



# Social Psychological Skill and Its Correlates

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**Abstract:** In six studies ( $N = 1,143$ ), we investigated *social psychological skill* – lay individuals' skill at predicting social psychological phenomena (e.g., social loafing, attribution effects). Studies 1 and 2 demonstrated reliable individual differences in social psychological skill. In Studies 2, 3, and 4, attributes associated with decreased cognitive and motivational bias – cognitive ability, cognitive curiosity, and melancholy and introversion – predicted social psychological skill. Studies 4 and 5 confirmed that social psychological skill is distinct from other skills (e.g., test-taking skills, intuitive physics), and relates directly to reduced motivational bias (i.e., self-deception). In Study 6, social psychological skill related to appreciating the situational causes of another individual's behavior – reduced fundamental attribution error. Theoretical and applied implications are considered.

**Keywords:** social psychological skill, predicting social psychological phenomena, motivational bias, cognitive bias, generalized person perception

Presumably one would need to take a social psychology course to accurately grasp social psychological phenomena. The possibility exists, however, that some lay individuals can accurately infer social psychological phenomena (e.g., social loafing, bystander effect, attribution effects) without any background in psychology. That is, some individuals may, for example, be able to accurately predict the phenomenon that is social loafing (e.g., “In most cases, people expend less effort when in a group than when alone” *True - False*; Karau & Williams, 1993). Accurately predicting such social psychological phenomena, which we term *social psychological skill*, entails accurately predicting how people in general feel, think, and behave in different social contexts and situations – such predictions are exactly what the field of social psychology examines empirically. Here, we examine whether reliable individual differences in social psychological skill exist, and what variables predict such a skill.

## Person Perception Versus People Perception

Researchers have historically differentiated between judgments about other individuals, and judgments about other people in general (e.g., O'Sullivan, Guilford, & deMille, 1965). The former, which has been studied under the umbrella term person perception (e.g., Ross, 1977;

overview by Gilbert, 1998), examines the processes via which individuals make judgments about other individuals (e.g., empathy, perspective taking, theory of mind), as well as the accuracy of those judgments (e.g., empathic accuracy, personality judgments, thin-slice judgments). Social psychological skill, the construct introduced here, falls under the latter category – judgments about other people in general (i.e., “people perception”). Social psychological skill involves accurately judging social psychological phenomena – the feelings, thoughts, and behaviors of people *in general* rather than those of specific individuals.

Social psychological skill is not the only construct that qualifies as judgments about people in general. For example, judgments about majority preferences fall under this category as well (e.g., most human beings like coffee). Research on the false consensus effect has partially considered such judgments (Ross, Greene, & House 1977). False consensus represents individuals' tendency to assume that others share their preferences, attitudes, and beliefs (i.e., if I like coffee then other people must like coffee too). Judgments about people's general preferences, however, are distinct from accurately judging social psychological phenomena. Simple judgments about the preferences of the majority (e.g., most people like warm beverages) do not take social contexts or situations into account (e.g., holding a warm beverage increases feeling of social affiliation; Williams & Bargh, 2008).

## Taking Social and Situational Contexts Into Account

Accurately predicting social psychological phenomena is similarly distinct from simple judgments about groups of people (e.g., stereotypes; overview by Fiske, 1998). Aside from entailing group-centered judgments rather than judgments about people in general, stereotypes, unlike social psychological skill, do not necessarily take differing social contexts and situations into account. It is in this way that social psychological skill is also distinct from individuals' preconceived ideas about the world (e.g., schemas; Bartlett, 1932), fundamental underlying beliefs (e.g., implicit theories; Dweck, 1996), social axioms (i.e., beliefs about society and social structures; Leung & Bond, 2004), and assumptions about human nature (i.e., beliefs about the nature of humanity; Wrightsman, 1992). Furthermore, only a small portion of schemas, beliefs, axioms, and assumptions are judgments about how people in general feel, think, and behave in differing social contexts and situations, that is, judgments about humanity's social psychology.

More in line with social psychological skill is the study of situation perception (see Baldwin, 1992, p. 463). Roughly, situation perception entails individuals' perception of situations rather than individuals. Considering situation perception in the social domain, people create prototypes or scripts regarding social situations to help them navigate the social environment (e.g., Abelson, 1981; Cantor, Mischel, & Schwartz, 1982; Trzebinski, 1985). Social psychological skill, however, entails individuals' accuracy at judging social psychological phenomena rather than solely their perceptions of social situations.

## The Importance of Accuracy

Research on individuals' social schemas, implicit beliefs, social axioms, assumptions about human nature, and situation perception (all noted earlier) does not consider the accuracy of the individuals. That is, these areas of research consider individuals' judgments or models about people's social tendencies rather than their accuracy. Measuring accuracy in social judgments is extremely challenging due to the difficulties of creating an objective accuracy criterion (e.g., Funder, 2012; Gilbert, 1998). For example, it is unclear how one would assess the accuracy of individuals' assumptions about human nature. One would need to have an objective measurement of human nature to compare individuals' judgments against.

Research on social and emotional intelligence, however, has considered individuals' accuracy in social judgment. Social intelligence was originally defined by Thorndike (1920) as "the ability to understand and manage men and

women, boys and girls, to act wisely in human relations" (p. 228). This original definition has been followed by numerous other definitions of social intelligence (e.g., Cantor & Kihlstrom, 1987; Ford & Tisak, 1983; Guilford, 1967; Kosmitzki & John, 1993; Sternberg, 1988). Most, if not all of these definitions differ from how we define social psychological skill. Social intelligence includes an aspect of social functionality – interacting smoothly with other individuals. For example, Gardner (1999, p. 43) defined such intelligence as a person's capacity to understand others and consequently, to work effectively with others. We do not assume social psychological skill to entail social functionality, or even to relate to social functionality. Furthermore, researchers have noted that social intelligence, unlike social psychological skill, specifically refers to social sensitivity in judging other individuals (i.e., person perception) rather than judging generalized others (i.e., people in general; e.g., O'Sullivan et al., 1965).

Research on personality judgment – judgments about the traits of others – has also considered individuals' judgment accuracy (overview by Funder, 2012). Personality judgments, however, are predominantly judgments about the traits of other individuals, and when they do entail judgments about people in general (e.g., normative accuracy; Rogers & Biesanz, 2015), they do not take differing social contexts and situations into account. Finally, research on stereotype accuracy has also examined individuals' social judgment accuracy (e.g., Lee, Jussim, & McCauley, 1995). However, as noted earlier, stereotypes are distinct from social psychological skill in ways aside from accuracy.

## What Is Social Psychological Skill

So far, we have theoretically delineated social psychological skill from related constructs. However, delineating what social psychological skill is not, does not qualify as describing what it is. We specifically define social psychological skill as individuals' skill at accurately predicting social psychological phenomena, that is, individuals' skill at predicting how human beings in general feel, think, and behave in social contexts and situations – such predictions are exactly what the field of social psychology examines empirically.

To more specifically situate social psychological skill in the literature and convey its theoretical importance, consider again that person perception entails judgments about other individuals while social psychological skill entails judgments about people in general, depending on social contexts and situations. This highlighted differentiation echoes a historical development in the field of social psychology. Rather than try to understand or predict the behavior and subjective experiences of a specific individual, which was found to be difficult (e.g., LaPiere, 1934), social

psychologists began to examine how human beings in general feel, think, and behave in particular social contexts. In other words, rather than investigate the psychological tendencies of individuals, social psychologists began to study the effects of situational features and contexts on the behavior of people in general. This transition in psychological science from a focus on the individual (across situations) to a focus on the effect of situations (across people) is analogous to the transition of studying lay people's accuracy in person perception to studying their skill at predicting social psychological phenomena. Given that the noted transition in the field of psychology led to new psychological breakthroughs and advancements, a transition from studying the "intuitive psychologist" (Ross, 1977) – lay people's accuracy in individual person perception – to examining people's accuracy at judging social psychological phenomena could lead to novel and meaningful insights into people's social judgments.

## The Current Research

In six studies we examined lay individuals' social psychological skill. To measure social psychological skill, we assessed individuals' accuracy at predicting phenomena at the foundation of social psychology (e.g., social loafing, bystander effect, deindividuation, outgroup bias, misattribution, social projection, self-serving bias). For example, to examine participants' skill at inferring social loafing, participants read: "In most cases, people expend less effort when in a group than when alone" *True - False* (Karau & Williams, 1993). Given that such social psychological phenomena have been established empirically, using these items allowed us to potentially measure individuals' accuracy at predicting people's social psychology.<sup>1</sup>

We conducted Studies 1 and 2 to examine whether reliable individual differences in social psychological skill exist. In Studies 2–4, we explored which person attributes (e.g., need for cognition; Cacioppo & Petty, 1982) are associated with social psychological skill. Study 4 discriminated social psychological skill from mere science test-taking skill and Study 5 from skill at intuitive physics. Study 5 also examined whether social psychological skill relates to a potential process variable – self-deception. Finally, Study 6 explored whether social psychological skill relates to judging another individual's behavior in a social psychological manner: Exhibiting increased appreciation for social and situational contexts when judging the causes of another individual's behavior (i.e., reduced fundamental attribution error).

## Study 1: Establishing Social Psychological Skill

In Study 1, we assessed whether individual differences in social psychological skill exist, and whether these differences are reliable across time and test-form.

### Method

#### Participants and Design

We posit that social psychological skill should neither be considered reliable nor ecologically important, if such skill is only moderately reliable (i.e., across 2 weeks). Therefore, we conducted a power analysis to have a 90% ( $1 - \beta$ ) likelihood of observing a moderate correlation ( $r = .30$ ) at a .05 alpha level. This power analysis revealed that we needed 109 participants. We recruited 171 (87 female;  $M_{age} = 36.30$ ,  $SD = 11.83$ ) on Mechanical Turk (MTurk). Thirty-eight participants failed to complete Time 2 of the study. Individuals' skill at inferring social psychological phenomena was measured at Time 1 and at Time 2 (2 weeks later).

#### Materials and Procedure (Time 1)

##### *Social Psychological Skill Measure*

Participants completed a randomized 20-item measure of true/false and multiple choice questions about social psychological phenomena. The social psychological phenomena were randomly selected from the social psychology chapter of *Introducing Psychology* (Schacter, Gilbert, & Wegner, 2011). The selected phenomena included, for example, social projection: "People tend to overestimate the amount that other people share (i.e., agree with) their beliefs and attitudes" *True - False* (e.g., Krueger & Clement, 1994), similarity attraction: "People prefer to interact with people who are different than them, rather than similar to them?" *True - False* (e.g., Byrne & Nelson, 1965; see the Electronic Supplementary Material, ESM 1 for all items). A literature review confirmed that each of the included social psychological phenomena had been empirically replicated at least once.

##### *Psychological Training*

To control for participants' potential training in psychology, we assessed whether participants had taken psychology classes ("I have taken psychology classes"), and whether they read pop psychology ("I often read pop psychology books and/or articles"); Likert scale: 1 = *Not at all agree* to 7 = *Strongly agree*.

<sup>1</sup> We acknowledge that such accuracy cannot be taken for granted. A detailed discussion of the accuracy of our measure can be found in the Limitations section in the Discussion.

## Materials and Procedure (Time 2)

Materials and procedure at Time 2 were identical to Time 1, except the social psychological skill measure was made up of 20 different questions covering different social psychological phenomena. These questions were taken from a different psychology textbook, *Social Psychology* (Aronson, Wilson, & Akert, 2005).

## Results

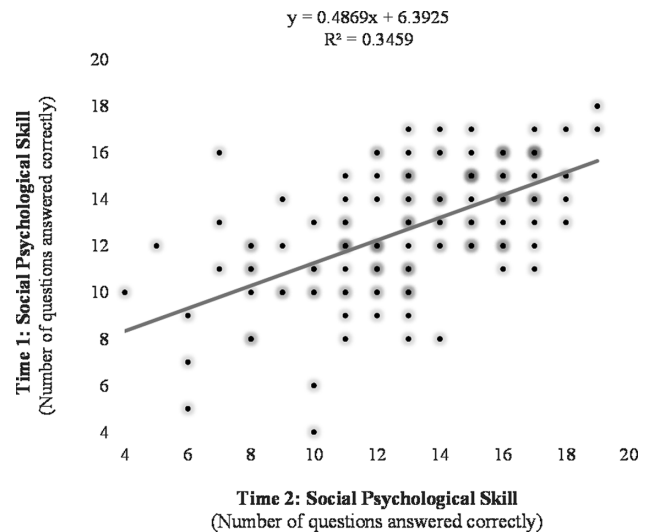
### Social Psychological Skill

Participants were given one point for every correct answer for a possible 20 points on each of the two social psychological skill measures, Time 1:  $M = 13.07$ ,  $SD = 3.25$ , and Time 2:  $M = 12.76$ ,  $SD = 2.69$ .

### Reliability

Social psychological skill is likely a multidimensional construct; social psychology contains numerous subtopics (e.g., relationships, group dynamics, self and identity). Therefore, we utilized McDonald's total omega to assess internal reliabilities (McDonald, 1999; e.g., Dunn, Baguley, & Brunsten, 2014). The two 20-item social psychological skill measures had internal consistencies of  $\omega = .72$  (Time 1) and  $\omega = .64$  (Time 2),<sup>2</sup> all 40-items collectively,  $M = 12.92$ ,  $SD = 2.65$ ,  $\omega = .79$ . A reliability coefficient of 0.70 or more is considered adequate reliability. We refrained from raising internal consistency by removing items as we did not want to bias our measure. In other words, all empirically observed social psychological phenomena qualified for inclusion in our measure.

We assessed temporal stability and parallel-forms reliability of social psychological skill by correlating participants' performance on the two social psychological skill measures (while controlling for having taken psychology classes). Participants' social psychological skill was reliable across time and test-form,  $r(130) = .57$ ,  $p < .001$ . When correcting for attenuation the reliability increased to,  $r = .87$ , though this statistical practice should be approached with caution (e.g., Winne & Belfry, 1982; Wigley III, 2013). A scatter plot of participants' scores illustrates that individuals with consistent superior social psychological skill exist – some individuals scored well above the average at both Time 1 and Time 2 (Figure 1).



**Figure 1.** Study 1: Participants' scores on the social psychological skill measures, Time 1 (y-axis) and Time 2 (x-axis). A dot indicates that at least one participant scored accordingly at Time 1 and Time 2. The darker the circle, the higher the number of individuals who received those scores.

### Psychological Background

We correlated participants' psychological background with their social psychological skill averaged across Time 1 and Time 2. While reading pop psychology did not predict social psychological skill,  $r(131) = .069$ ,  $p = .443$ , having taken psychology classes did,  $r(131) = .214$ ,  $p = .013$ .<sup>3</sup>

### Demographics

Participants' social psychological skill did not relate to any demographic measures (i.e., age, gender, political orientation, income), except for positively with education,  $r(131) = .222$ ,  $p = .010$ . This relationship remained when controlling for participants' having taken psychology classes,  $r(129) = .188$ ,  $p = .031$ .

## Discussion

Study 1 established that social psychological skill is reliable across 2 weeks and parallel test-forms. Notably, this reliability was partially driven by some participants' consistent superior performance over time; certain lay individuals can reliably predict social psychological phenomena.

<sup>2</sup> Note that while the internal consistency of the second social psychological skill measure was slightly below what is commonly considered good reliability, this is only relevant for the correlation between social psychological skill at Time 1 and Time 2. All other correlations that were calculated were between variables of interest and the combined 40-items (across Time 1 and Time 2), which had good internal consistency ( $\omega = .79$ ). The same is true of all other presented studies.

<sup>3</sup> Parallel results were found when correlating psychological background with the individual social psychological skill measures at Time 1 and Time 2.

## Study 2: Predictors of Social Psychological Skill

Which psychological variables predict social psychological skill? Considering the complexity of many psychological phenomena, accurately judging social psychological phenomena is likely an intellectually challenging feat. Therefore, psychological variables related to performance on complex, challenging tasks may predict social psychological skill. Supporting this possibility, education level predicted social psychological skill in Study 1.

One major predictor of performing well on complex tasks is reduced bias; both reduced cognitive and motivational bias predict increased performance on complex judgments and decision making tasks (e.g., Ross & Fletcher, 1985; Taylor, 1989; Tversky & Kahneman, 1974). Thus, in Study 2, we examined whether person attributes associated with decreased cognitive and motivational bias (e.g., fluid intelligence, need for cognition, melancholy, introversion) relate to increased social psychological skill.

### Cognitive Bias

Person attributes associated with decreased cognitive bias can be largely differentiated into two distinct types. The first, which we refer to as cognitive ability, entails individuals' problem solving and decision making skills (e.g., fluid intelligence, cognitive reflection). Cognitive ability is associated with systematic thinking and inhibiting "quick to act" biases (Frederick, 2005; Toplak, West, & Stanovich, 2011). The second type, which we refer to as cognitive curiosity, entails individuals' willingness to play with ideas and engage in effortful cognition (e.g., openness to experience, need for cognition; Cacioppo & Petty, 1982; Smith & Levin, 1996). Cognitive curiosity has been found to relate to decreased bias, for example, in that individuals high in need for cognition – a person attribute that falls under cognitive curiosity – are less susceptible to bias inducing manipulations (e.g., framing effects; Smith & Levin, 1996). To summarize, cognitive ability and cognitive curiosity, which can be conceptualized as the "can" and "want" of systematic thinking and intelligence, relate to decreased cognitive bias, and in turn should predict increased social psychological skill.

### Motivational Bias

Do attributes related to decreased motivational bias (e.g., egocentric or self-protective bias) also predict social psychological skill? Motivational bias entails self-deception that

serves a positive self and worldview. Such self-deception can lead to inaccuracies in judgment and decision making tasks (e.g., Taylor, 1989). Further, failing to eschew "positive" self-deception may involve seeing social humanity (i.e., other people in general) through "rose-colored" glasses, that is, in a less realistic and accurate light.

We examined whether two constructs related to decreased motivational bias predict social psychological skill: melancholy and introversion. Melancholy has been associated with decreased motivational bias in the form of reduced positive illusions (Taylor, 1989), reduced self-enhancing attributional style (Bibring, 1953; Klein, Fencilmorse, & Seligman, 1976; Kuiper, 1978), reduced illusions of control (Alloy & Abramson, 1979), fewer mistakes in social thinking (Forgas, 1998, 2000), and decreased social projection (Mosch & Borkebau, 2016). Similarly, introversion relates to decreased motivational bias. Unlike extraversion, introversion entails an inward focus and reduced social motivation (McCrae & John, 1992), thus leading introverts to eschew biases that serve a self-promoting and social purpose. To summarize, melancholy and introversion, which relate to decreased motivational bias, are likely to predict increased social psychological skill.

We recognize, however, the alternative possibility that "positivity" and extraversion relate to social psychological skill. High levels of melancholy relate to helplessness (e.g., Seligman, 1975), potentially resulting in a lack of motivation to infer social psychological phenomena. Regarding extraversion, extraverts focus on the outside world rather than inward (McCrae & John, 1992). Such an external outlook may be necessary to understand how other people in general feel, think, and behave in different social contexts. Thus, while melancholy and introversion likely predict social psychological skill because these variables relate to decreased motivational bias, the alternative possibility is also theoretically possible.<sup>4</sup>

Study 2 aimed to replicate the findings of Study 1, and further to examine whether person attributes related to decreased cognitive and motivational bias – cognitive ability, cognitive curiosity, melancholy, and introversion – predict social psychological skill.

## Method

### Participants

We aimed to accurately identify correlations of at least weak-to-moderate strength ( $r = .20$ ) between social psychological skill and the hypothesized person attributes (e.g., introversion, fluid intelligence). A power analysis indicated that we would need approximately 255 participants for

<sup>4</sup> We use the terms cognitive ability, cognitive curiosity, melancholy, and introversion in the current article for the sake of text clarity and reader comprehension. We do not claim that these terms represent statistical, latent factors.

90% power at a .05 alpha level. We recruited 315 (145 female;  $M_{\text{age}} = 35.80$ ,  $SD = 10.39$ ) adults on MTurk. Sixty-five participants failed to complete Time 2.

### Design, Materials, and Procedure

The design, materials, and procedure were those of Study 1, except we also measured person attributes pertaining to cognitive ability (e.g., fluid intelligence, cognitive reflection), cognitive curiosity (e.g., openness to experience, need for cognition), melancholy (e.g., low life-satisfaction, low self-esteem), and introversion (e.g., loneliness, introversion). At Time 1, we assessed the following: The abbreviated Raven's Standard Progressive Matrices Test (a measure of fluid intelligence; Bilker et al, 2012; Raven, 2000), the modified Need for Cognition Scale (Cacioppo & Petty, 1982; Epstein, Pacini, Denes-Raj, & Heier, 1996), a short version of the Big Five Personality Trait Inventory (Rammstedt & John, 2007), and the Single-Item Self-Esteem Scale (Robins, Hendin, & Trzesniewski, 2001). At Time 2, we assessed the Cognitive Reflection Test (Frederick, 2005), the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), the Three-Item Loneliness Scale (Hughes, Waite, Hawkey, & Cacioppo, 2004), and Social Awareness, Social Skill, and Social Information Processing – sub-factors of the Tromso Social Intelligence Scale (Silvera, Martinussen, & Dahl, 2001). These measures were presented in random order before the social psychological skill measures. We assessed participants' psychological background before the social psychological skill measures (i.e., the opposite order than in Study 1).

## Results

### Social Psychological Skill

We calculated social psychological skill scores as in Study 1, Time 1:  $M = 13.09$ ,  $SD = 3.01$ ,  $\omega = .67$ ; Time 2:  $M = 12.88$ ,  $SD = 2.90$ ,  $\omega = .65$ ; averaged scores:  $M = 12.98$ ,  $SD = 2.62$ ,  $\omega = .79$ .

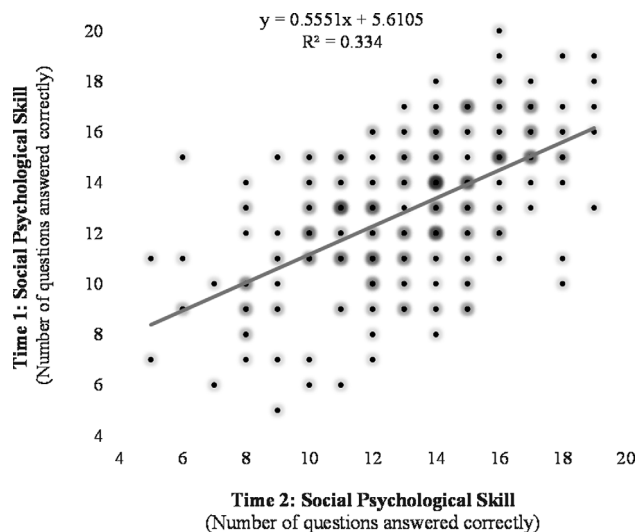
### Reliability

As in Study 1, a moderate to strong correlation was found between participants' performance on the social psychological skill measures at Time 1 and Time 2 (controlling for participants' having taken psychology classes),  $r(247) = .566$ ,  $p < .001$ . A scatter plot of participants' scores at Time 1 and Time 2 replicated the finding that lay individuals with consistent superior social psychological skill exist (Figure 2).

### Correlates of Social Psychological Skill

#### Psychological Background

Again, reading pop psychology did not relate to social psychological skill,  $r(248) = .018$ ,  $p = .777$ , while having taken



**Figure 2.** Study 2: Participants' scores on the psychological measures, Time 1 (y-axis) and Time 2 (x-axis). Each dot indicates that at least one participant scored accordingly at Time 1 and Time 2. The darker the circle, the larger the number of individuals who received those scores.

psychology classes did,  $r(248) = .190$ ,  $p = .003$ . We controlled for participants' having taken psychology classes in all analyses.

### Person Attributes

Numerous of the assessed person attributes predicted social psychological skill (see ESM 1, Table S1). Given the large number of assessed attributes, we reduced these variables to a set of composite variables. To achieve data reduction we conducted a Principle Axis Factor Analysis with promax as the rotation method (an oblique rotation allows for factors to correlate). This methodology is the most appropriate regarding data reduction (Russell, 2002; Widaman, 1993).

The factor analysis revealed three factors according to the standard Eigenvalue cutoff of 1. The Eigenvalues for the three factors were 1.25, 1.88, and 4.24, respectively. Person attributes related to cognitive ability (e.g., fluid intelligence) loaded onto the first factor and explained 9.64% of the variance. Person attributes related to cognitive curiosity (e.g., need for cognition) loaded onto the second factor (14.44%). Person attributes related to melancholy (e.g., low life-satisfaction) and introversion (e.g., loneliness) loaded onto the third factor (32.63%; for factor loadings see Table 1, numbers not in parentheses). Because person attributes related to melancholy and introversion loaded onto a single factor, we henceforth refer to these person attributes under the umbrella term: melancholic introversion. Finally, as recommended by Russell (2002), we calculated participants' cognitive ability, cognitive curiosity, and melancholic introversion scores by averaging the person

**Table 1.** Factor loadings (pattern matrix) based on a principle axis factor analysis for constructs measured in Studies 2 and 3

Item	Cognitive ability	Cognitive curiosity	Melancholic introversion
fluid intelligence	.691 (.709)		
Cognitive reflection	.560 (.569)		
Loneliness			.807 (.757)
Self-esteem			-.857 (-.774)
Extraversion			-.406 (-.589)
Agreeableness			-.484 (-.369)
Neuroticism			.687 (.689)
Life-satisfaction			-.844 (-.806)
Social awareness		.368 (.363)	
Social skill		.467 (.337)	-.414 (-.488)
Social information processing		.627 (.602)	
Need for cognition	(.327)	.453 (.568)	
Openness to experience		.642 (.620)	

Note. Loadings from Study 3 are in parenthesis. Only loadings greater than .3 are reported.

attributes (*z*-transformed) that loaded moderately to highly onto each of the observed factors, respectively (cutoff loading of .3).

We ran a two-stage hierarchical multiple regression to investigate whether cognitive ability, cognitive curiosity, and melancholic introversion predict social psychological skill. We entered participants' having taken psychology classes at stage one of the regression. Having taken psychology classes significantly predicted performance across the two social psychological skill measures,  $F(1, 248) = 9.31$ ,  $p = .003$ ,  $R^2_{\text{adjusted}} = .03$ . Adding the three identified factors to the model resulted in a significant  $R^2$  change,  $R^2 = .401$ ,  $F(3, 245) = 58.16$ ,  $p < .001$ . This final model explained a remarkable 42.8% of the variance of social psychological skill,  $R^2_{\text{adjusted}} = .428$ ,  $F(4, 245) = 47.55$ ,  $p < .001$ . Cognitive ability,  $\beta = .47$ ,  $p < .001$ , cognitive curiosity,  $\beta = .32$ ,  $p < .001$ , melancholic introversion,  $\beta = .36$ ,  $p < .001$ , and having taken psychology classes,  $\beta = .18$ ,  $p < .001$ , predicted social psychological skill. A general linear model with participants' performance on the social psychological skill measures (Time 1 vs. Time 2) as a repeated measure, and the three identified factors as continuous predictors, indicated that these findings did not differ depending on the specific social psychological skill measure,  $ps > .520$ .

### Demographics

Education level again predicted (albeit marginally) social psychological skill,  $r(248) = .123$ ,  $p = .052$ . This relationship did not remain significant when controlling for participants' having taken psychology classes,  $r(247) = .078$ ,  $p = .221$ . All other demographic variables did not predict social psychological skill.<sup>5</sup>

<sup>5</sup> Because these null findings remained consistent across the remaining presented studies, demographics will no longer be reported.

## Discussion

Study 2 replicated the findings of Study 1 that social psychological skill is reliable across 2 weeks and parallel-forms. In addition, we found cognitive ability, cognitive curiosity, and melancholic introversion to relate to social psychological skill. Specifically, problem solving and decision making skills (cognitive ability), a willingness to play with ideas and engage in effortful cognition (cognitive curiosity), and melancholy and introversion (melancholic introversion), all predicted accuracy at inferring social psychological phenomena. It seems that careful, reflective thinking (compared to more automatic, intuitive thinking), and melancholy and introversion (compared to "positivity" and extraversion) contribute to accurately predicting social psychological phenomena.

## Study 3: Replication of Study 2

Study 3 aimed to replicate the findings of Study 2. Unlike Study 2, however, all the person attribute measures and the social psychological skill measures in Study 3 were assessed in a single sitting.

## Method

### Participants and Design

A power analysis based on the weakest correlation observed in Study 2 (cognitive curiosity:  $r = .32$ ), indicated that we would need 163 participants to achieve 99% power at a

.05 alpha level. We recruited 182 (95 female) adults (MTurk; age:  $M = 35.85$ ,  $SD = 11.31$ ).

### Materials and Procedure

The materials and procedure were those of Study 2, except that all measures, presented in random order, were assessed in a single sitting. Further, participants in Study 3 completed the social psychological skill measures before completing the randomized person attribute measures (i.e., the opposite order of Study 2).

## Results

### Social Psychological Skill

Participants' social psychological skill scores were calculated as in Studies 1 and 2,  $M = 13.03$ ,  $SD = 2.80$ ,  $\omega = .81$ .

### Correlates of Social Psychological Skill

#### Psychology Training

A relationship between social psychological skill and reading pop psychology or having taken psychology classes was not found,  $ps > .365$ . Thus, we did not control for having taken psychology classes in our analyses, as we had done in Studies 1 and 2 (doing so did not change the results).

#### Person Attributes

As in Study 2, numerous person attributes related to social psychological skill (see ESM 1, Table S2). The same factor analysis as in Study 2 was used for data reduction. The results of this factor analysis were identical to those of Study 2, except that need for cognition also loaded onto the cognitive ability factor (Table 1, numbers in parentheses; Eigenvalues: 1.76, 1.33, and 4.19). Cognitive ability explained 13.52% of the variance, cognitive curiosity 10.26%, and melancholic introversion 32.20%. Participants' cognitive ability, cognitive curiosity, and melancholic introversion scores were calculated in the same manner as in Study 2.

Replicating the findings of Study 2, cognitive ability, cognitive curiosity, and melancholic introversion each predicted unique variance in participants' social psychological skill,  $R^2 = .29$ ,  $F(3,178) = 25.41$ ,  $p < .001$ , cognitive ability,  $\beta = .39$ ,  $p < .001$ ; cognitive curiosity,  $\beta = .31$ ,  $p < .001$ ; melancholic introversion,  $\beta = .26$ ,  $p = .001$ .

## Discussion

Study 3 replicated Study 2's findings that cognitive ability, cognitive curiosity, and melancholic introversion positively relate to social psychological skill. These relationships suggest that systematic and unbiased thinking – thinking

devoid of cognitive and motivational bias – predicts accuracy in judging social psychological phenomena.

## Study 4: Controlling for Participants' Skill at Taking Science Tests

Possibly our measure of social psychological skill simply measured participants' skill at taking science tests, instead of participants' accuracy at predicting social psychological phenomena. Further, the observed relationships between social psychological skill and cognitive ability, cognitive curiosity, and melancholic introversion may be driven by such science test-taking skill. To investigate these possibilities, Study 4 aimed to replicate Study 3 while controlling for participants' science test-taking skill.

## Method

### Participants and Design

A power analysis, based on the weakest correlation observed in Study 3 (melancholic introversion:  $r = .26$ ), indicated we would need 147 participants to achieve 90% power at a .05 alpha level. We recruited 161 (70 female) adults on MTurk ( $M_{age} = 35.19$ ,  $SD = 10.83$ ).

### Design, Materials, and Procedure

The design, materials, and procedure were identical to Study 3 except that Study 4 also included a measure of science test-taking skill. We included 12 questions from the science section of a college-admission standardized test, the ACT (originally known as the American College Test). All measures were presented in randomized order.

## Results

### Social Psychological Skill

Social psychological skill scores were calculated as in Studies 1–3,  $M = 12.45$ ,  $SD = 2.91$ ,  $\omega = .82$ .

### Correlates of Social Psychological Skill

We used the factor loadings of Study 2 to create the previously found composite variables: cognitive ability, cognitive curiosity, and melancholic introversion (similar results were found when using the factor loadings of Study 3). We found cognitive ability, cognitive curiosity, and melancholic introversion to predict social psychological skill even when controlling for participants' science test-taking skill,  $\alpha = .78$ ,  $R^2 = .51$ ,  $F(4, 156) = 41.99$ ,  $p < .001$ , cognitive ability,  $\beta = .40$ ,  $p < .001$ ; ACT scores,  $\beta = .32$ ,  $p < .001$ ; cognitive curiosity,  $\beta = .21$ ,  $p = .007$ ; melancholic introversion,



$\beta = .17, p = .023$ . The observed relationship between participants' ACT scores and social psychological skill (.32) indicates that our social psychological skill measure was not simply assessing participants' science test-taking skill.

## Discussion

Study 4 found that cognitive ability, cognitive curiosity, and melancholic introversion remained predictors of social psychological skill even when controlling for science test-taking skill. Further, social psychological skill and science test-taking skill exhibited discriminant validity.

## Study 5: Comparison to Intuitive Physics, and Self-Deception as a Mechanism

In Study 5 we examined whether social psychological skill also exhibits discriminant validity regarding other skills that can be thought of as “untaught.” Specifically, we examined whether social psychological skill relates to skill at intuitive physics – deducing the causes of non-agents' movements (Proffitt & Kaiser, 2003). Additionally, we examined a potential process variable underlying social psychological skill, self-deception – motivational bias in the form of self-enhancement (e.g., “I never lie”; Paulhus & Reid, 1991). Motivational bias is associated with increased positive illusions about oneself and the world (e.g., Alloy & Abramson, 1979; Taylor, 1989) and thus may lead to inaccurate social psychological judgments. Self-deception, specifically, may lead to such inaccuracies via inaccurate introspection. When attempting to predict social psychological phenomena individuals may look inward and contemplate how they would act in the social context or situation – self-deception would bias these judgments. Notably, if true, self-deception should predict decreased social psychological skill but be unrelated a different type of skill, such as intuitive physics.

## Method

### Participants and Design

The power analysis of Study 4 was used. We recruited 165 (99 female) adults on MTurk (age:  $M = 35.71, SD = 11.38$ ).

### Design, Materials, and Procedure

We assessed participants' social psychological skill, intuitive physics (Baron-Cohen, Wheelwright, Spong, Scahill, & Lawson, 2001), self-deception (Paulhus, 1988), and general

intelligence (Bilker et al., 2012). We first assessed self-deception and then the other measures in randomized order.

## Results

Different skills may overlap because they share variance regarding general intelligence. Therefore, we controlled for general intelligence in our analyses. A multiple linear regression with social psychological skill,  $M = 12.19, SD = 3.13, \omega = .84$ , as the outcome variable revealed the following relationships: Intuitive physics,  $\beta = .22, p = .011$ ; general intelligence,  $\beta = .22, p = .008$ ; self-deception,  $\beta = -.15, p = .034$ . Participants who were unfocused may have artificially increased the relationship between intuitive physics and social psychological skill, however. When excluding participants who failed attention check items (see ESM 1) intuitive physics no longer predicted social psychological skill,  $\beta = .16, p = .099$  (the other relationships remained significant). Finally, the relationship between intuitive physics and self-deception was not significant,  $\beta = -.10, p = .207$  (when excluding participants,  $\beta = -.09, p = .392$ ).

## Discussion

The weak relationship between participants' intuitive physics performance and social psychological skill indicates that social psychological skill is distinct from an alternative form of “untaught” skill. The observed negative relationship between self-deception and social psychological skill (and not intuitive physics) supports the possibility that motivational bias is a process variable underlying specifically social psychological skill, and tentatively suggests that introspection may be one method by which individuals' attempt to predict social psychological phenomena.

## Study 6: Social Psychological Skill Relates to Reduced Fundamental Attribution Error

People's knowledge is not always expressed in their judgments and behavior. For example, researchers Krueger and Clement (1994) found that providing participants with statistical consensus information does not actually influence their consensus judgments (due to social projection). Accordingly, we wondered whether grasping social psychological phenomena is expressed in individuals' social judgments. Specifically, in Study 6, we tested whether social psychological skill relates to an increased appreciation for

situational influences when judging the determinants of another individual's behavior (decreased fundamental attribution error [FAE]). Testing this relationship provides insight into how social psychological skill relates to one form of person perception judgments: judgments about the causes of another individual's actions.

We chose specifically the FAE as a measure of individuals' social judgment because according to the psychologist Lee Ross (1977), the FAE forms the foundation for the field of social psychology. In other words, Lee Ross considered a greater appreciation of situational influences on social behavior (i.e., reduced FAE) as the hallmark of a social psychologist. Therefore, according to our model, if social psychological skill actually impacts one's social judgment, then someone high in social psychological skill should exhibit lower levels of FAE.

## Method

### Participants and Design

We recruited 228 (132 female) adults on MTurk. We excluded 75 participants for failing one or more attention check items ( $M_{\text{age}} = 34.96$ ,  $SD = 11.17$ ). The design of Study 6 was a two choice (free vs. forced to choose) by two essay direction (pro- vs. anti-affirmative action) between-subjects design with social psychological skill as a continuous predictor variable. The FAE measure and our social psychological skill measure were presented in randomized order.

### Materials and Procedure

The utilized FAE measure was an adapted version (Tetlock, 1985) of the classic FAE measurement paradigm developed by Jones and Harris (1967). Participants were told that they would read an essay about affirmative action in college admissions.

#### Free Choice

Half of the participants were told that the essay writer had been free to choose whether to write a pro- or anti-affirmative action essay. Participants then read a pro- or an anti-affirmative action essay purportedly written by the essay writer.

#### Forced Choice

Half of the participants were told that the essay writer had been forced to write a pro- or an anti-affirmative action essay. Participants then read a pro- or an anti-affirmative action essay.

Participants' perception of the essay writer as pro- versus anti-affirmative action functioned as the outcome variable. All participants responded to four items asking about the essay writer's affirmative action beliefs (e.g., "They support affirmative action"), and three items about the writer's beliefs in other domains than college admissions (e.g.,

"They likely support affirmative action in professional promotion decisions"). Participants responded to these items on a 1 = *Strongly disagree* to 9 = *Strongly agree* scale. Finally, participants completed five attention check items. Participants reported whether the essay they had read was pro- or anti-affirmative action, and whether the essay writer had been forced to write a pro-affirmative action essay, an anti-affirmative action essay, or had been free to choose either position.

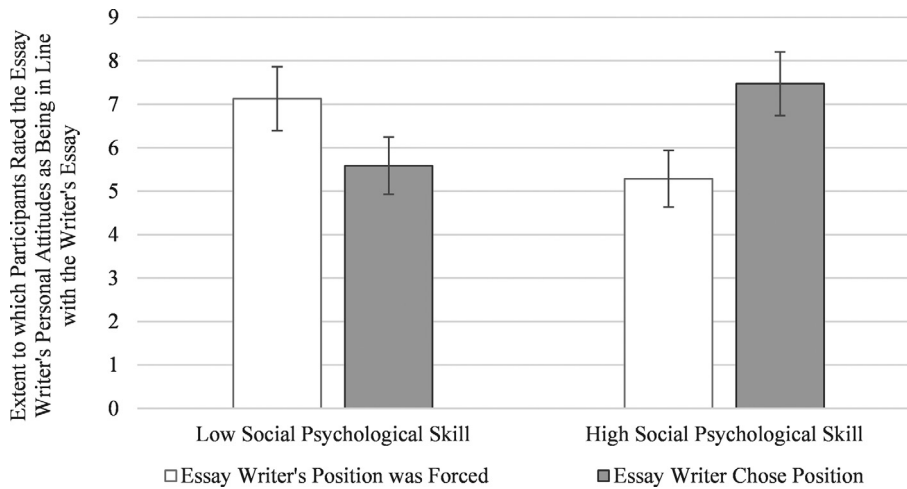
We predicted that people high in social psychological skill should be more likely to account for the situational causes of the essay writer's behavior (i.e., exhibit reduced FAE). That is, individuals high in social psychological skill should evaluate the essay writer who was forced to write the pro- (anti-) affirmative action essay as being *less* pro- (anti-) affirmative action than the essay writer who freely chose to write the pro- (anti-) affirmative action essay.

## Results

We conducted two multiple general linear models with choice (free to choose topic vs. forced to choose topic) and essay direction (pro- vs. anti-affirmative action) as between-subjects factors, and social psychological skill,  $M = 13.35$ ,  $SD = 2.36$ ,  $\omega = .78$ , as a continuous predictor. Participants' having taken psychology classes was also included in the model. We observed a significant three-way interaction between choice, essay direction, and social psychological skill predicting participants' judgments of the essay writer's affirmative action beliefs in general,  $F(1, 144) = 4.14$ ,  $p = .044$ ,  $d = .30$ , and in other domains than college admissions,  $F(1, 144) = 5.00$ ,  $p = .027$ ,  $d = .34$ . As predicted, participants high in social psychological skill (+2  $SD$ ) rated the essay writer who was forced to write a pro- (anti-) affirmative action essay as *less* pro- (anti-) affirmative action than the essay writer who chose to write a pro- (anti-) affirmative action essay,  $t(78) = 2.52$ ,  $p = .007$ , 95% CI [0.51, 4.41],  $d = 0.56$ . Participants low in social psychological skill (-2  $SD$ ), however, seemed to come to the exact opposite conclusion: They rated the essay writer who was forced to write a pro- (anti-) affirmative action essay as *more* pro- (anti-) affirmative action than the essay writer who chose to write a pro- (anti-) affirmative action essay,  $t(78) = -1.55$ ,  $p = .062$ , 95% CI [-3.50, 0.43],  $d = 0.35$  (Figure 3).

## Discussion

Study 6 found that individuals who accurately infer social psychological phenomena exhibit reduced FAE. These findings indicate that individuals who can intuit social



**Figure 3.** Study 6: The extent to which participants' judged the essay writer's affirmative action position to be in line with the position expressed in the writer's essay depending on the participant's level of social psychological skill (top figure) and whether the essay writer had a choice or not regarding essay content (bottom figure). Error bars:  $\pm 1$  SE. Low social psychological skill ( $-2$  SD; 8.63), high social psychological skill ( $+2$  SD; 18.07).

psychology phenomena apply these principles in their social judgments.

## General Discussion

In six studies, we assessed individuals' social psychological skill – accuracy at judging how people in general feel, think, and behave in social contexts and situations – by assessing participants' performance at predicting social psychological phenomena. We found that a subset of participants, despite not having any training in social psychology, can reliably predict social psychological phenomena (e.g., deindividuation, identity threat) more accurately than others.

In Studies 1 and 2 we found social psychological skill to be reliable across 2 weeks and parallel test-forms. In Studies 2, 3, and 4 we observed that person attributes associated with decreased cognitive and motivational bias predict heightened social psychological skill. Regarding decreased cognitive bias, we found that problem solving and decision making skills (i.e., cognitive ability), and a willingness to play with ideas and engage in effortful cognition (i.e., cognitive curiosity) were related to increased social psychological skill. Inferring social psychological phenomena seems to be a complex task that requires both the skill and the desire for careful, systematic thinking. Regarding reduced motivational bias, we found that increased melancholy and introversion (melancholic introversion), predicts heightened accuracy at predicting social psychological phenomena. Melancholic introversion may relate positively to social psychological skill because both melancholy and introversion are linked to decreased positive illusions about oneself and the world (e.g., Alloy & Abramson, 1979; Taylor, 1989). In line with this possibility, Study 5 found self-deception (a form of motivational bias) to relate

negatively to social psychological skill. Study 5 also observed that social psychological skill is distinct from skill at intuitive physics, and Study 4 found that social psychological skill is distinct from science test-taking skill. Further, the relationship between cognitive ability, cognitive curiosity, melancholic introversion, and social psychological skill remained even when controlling for science test-taking skill.

## Social Psychological Skill and Accuracy in Person Perception

We noted earlier that social psychological skill is distinct from person perception (i.e., judgments about other individuals) and from numerous types of judgments about the social world and “people in general” (e.g., social schemas, assumptions about human nature). The question remains, however. How does social psychological skill relate to such judgments? For example, does accuracy in identifying social psychological phenomena predict accuracy in individuals' person perception?

Providing some preliminary insights, Study 6 found that social psychological skill relates to a greater appreciation of how situational contexts influence the causes of another individual's behavior (i.e., reduced fundamental attribution error; FAE). Research has indicated, however, that unlike originally assumed, the FAE may not actually be a bias (e.g., Harvey, Town, & Yarkin, 1981). Decreased FAE is not necessarily indicative of accuracy in person perception. Thus, it would be incorrect to assume that social psychological skill relates to accuracy in person perception. Indeed, we found melancholy and introversion to predict heightened social psychological skill despite being commonly linked to difficulty in individual social interactions (e.g., Cacioppo & Patrick, 2008; McCrae & John, 1992) and

inaccuracies in personality judgments (e.g., Beer & Watson, 2008; Human & Biesanz, 2011; Letzring, 2008). On the other hand, however, increased cognitive complexity, which is associated with cognitive ability and cognitive curiosity (predictors of heightened social psychological skill), predicts increased accuracy in personality judgments (e.g., Christiansen, Wolcott-Burnam, Janovics, Burns, & Quirk, 2005). Future research should examine how social psychological skill relates to person perception and personality judgments.

## Theoretical Contribution: A Measure of Accuracy

Researchers have noted the difficulties of measuring individuals' accuracy at judging other individuals (e.g., person perception, Gilbert, 1998; personality judgment, Funder, 2012). Funder (2012), however, also noted the importance of conducting such research. Here we extend research on the accuracy of judging other individuals (e.g., personality judgments) to judgments about people in general, and further, to judgments about people's social psychological tendencies. Similarly, we extend research on individuals' perceptions about people in general and their social tendencies (e.g., assumptions about human nature, social schemas), by providing a measure of accuracy regarding individuals' judgments about people's social psychological functioning.

## Applied Contribution: Societal Benefits

While judging other individuals accurately may benefit navigating one-on-one social interactions, accurately inferring how human beings in general feel, think, and behave in varying social contexts and situations is relevant on a broader, societal level. Individuals who are more accurate than others at predicting social psychological phenomena may better understand the results of social phenomena in the real world, for example, the rise and fall of social hierarchies, why and when people give to charities, and why interpersonal goals and dreams often fail. Such insights (much like social psychological research) could help us better understand our social psychological functioning, perhaps leading to better decision making in society at large.

## Potential Underlying Processes of Social Psychological Skill

Which potential processes lead to social psychological skill? One major possibility, given the link between cognitive ability, cognitive curiosity, and melancholic introversion

and reduced cognitive and motivational bias (e.g., Alloy & Abramson, 1979; Frederick, 2005; Taylor, 1989; Tversky & Kahneman, 1974), is that reduced bias is one mechanism via which individuals can accurately infer social phenomena. In direct support of this possibility, in Study 5 we observed that increased self-deception – a motivational bias – relates to decreased social psychological skill.

We consider three further possibilities. First, individuals' experiences in the world may predict increased social psychological skill. Possibly, experiencing new situations – by heightening perspective taking (Gerace, Day, Casey, & Mohr, 2015) – can lead to an increased understanding of social psychological phenomena. In support of this possibility, cognitive curiosity was found to relate to social psychological skill: Components of cognitive curiosity – need for cognition and openness to experience – relate to exploration and effortful investigation of one's environment (Cacioppo & Petty, 1982; McCrae & John, 1992).

Second, introspection may be one mechanism underlying social psychological skill. Though researchers have pointed out that introspection is responsible for biased judgments and beliefs (overview by Pronin, 2009), it is certainly possible that some individuals more accurately introspect than others. Such accurate introspection could potentially, by accurately elucidating one's own feelings, thoughts, and actions, aid in the discovery of how other people in general feel, think, or act. The existence of such an “unbiased” form of introspection is supported by research on depressive realism – melancholy relates to a form of introspection devoid of protective or motivational bias (Taylor, 1989). Indeed, accurate introspection as a potential mediating process is in line with our finding that melancholic introversion predicts social psychological skill and that self-deception relates negatively to social psychological skill.

Third, melancholic introversion may predict social psychological skill for another reason. Sadness encourages people to act in order to reduce their negative mood (e.g., Schwarz & Bless, 1991; von Helversen, Wilke, Johnson, Schmid, & Klapp, 2011). Specifically, individuals aim to change their negative state via effortful and deliberate information processing. Such reflective thinking could lead people to acquire a more accurate understanding of the social psychological functioning of others.

## Limitations

Because the presented data are correlational, it is unclear whether the identified person attributes lead to increased social psychological skill or vice versa. However, given the stability of cognitive ability over time (e.g., Rönnlund, Sundström, & Nilsson, 2015), cognitive ability likely leads to increased social psychological skill. The causal

relationship, however, is less clear for the other identified correlates, cognitive curiosity and melancholic introversion.

We assessed social psychological skill using a measure that can be considered a “test-taking” measure (i.e., true or false and multiple choice items). Furthermore, our social psychological skill measure may have assessed general scientific skill or “intuitive” skill rather than specifically social psychological skill. However, we found our measure to neither strongly overlap with science test-taking skill (Study 4) nor intuitive physics skill (Study 5). Further, Study 6 found that increased social psychological skill relates to navigating the social world in a more “social psychological” manner (i.e., Study 6 demonstrated convergent validity). These results suggest that we specifically assessed individuals’ skill at predicting social psychological phenomena as intended.

As noted earlier, it is extremely difficult to develop measures of accuracy regarding individuals’ perceptions and judgments (Funder, 2012; Gilbert, 1998). Indeed, despite exhibiting discriminant, convergent, and face validity, our measure of social psychological skill has a number of limitations. Before discussing these limitations, however, we note that our measure does not fall prey to common issues that plague measures of accuracy in person perception and judgment (Funder, 2012; Gilbert, 1998). For example, our measure does not suffer from the drawbacks of using self-other agreement (or other-other agreement) as a criterion for accuracy (i.e., individuals’ agreement on what is “objectively” accurate). Instead, the criteria for accuracy in the current studies were social psychological phenomena that have been empirically supported.

One limitation of our measure is that it may not generalize across different cultures – some of the social psychological phenomena included may hold true solely for North Americans. However, although our measure of social psychological skill may be culture specific, the general phenomenon of social psychological skill is not necessarily culture specific. For example, social psychological skill could be assessed in a Chinese sample by including only social psychological phenomena that have been found to exist across cultures.

On a more general note, our measure – by definition – suffers from the issues that exist within the field of social psychology. For example, issues regarding the replication of psychological phenomena (Open Science Collaboration, 2015), may have lessened the reliability and validity of our measure. However, even if some of the social psychological phenomena included in our measure were not reliable, it is unlikely that the majority of these findings were unreliable. As a result of being selected from psychological textbooks, the phenomena included are commonly accepted in psychology and form the basis of numerous other psychological findings. Indeed, a literature review

confirmed that each of the included social psychological phenomena had been replicated at least once.

Finally we note two more minor limitations. First, all the studies presented here were conducted with North American MTurk participants – future research should examine the generalizability of our findings. Second, we wish to clarify that social psychological skill solely qualifies as a domain-specific skill (e.g., driving skill, tennis skill). That is, unlike a domain-general skill (e.g., critical thinking skill), social psychological skill does not span across domains.

## Conclusion

Insights into social psychological phenomena have been thought of as solely attainable through empirical research. Our findings, however, indicate that some lay individuals can reliably judge established social psychological phenomena without any experience in social psychology. These results raise the striking possibility that certain individuals can predict the accuracy of unexplored social psychological phenomena better than others. Society could potentially harness individuals’ accuracy at inferring social psychological phenomena for beneficial means. Mastering social psychological principles, for example, may help us anticipate mass panics, political movements, and societal and cultural changes.

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## Electronic Supplementary Materials

The electronic supplementary material is available with the online version of the article at <https://doi.org/10.1027/1864-9335/a000332>

## ESM 1. Tables and Texts (.pdf)

Correlations between constructs assessed in Studies 2 and 3. Social psychological skill measures for Time 1 and 2. Attention check and focus item.

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