-.157***	-.114***	2.07
New Zealand	6,049	-.221***	-.244***	-.243***	-.177***	2.09
Denmark	7,265	-.325***	-.291***	-.277***	-.192***	2.10
<b>Average</b>	<b>6,403.83</b>	<b>-.188***</b>	<b>-.162***</b>	<b>-.159***</b>	<b>-.143***</b>	<b>1.84</b>

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Social climate is an average value of control of corruption and rule of law indicators.

Table 5

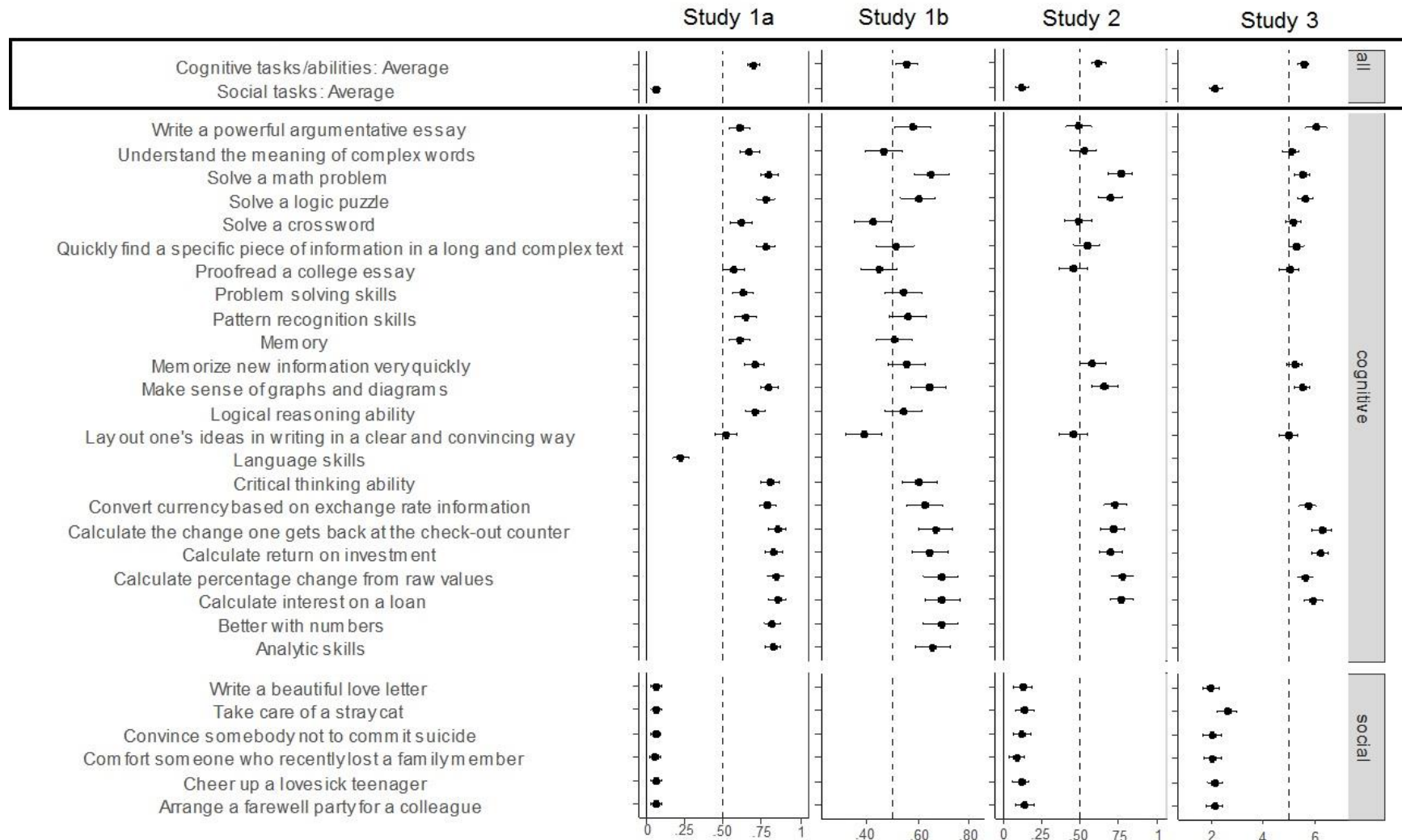
*Multilevel Regression Results Involving Cynicism, Study 6*

Predictor	Education			
	Model 1		Model 2	
	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
Education	-0.10	<.001	-0.11	<.001
Social climate	-0.25	<.001	-0.13	.16
Education x Social climate	-0.04	.001	-0.03	.003
Control variables	-	-	+	+
N countries	30		30	
N individuals	192,115		117,729	
	Literacy			
Literacy	-0.34	<.001	-0.33	<.001
Social climate	-0.25	<.001	-0.13	.18
Literacy x Social climate	-0.14	.001	-0.13	.004
Control variables	-	-	+	+
N countries	30		30	
N individuals	192,115		117,729	
	Numeracy			
Numeracy	-0.30	<.001	-0.29	.09
Social climate	-0.25	<.001	-0.12	.21
Numeracy x Social climate	-0.12	.002	-0.10	.009
Control variables	-	-	+	+
N countries	30		30	
N individuals	192,115		117,729	
	ICT literacy			
ICT literacy	-0.32	<.001	-0.34	<.001
Social climate	-0.24	.003	-0.02	.87
ICT literacy x Social climate	-0.13	<.001	-0.13	<.001
Control variables	-	-	+	+
N countries	26		26	
N individuals	130,111		86,449	

*Note.* Models including different competencies were tested separately. Social climate is an average value of control of corruption and rule of law indicators.

Figure 1

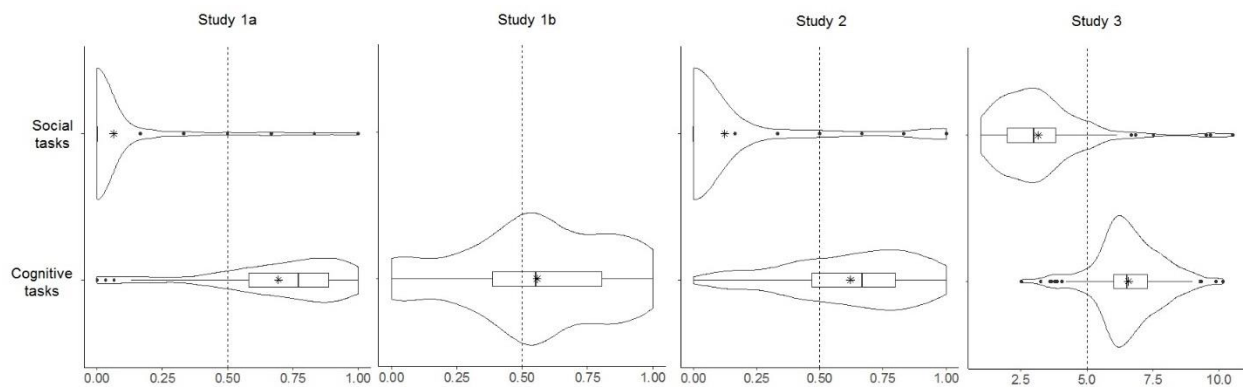
Mean Performance Expectation of a Cynical (vs. a Non-Cynical) Target on Cognitive and Social Tasks (Higher Values Reflect a Preference for a Cynical Target), Studies 1 – 3



*Note.* Error bars are 95% confidence intervals. Point estimates that do not cross the dotted lines are significantly different from “no preference for either a cynical or a non-cynical target (.50’ in Studies 1a, 1b and 2, and ‘5’ in Study 3)” at (at least)  $\alpha = .05$ .

Figure 2

*Violin and Box Plots: Mean Performance Expectation of a Cynical (vs. a Non-Cynical) Target on Cognitive and Social Tasks (Higher Values Reflect a Preference for a Cynical Target), Studies 1 – 3*



*Note.* \* indicates means; Dotted lines denote a point of indifference ('.50' in Studies 1a, 1b and 2, and '5' in Study 3).

Figure 3

*Within-Country Zero-Order Correlations between Cynicism and Competence (Countries with no Available Data are White), Study 6*

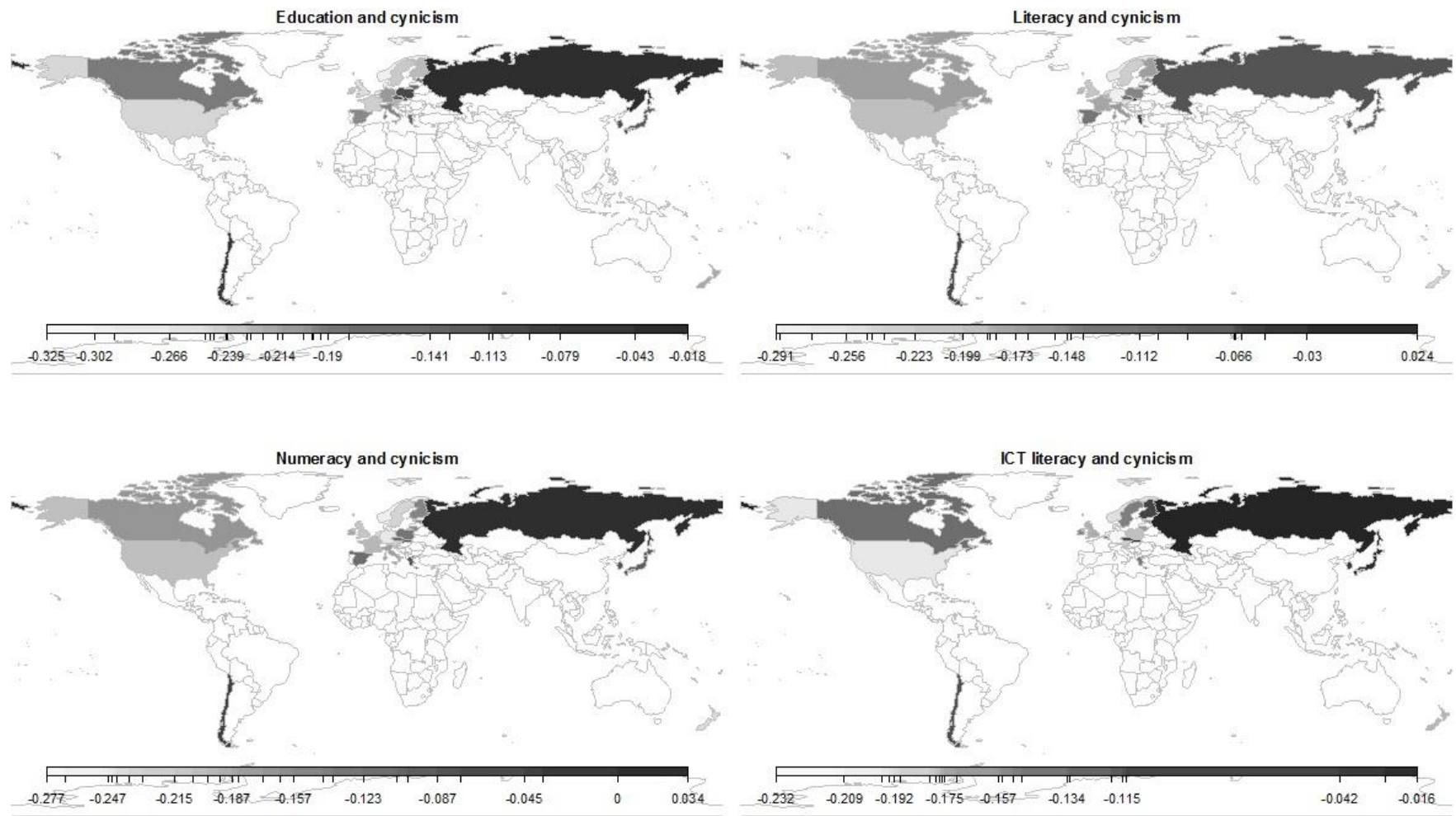


Figure 4

*Effects of Education and Competencies on Cynicism as a Function of Country Social Climate (Rule of Law and Control of Corruption; Higher Values Reflect a Lower Justifiability of Cynicism)*

