Blissfully Blind or Painfully Aware? Exploring the Beliefs People With Interpersonal Problems Have About Their Reputation

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Abstract

Objective: Problematic interpersonal behavior might stem from and be maintained by the beliefs people have about how others see them (i.e., metaperceptions). The current study tested whether people with interpersonal problems formed more or less accurate metaperceptions about their personality (meta-accuracy), whether they thought others saw them in more or less positive ways (positivity), and whether they underestimated or overestimated how much others saw them as they saw themselves (transparency).

Method: Participants (NTime1 = 189; NTime2 = 175; Mage = 19.78; 36% male) completed a measure of interpersonal problems and provided personality judgments and metaperceptions for a group of peers after a first impression and after 4 months of acquaintance.

Results: Generalized distress was associated with less positive metaperceptions at both times and with higher meta-accuracy after 4 months. Dominance problems were not associated with meta-accuracy, positivity, or transparency after a first impression, but dominance was linked to lower meta-accuracy and lower positivity after 4 months. Affiliation problems were associated with higher meta-accuracy after a first impression and with higher positivity and transparency at both times.

Conclusions: Metaperceptions were linked to interpersonal problems, and these expectations might partially explain some maladaptive patterns of behavior.

Keywords: Interpersonal problems, personality, metaperception, self-concept, self-knowledge

The interpersonal domain is of fundamental importance (Bau- meister & Leary, 1995), which helps explain why people who suffer from interpersonal dysfunction experience problems in living. Interpersonal problems are typically one of the major concerns people report when seeking out psychological treatment (Horowitz, 1979) and are linked to a wide range of psychological problems such as anxiety, depression, and personality disorders, which are associated with severe, pervasive, and persistent problems in living (Alden & Phillips, 1990; Hopwood, Wright, Ansell, & Pincus, 2013).

Interpersonal problems are at the heart of many forms of psychopathology, but the processes that contribute to these problems are poorly understood (Horowitz, 2004). One potential mechanism driving difficulties in social functioning might be a poor understanding of the self in relation to others (Hopwood et al., 2013). Specifically, people with poor interpersonal functioning might have inaccurate or maladaptive beliefs about how other people perceive them. Metaperceptions, which are the beliefs people have about how others perceive them, powerfully influence behavior and are the gauge people use to successfully navigate their social worlds. As such, acting on inaccurate metaperceptions likely leads to conflict and hurt feelings (Cameron & Vorauer, 2008). For brevity, we use the term awareness to refer to the degree to which metaperceptions are accurate, that is, whether a metaperceiver (Meg) forms accurate beliefs about how a judge (Jon) perceives her personality. Indeed, poor awareness might partially explain why people with interpersonal problems behave in maladaptive ways, but the content of their metaperceptions might also partially explain their maladaptive patterns of behavior. The degree to which people expect to be seen in desirable ways, or the extent to which they feel valued, as well as the degree to which people think others see them as

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Interpersonal Problems

We adopt the interpersonal circumplex (IPC; Leary, 1957; Wiggins, 1982) as a structural framework for organizing individual differences in interpersonal problems. The IPC organizes interpersonal functioning (i.e., behavior, traits, motivation, cognition) as blends of the two primary orthogonal domains of agency (dominance vs. submissiveness) and communion (affiliation vs. disaffiliation; see Figure 1). Problematic functioning can be understood as excesses (i.e., behavior one does too much or has a hard time inhibiting) and inhibitions (i.e., behavior one finds difficult to do or has a hard time enacting) in dominance and affiliation (Alden, Wiggins, & Pincus, 1990). Impairments in dominance reflect impairments in identity and self-direction (interpersonal functioning; Pincus & Wright, 2011). Specifically, the dominance dimension represents the individual’s motivations, strivings, and behaviors to maintain agency, which are manifested in domineering and self-centered ways when problematic. The affiliation dimension represents the individual’s motivations, strivings, and behaviors to maintain connectedness, which is manifested in domineering and self-directed ways when problematic. Thus, individuals with domineering problems prioritize the self over the concerns of others (e.g., narcissism; Gurman, 1992), whereas individuals with affiliative problems prioritize concerns with others over the self (e.g., dependency; Pincus & Gurman, 1995).

Individual differences in problematic interpersonal functioning can be decomposed into variance related to generalized distress, which represents overall interpersonal problem severity, and variance specifically related to dominance and affiliation, which represent characteristic styles of problems. People with more generalized distress report diffuse difficulties in a wide variety of interpersonal problems and tend to describe themselves as higher in neuroticism (Hopwood, Koonce, & Morey, 2009; Wright et al., 2012). Thus, generalized distress is a unipolar scale of levels of a diffuse set of problems and distress.

Dominance problems reflect a bipolar scale of problems ranging from submissive to dominant behaviors. People with more submissive problems (i.e., low dominance) report difficulties with opening up to others, asserting themselves, and being taken advantage of, but people with more dominance problems report difficulties in taking another person’s perspective as well as being overly intrusive, manipulative, hostile, attention seeking, controlling, and vindictive (Gurman, 1992; Pincus & Wiggins, 1990; Wright et al., 2012).

Affiliation problems are also bipolar, representing a range from coldhearted to overly nurturant behaviors. People with affiliative problems (i.e., people with less affiliation) tend to report social avoidance, detachment, difficulty feeling close to others, and difficulty trusting others, but people with affiliative problems tend to report struggles with setting boundaries, being overly generous, excessively trying to please or accommodate others, and spending time alone (Wright et al., 2012).

The Roles of Awareness and Subjective Reality in Interpersonal Problems

We predict that metaperceptions are linked to interpersonal problems. The following sections outline specific, competing hypotheses about whether people with interpersonal problems form (in)accurate metaperceptions, whether they expect to be
seen in more positive or negative ways, and whether they tend to think others see them as they see themselves.

**The Accuracy of Metaperceptions: Blissfully Blind or Painfully Aware?**

People with interpersonal dysfunction have a distorted sense of social reality that often results in miscommunication, hurt feelings, and unmet needs (Hopwood et al., 2013; Sullivan, 1953). One explanation for this pattern is that people with interpersonal problems fail to appreciate how their personality affects other people. Thus, while the typical person is aware of how people perceive him or her on core personality traits (Carlson & Barranti, 2015; Carlson & Kenny, 2012; Kenny & DePaulo, 1993), people with more interpersonal problems might be less aware of how others see them, a possibility we call the Blissfully Blind Hypothesis. The core assumption of this hypothesis is that it is adaptive to know what others think about the self and that perceiving social reality in an accurate light is a sign of psychological adjustment (Colvin & Block, 1994). Indeed, people with more awareness tend to be liked more by acquaintances, friends, and partners (Carlson, 2016b), suggesting that awareness has an adaptive function. There is also some evidence that poor meta-accuracy is maladaptive. People with lower self-esteem are less aware of how they are seen by acquaintances (Campbell & Fehr, 1990) and that people with more personality disorder symptoms, defined as a combination of self-reports, informant reports, and semistructured interview scores, tend to be less aware of how they are seen by a close other than are people with fewer symptoms (Carlson & Oltmanns, 2015). In sum, the Blissfully Blind Hypothesis argues that awareness is adaptive and predicts that people with interpersonal problems (Meg) fail to appreciate how others (Jon) perceive them.

There are at least two ways in which people with interpersonal problems might be blind to the impressions they make. First, people with problems have an interpersonal style marked by extreme inhibitions and excesses, and as such, they are unique from the typical person and likely make distinctive impressions. For these individuals to know how others see them, they must have a keen understanding of how they differ from the typical person, a form of awareness called distinctive meta-accuracy (Carlson, 2016a). The Blissfully Blind Hypothesis predicts that people with interpersonal problems fail to appreciate the ways in which they make distinctive impressions (distinctive meta-accuracy) and the ways in which they are seen differently from how they see themselves (meta-insight). However, rather than being blissfully blind, people with problems might be acutely aware of how they are seen, a possibility we call the Painfully Aware Hypothesis. There is some evidence that awareness for the typical person is linked to negative self-reported outcomes, suggesting that accurate metaperceptions might come at a cost for the metaperceiver. For example, people with higher distinctive meta-accuracy for a new acquaintance reported less liking for that acquaintance (Carlson, 2016b), suggesting that Meg’s insight into what makes her distinctive in Jon’s eyes can be aversive. Likewise, people who reported higher self-esteem and fewer personality disorder symptoms had less meta-insight for peers (Mosch & Borkenau, 2016), suggesting that if Meg has lower self-esteem or more personality disorder symptoms, she likely has more meta-insight. Thus, the Painfully Aware Hypothesis posits that awareness is higher among people with interpersonal problems and suggests that their awareness about what makes them distinctive to others and their keen insight into how others experience them differently from how they see themselves might exacerbate their problems.

**The Valence of Metaperceptions: Expecting the Best or the Worst?**

Independent of accuracy, people’s subjective sense of social reality can play a critical role in how they relate to other people.
For example, people who expect to be seen in positive ways by another person tend to like that person more (Carlson, 2016b), suggesting that the valence of metaperceptions has interpersonal consequences. Thus, we explore whether positive or negative metaperceptions are linked to interpersonal problems.

On one hand, people with problems might think they are seen in especially positive ways, a pattern we call the Positivity Hypothesis. Individuals with problems might persist in maladaptive behavior because they think others enjoy their personality (i.e., their behavior is valued). For example, people with affiliation problems might persist in alienating others because they assume others enjoy their intrusive behavior. That is, their subjective sense of their reputation is positive and thus does not alert them to the fact that others might not enjoy their behavior.

On the other hand, people with problems might assume that others see them in especially negative ways, an expectation we call the Negativity Hypothesis. This negative subjective reality might lead people with problems to lash out or withdraw, behaviors that might eventually create the negative reality they perceive. There is some evidence that people who report higher psychological adjustment (e.g., higher self-esteem) tend to expect to be seen in desirable ways (Campbell & Fehr, 1990; Carlson, 2016a), whereas people who have more psychopathology symptoms (e.g., social anxiety) expect to be seen in negative ways (Christensen, Stein, & Means-Christensen, 2003). Thus, people with problems might also expect less positivity from others.

**The Role of Self-Perception: Feeling Transparent or Misunderstood?**

Another way in which subjective reality might be linked to interpersonal problems is the degree to which people think others see them as they see themselves. On one hand, individuals with interpersonal problems might be especially likely to assume others perceive them as they see themselves more so than others really do, a possibility we call the Transparency Hypothesis. Most people assume others see them as they see themselves more so than they really do (Kenny & DePaulo, 1993), but people with interpersonal problems might be especially unable to disentangle their self-views from their reputation. Indeed, one reason they might withdraw or lash out is because others do not respond to them in ways they expect. For example, if Meg falsely assumes her anxiety is transparent to Jon, she might resent Jon for not responding to or soothing her anxiety.

On the other hand, people with interpersonal problems might feel less understood than the typical person does and overestimate their transparency less, a pattern we call the Misunderstood Hypothesis. There is some evidence that people who report greater psychological adjustment tend to overestimate their transparency, suggesting that people who are less adjusted feel more misunderstood (Carlson, 2016a). Feeling less understood might explain some patterns of extreme behavior. For example, Meg might assume that Jon fails to appreciate how anxious she is, so she expresses her anxiety in excessive ways. Likewise, Meg might feel as though others fail to recognize her strengths, and as such, she might feel the need to brag.

**Research Overview**

In an ecologically valid study of interpersonal perception, we assessed self-perceptions, impressions, and metaperceptions for core personality traits among peers in the first 4 months of acquaintanceship. Assessments were conducted after a first impression and again nearly 4 months later, an approach that provides a snapshot view of interpersonal perceptions in the early phase of acquaintanceship. We explore whether effects change over time, but we do not make specific predictions about specific patterns of change. Interpersonal problems were assessed with the Inventory of Interpersonal Problems (IIP-C; Alden et al., 1990), which measures generalized distress, dominance, and affiliation problems. Evidence is mixed as to whether more or less awareness, positivity, or transparency is a sign of psychological adjustment, and as such, we test our competing hypotheses to determine which pattern best fits the data for generalized distress, dominance, and affiliation problems. However, we do not make specific predictions for each problem; thus, the analyses are exploratory.

**METHOD**

**Participants**

Participants (N<sub>Time1</sub> = 189; N<sub>Time2</sub> = 175; M<sub>age</sub> = 19.78 years, SD = .98 years; 36% male; 66.7% Caucasian, 23.7% Asian American, 4.8% African American, 1.1% Middle Eastern, 3.2% Hispanic, .5% other or did not indicate) were undergraduates in a personality course. Students took part in the current study as part of a larger set of class activities.

**Measures**

Metaperceptions (“How Person X sees you”) and impressions (“How you see Person X”) were provided twice on a 10-item measure of the Big Five (Ten-Item Personality Inventory; Gosling, Rentfrow, & Swann, 2003), and the items “arrogant,” “exaggerates abilities,” “intelligent,” and “funny” were assessed. Items were rated on a 1 (Strongly Disagree) to 5 (Strongly Agree) scale. Using the same scale, self-perceptions (“How you see yourself”) were provided during Time 1 for the same items.

Interpersonal problems were measured on the Inventory of Interpersonal Problems—Circumplex Scales (IIP-C; Alden et al., 1990). The IIP-C is a 64-item measure of interpersonal problems and associated distress. Items assess behaviors that an individual does in excess (i.e., “I do . . . too much”) or finds difficult to do (“It is hard for me to . . . ”). The IIP-C provides coverage for the full range of interpersonal content mapped by the IPC with...
8 eight-item scales (i.e., octant scales). Each octant scale is labeled based on the central theme of its interpersonal problems, with names provided in Figure 1. Internal consistency of the scales is adequate in the current sample (Mean $\bar{z} = .80$; range = .70 to .85). Scores from the octant scales can be combined to derive parameters that summarize an individual’s interpersonal personal problem profile. The primary dimensions of dominant ($M = -.013$, $SD = .668$; range = $-1.66$ to $1.97$) and affiliative ($M = .204$, $SD = .671$; range = $-1.68$ to $1.96$) problems were calculated from the octant scales using standard circumplex weighting procedures (Wiggins & Broughton, 1991). In addition, we included the average octant scale score in our analyses, which provides a measure of generalized distress (Tracey, Rounds, & Gurtman, 1996; $M = 1.940$, $SD = .636$; range = .31 to 3.55). In contrast, the dimensional scores for dominant and affiliative problems provide measures of problems in each domain, net of general severity. Importantly, each domain is bipolar, such that agentic problems range from being domineering and controlling to being overly submissive and obsequious, whereas communal problems range from being cold and withdrawn to overly nurturing and smothering. Generalized distress was not associated with dominance ($r = -.105$, $p = .143$) or affiliation ($r = .090$, $p = .209$), but dominance and affiliation were negatively associated ($r = -.191$, $p = .007$).

**Procedures**

As part of a class activity, students in a personality psychology course were assigned to unacquainted groups of 4–8 people ($N = 43$ groups; $M = 5.28$ per group) during the first week of class and met with the same group in class once a week for approximately 20 minutes each week until the end of the semester (14 weeks; approximately three and a half months). During the first meeting, participants played the ice-breaking game “Two Truths and a Lie,” where each person made three statements about himself or herself, two of which were true and one of which was a lie, and the other members guessed which statement was a lie. This game provides some structure for a first impression while also allowing for individual differences to emerge more readily than an interaction without structure (e.g., bragging, sharing personal information). After the game, participants provided metaperception ratings and impressions of each group member as well as self-perceptions. Each subsequent week, group members met to discuss class-related material and engage in various class activities. Midway into the course, participants completed the IIP, and at the end of the course, participants rated their classmates and provided metaperceptions for a second time.

**Analyses**

There are many ways to measure the accuracy and valence of metaperceptions (Carlson & Kenny, 2012), but the current article adopted the profile approach. This approach models the accuracy of metaperceptions as the profile correlation between an individual’s (Meg’s) metaperception across several traits and the actual impression he or she makes on those same traits. This indicates whether Meg knows how Jon perceives her characteristic patterns of traits (e.g., whether she realizes that he sees her as more outgoing than dependable or anxious). The valence of metaperceptions was indexed as the degree to which a metaperception profile was associated with a desirable profile (i.e., whether Meg thinks the impression she makes is similar to a desirable impression). Transparency was indexed as the degree to which a person’s (Meg’s) metaperception profile was associated with his or her self-perception profile, controlling for the actual impression he or she made (i.e., whether Meg assumes Jon shares her self-perception above and beyond how much he actually does share her self-perception).

All effects were modeled with the social accuracy model (SAM; Biesanz, 2010), which is a cross-random effects multilevel model that controls for the effects of dyads. Given the little variance attributed to groups, group was not included in the model. Analyses were performed in R (lme4 package; Bates & Sarkar, 2007).

To model meta-accuracy, or the profile agreement between metaperceptions and impressions, each 14-item impression profile was entered as a predictor of a given metaperception profile at Level 1, and both the metaperceiver and judge were modeled as random. This index measured awareness, but it did not reveal whether people were aware of the distinctive impressions they made or if they expected to be seen in positive ways. Raw profile agreement also conflates stereotype accuracy in ways that can lead to spurious conclusions about the link between accuracy and evaluative outcomes (e.g., well-being or liking; Wood & Furr, 2016). For example, Meg might know what Jon thinks of her, largely because her metaperception and his impression are similar to the average profile, which is highly socially desirable. Thus, her meta-accuracy will be strongly associated with fewer problems because people with fewer problems make and think they make typical (desirable) impressions rather than because of her keen insight. Thus, we report results for meta-accuracy in Table 1, but effects should be interpreted with caution.

Distinctive meta-accuracy and positivity were indexed by decomposing impressions into distinctive and normative components, as outlined by Biesanz (2010). Specifically, the normative impression profile, which was the average impression of the sample, was subtracted from each individual impression profile. This yielded a distinctive impression for each judge, or the way a judge (Jon) perceived a metaperceiver (Meg) as unique from the typical person. Distinctive impressions and the normative impression were entered as simultaneous predictors of metaperceptions, which yielded an index of distinctive accuracy (distinctive impression slope) and positivity (normative slope; Model 1). As expected, the normative profile was strongly associated with social desirability ratings provided by 12 research assistants (Time 1 normative $r = .989$; Time 2 $r = .991$, $p < .001$), suggesting that as found in past work (Wood & Furr, 2016), the normative profile is desirable. As such, we call the
| Table 1 Interpersonal Problems as a Moderator of Accuracy, Positivity, and Transparency |
|-----------------------------------------------|---------|-----------------------------------------------|---------|
| Slopes                                       | Basic Model | Generalized Distress | Dominance Problems | Affiliation Problems |
|                                              | Time 1 b | Time 2 b | Time 1 b | Time 2 b | Time 1 b | Time 2 b | Time 1 b | Time 2 b |
| Meta-accuracy                                | .416**  | .456**  | -.088** | -.085**  | -.012   | -.073**  | .075**   | .094**  |
|                                              | [.384, .447]  | [.419, .493]  | [-.138, -.038] | [-.139, -.031]  | [-.062, .038] | [-.124, -.021] | [0.026, .124] | [0.042, .146] |
| Model 1                                      |          |          |          |          |          |          |          |          |
| Distinctive meta-accuracy                    | .154**  | .190**  | .016    | .046*    | .028    | .028    | .040*    | .028    |
| Positivity                                   | .828**  | .861**  | -.240** | -.265**  | -.072   | -.198**  | .133*    | .228**   |
|                                              | [.762, .894]  | [.785, .937]  | [-.344, -.136] | [-.384, -.146]  | [-.179, .034] | [-.313, -.083] | [0.028, .237] | [0.112, .344] |
| Model 2                                      |          |          |          |          |          |          |          |          |
| Meta-insight                                 | .156**  | .179**  | .021    | .033†    | .006    | -.059**  | .015     | .029     |
| Transparency                                 | .445**  | .495**  | -.112** | -.103**  | -.006   | .041    | .055†    | .065*    |

Note. The 95% confidence intervals are shown. The dependent variable is the metaperception profile. Basic Model = slopes before IIP scores were entered as moderators; Meta-accuracy = impression slope; Model 1: Distinctive accuracy = distinctive impression slope, Positivity = normative slope; Model 2: Meta-insight = impression slope, Transparency = self-perception slope. Italic numbers indicate simple slope effects, or slopes one standard deviation below and one standard deviation above the relevant mean IIP score.

**p < .01. *p < .05. †p < .10.
normative slope positivity. However, to demonstrate that the normative profile yielded the same effects as the social desirability ratings, models were rerun with the social desirability profile in place of the normative profile.

Meta-insight and transparency were indexed by entering impression and self-perception profiles as simultaneous predictors of metaperception profiles (Model 2). This yielded an index of meta-insight (impression slope) and transparency (self-perception slope). Thus, Model 2 indexed the degree to which people were able to detect how their partner perceived their characteristic pattern of traits above and beyond how they saw their own pattern of traits (meta-insight) and the degree to which people assumed they were seen as they saw themselves, above and beyond how they were actually seen (transparency).

We tested our competing hypotheses by entering grand-mean-centered IIP scores (generalized distress, dominance, or affiliation) as a Level 2 predictor of slopes. IIP scores are cross-level moderators in this model, but they can be interpreted as correlations with a profile correlation (e.g., the link between problems and distinctive meta-accuracy slopes). Notably, the interpretation of generalized distress is different from that of dominance and affiliation. Generalized distress is a unipolar scale, and as such, a positive link between generalized distress and, for example, distinctive meta-accuracy supports the Blissfully Blind Hypothesis, whereas a negative link supports the Painfully Aware Hypothesis. However, dominance and affiliation scales are bipolar, and as such, significant effects for these problems suggest support for either hypothesis, depending on direction of the problem. For example, if affiliation is positively linked to awareness, people who are excessively warm know how others experience them (Painfully Aware) and people who are excessively cold have less insight into how they are seen (Blissfully Blind). The same interpretation applies to tests of subjective reality, specifically, whether problems are associated with the valance of metaperceptions (Positivity and Negativity Hypotheses) or to transparency (Transparency or Misunderstood Hypotheses).

To aid in interpretation, simple slopes are reported for one standard deviation above (high b) and below (low b) the mean-level IIP scores. These slopes reveal the magnitude of the relevant slope (i.e., profile correlation) when people were high or low on the given IIP score. For example, when modeling distress, a high b reflects the profile correlation for people one standard deviation above the mean of distress, whereas a low b reflects the profile correlation for people one standard deviation below. To aid in interpretation of effects across the two time points, we also explored whether effects changed over time by testing whether time (Time 1 = 0, Time 2 = 1) moderated the link between IIP scores and slopes (e.g., meta-accuracy). While these effects test whether effects changed, a more powerful test of longitudinal effects would include more than two time points.

This study was adequately powered to detect significant profile correlations, which are generally strong effects (e.g., distinctive self-other agreement $d = .64$; Human & Biesanz, 2011). For example, a 14-item profile for $N = 40$ yields power of over .90 for a large effect (Scherbaum & Ferreter, 2009). The sample size is also consistent with past work testing cross-level moderators of profile agreement (e.g., Human & Biesanz, 2011, $N = 107$; Lorenzo, Biesanz, & Human, 2010, $N = 73$).

**RESULTS**

As shown in Table 1, people were aware of how their peers perceived their characteristic pattern of traits (meta-accuracy). While they were able to detect how they were seen as distinct from the typical person (distinctive meta-accuracy), people also tended to think they were seen in positive ways (positivity). Finally, people were able to detect how they were seen differently from how they saw themselves (meta-insight), but they also tended to overestimate how much they were seen as they saw themselves (transparency). This pattern suggests the typical person was aware of the impressions he or she made but, at the same time, felt valued and understood.

**Generalized Distress**

Was distress linked to distinctive meta-accuracy or positivity? As shown in Table 1, in support of the Painfully Aware Hypothesis, relative to people with less, people with more distress tended to be more aware of what made them distinctive in the eyes of their peers after 4 months (Time 2 $b = .046, p = .035, d = .424$). This effect was not significant after a first impression (Time 1 $b = .016, p = .448, d = .133$), but the change was not significant ($b = .017, SE = .017, p = .309, d = .121$). In support of the Negativity Hypothesis, relative to people with less, people with more distress tended to think they were seen in less positive ways after a first impression and 4 months (Time 1 $b = -.240, p < .001, d = -.627$; Time 2 $b = -.265, p < .001, d = -.663$), an effect that did not change ($b = -.027, SE = .022, p = .237, d = -.059$). Thus, Model 1 revealed that relative to people with less, people with more distress were more aware of what made them distinctive but also expected to be seen in less positive ways. Results showed the same pattern when the normative profile was replaced with social desirability ratings—distinctive meta-accuracy: Time 1 $b = .017 [-.022, .056], p = .396$; Time 2 $b = .042 [-.001, .084], p = .055$; desirability: Time 1 $b = -.295 [-.415, -.175], p < .001$; Time 2 $b = -.293 [-.428, -.159], p < .001$.

Was distress linked to meta-insight or transparency? Generalized distress was not significantly associated with meta-insight, although a marginal effect at Time 2 suggested the same Painfully Aware pattern observed for distinctive meta-accuracy (Time 1 $b = .021, p = .224, d = .202$; Time 2 $b = .033, p = .074, d = .341$; $\Delta b = .008, SE = .013, p = .543, d = .073$). In support of the Misunderstood Hypothesis, Model 2 revealed that relative to people with less, people with more distress tended to assume others saw them as they saw themselves less after a first impression (Time 1 $b = -.112, p < .001, d = -.563$) and after 4 months (Time 2 $b = -.103, p < .001, d = -.563$).
was .001, \(d = -.526\), an effect that weakened slightly over time (\(\Delta b = .031, SE = .012, p = .010, d = .132\)).

**Dominance Problems**

Was dominance linked to distinctive meta-accuracy or positivity? As shown in Table 1, relative to people with fewer dominance problems, people with more dominance problems were not more or less aware of the distinctive impressions they made (Time 1 \(b = .028, p = .154, d = .244\); Time 2 \(b = .028, p = .178, d = .271\); \(\Delta b = -.021, SE = .016, p = .196, d = -.150\)). Relative to people with fewer dominance problems, people with more dominance problems did not necessarily think they were seen in more or less positive ways after a first impression (Time 1 \(b = -.072, p = .182, d = -.197\)), but in support of the Negativity Hypothesis, they did tend to think they were seen in less positive ways after 4 months (Time 2 \(b = -.198, p < .001, d = -.520\), a change that was significant (\(b = -.109, SE = .022, p < .001, d = -.240\)). This pattern also suggests that people with more submissive problems tended to think they were seen in more positive ways after 4 months of acquaintance. Notably, results showed the same pattern when the normative profile was replaced with social desirability ratings, although first impression accuracy was not significant (distinctive meta-accuracy: Time 1 \(b = .026, p = .186\); Time 2 \(b = .014, p = .504\); desirability: Time 1 \(b = .169, p = .006\); Time 2 \(b = .272, p < .001\)).

Was affiliation linked to meta-insight or transparency? Relative to people with fewer affiliation problems, people with more affiliation problems tended to be more accurate about the distinctive first impression they made (Time 1 \(b = .040, p = .044, d = .351\), but not the distinctive impression they made after 4 months (Time 2 \(b = .028, p = .200, d = .272\), although the change was not significant (\(b = -.019, SE = .017, p = .255, d = -.136\)). Relative to people with fewer affiliation problems, people with more affiliation problems tended to think they were seen in more positive ways after a first impression (Time 1 \(b = .133, p = .012, d = .367\) and after 4 months (Time 2 \(b = .228, p < .001, d = .601\), an effect that strengthened over time (\(\Delta b = .083, SE = .022, p < .001, d = -.183\)). These effects also suggest that people who were especially disaffiliative tended to be less accurate about the distinctive first impression they made and tended to expect less positive evaluations. Notably, results showed the same pattern when the normative profile was replaced with social desirability ratings, although first impression accuracy was not significant (distinctive meta-accuracy: Time 1 \(b = .026, p = .186\); Time 2 \(b = .014, p = .504\); desirability: Time 1 \(b = .169, p = .006\); Time 2 \(b = .272, p < .001\)).

**Affiliation Problems**

Was affiliation linked to distinctive meta-accuracy or positivity? Table 1 revealed that relative to people with fewer affiliation problems, people with more affiliation problems tended to be more aware of the distinctive first impression they made (Time 1 \(b = .040, p = .044, d = .351\), but not the distinctive impression they made after 4 months (Time 2 \(b = .028, p = .200, d = .272\), although the change was not significant (\(b = -.019, SE = .017, p = .255, d = -.136\)). Relative to people with fewer affiliation problems, people with more affiliation problems tended to think they were seen in more positive ways after a first impression (Time 1 \(b = .133, p = .012, d = .367\) and after 4 months (Time 2 \(b = .228, p < .001, d = .601\), an effect that strengthened over time (\(\Delta b = .083, SE = .022, p < .001, d = -.183\)). These effects also suggest that people who were especially disaffiliative tended to be less accurate about the distinctive first impression they made and tended to expect less positive evaluations. Notably, results showed the same pattern when the normative profile was replaced with social desirability ratings, although first impression accuracy was not significant (distinctive meta-accuracy: Time 1 \(b = .026, p = .186\); Time 2 \(b = .014, p = .504\); desirability: Time 1 \(b = .169, p = .006\); Time 2 \(b = .272, p < .001\)).

**DISCUSSION**

The current research tested whether people with more interpersonal problems formed more or less accurate metaperceptions of their peers and explored whether these individuals expected to be seen in more or less positive or self-verifying ways. The pattern of findings differed across problems, suggesting that the underlying mechanisms driving different forms of interpersonal problems likely differ. With respect to generalized distress, people who reported more diffuse problems tended to be more aware of how they were distinctive in their peers’ eyes after 4 months of acquaintance, and a marginal effect suggested they had some insight into how their peers experienced them differently from how they experienced themselves. Thus, rather than being blind to their effect on others, people with distress were acutely aware once they were acquainted. Evidence for the Painfully Aware Hypothesis is in line with a recent finding by Mosch and Borkenau (2016), who showed that people with higher self-esteem were less aware of how they were seen by others who were more submissive problems tended to assume others saw them as they saw themselves more or less than the typical person (Time 1 \(b = -.006, p = .821, d = -.032\); Time 2 \(b = .041, p = .173, d = .220\), although there was a slight increase in transparency over time (\(\Delta b = .034, SE = .012, p = .004, d = .145\)). In sum, Model 2 revealed that relative to people with fewer dominance problems, people with more dominance problems were less aware of how others experienced them differently from how they experienced themselves, but they did not necessarily overestimate or underestimate their transparency.
peers. They argued that such a pattern suggests positive affect interferes with analytic processing, a skill that might be necessary for detecting the impressions one makes. Given that people who report more distress also report greater neuroticism (Hopwood et al., 2009), our finding provides some support for the idea that negative affectivity sharpens social acuity. With respect to subjective reality, people with more distress expected to be seen in less positive ways and tended to think others saw them as they saw themselves less at both time points, suggesting these individuals felt less valued and understood. On one hand, their reported concern with a wide variety of interpersonal behaviors might arise from their general assumption that others see the worst in them and misunderstand them. On the other hand, approaching interactions feeling as though others do not value or understand the self probably sets the stage for a variety of negative self-fulfilling prophecies. Indeed, expecting less positive or self-verifying evaluations likely prompts these individuals to approach others defensively, with hostility or with avoidance.

For people with more dominance problems, interpersonal deficits emerged once peers were acquainted. After 4 months, these individuals were less able to understand how others perceived them differently from how they saw themselves (meta-insight) and tended to assume they were seen in less positive ways. One explanation for this pattern comes from work on narcissism, a trait linked to dominance problems (Matano & Locke, 1995). People with more narcissistic tendencies tend to enjoy a good reputation in the early phase of acquaintanceship, but over time, people tend to see these individuals in a negative light (Carlson & DesJardins, 2015; Carlson, Vazire, & Oltmanns, 2011; Paulhus, 1998). While people higher in narcissism seem to know their reputation sours, they do not necessarily understand how their reputation changes (Carlson, Vazire, & Oltmanns, 2011). Thus, people with more dominance problems might realize that they are seen in less positive ways over time but cannot identify the characteristic pattern of impressions that change. These individuals might not be particularly bothered by lower positivity either if they attribute this negativity to others failing to recognize their strengths or to others’ jealousy. Notably, results also mean that people with more submissive problems were aware of how they were seen after 4 months and that people who were more obnoxious thought they were seen in more positive ways once they got to know their peers.

People with more affiliation problems seemed to be especially aware of the first impressions they made and tended to have a positive subjective reality. After a first impression, these individuals were more able to detect what made them distinctive in their peers’ eyes (i.e., distinctive accuracy), perhaps because they were especially motivated to befriend others. Interestingly, people who are good judges of personality tend to engage in agreeable behavior that elicits authentic behavior from targets (Letzring, 2008). Similarly, people who are high in affiliation might engage in similar behavior that elicits more feedback from others. People higher in affiliation problems also tended to expect to be viewed in more positive ways and tended to assume others saw them as they saw themselves more at both time points. This desirable, subjective sense of being valued and understood might explain how they can be exceptionally generous but also might explain why they are overly intrusive (i.e., they likely feel closer to others than they really are). Notably, these effects also suggest that people who were exceptionally cold were less accurate early on and assumed others saw the worst in them. Indeed, cold individuals might act on inaccurate metaperceptions in ways that alienate others, and their negative expectations of others’ impressions of them might lead them to withdraw or lash out.

In sum, results suggest a nuanced link between interpersonal problems and accurate metaperceptions. An intuitive hypothesis is that poor awareness partially explains poor interpersonal functioning and lower-quality relationships (Markey, Markey, Nave, & August, 2014). Yet, results from the current study suggested that cold (disaffiliative) and dominant problems were associated with less accurate metaperceptions, whereas distress and affiliative problems were linked to more accurate metaperceptions. This pattern might reflect the underlying motivations to connect with others, such that people who are more detached or self-focused (cold or dominant) are less attentive to how they affect others, whereas people who are overly concerned with others (affiliation) or who are more neurotic (distress) might be especially attuned to social cues or to their own behavior. Results also suggested that subjective reality is an important component of interpersonal problems. People who reported more distress, dominance problems, and disaffiliative problems tended to expect less positive evaluations, an expectation that likely has negative, cascading effects on their relationships. Likewise, people who reported more distress and disaffiliative problems tended to think others saw them as they saw themselves less. Arguably, this sense of feeling less understood can also have negative, cascading effects on relationships.

LIMITATIONS AND FUTURE DIRECTIONS

There are important limitations to our design that will hopefully be addressed with future research. First, interpersonal problems were assessed via self-report, and given that people do not always agree about their problems (Clifton, Oltmanns, & Turkheimer, 2004), other ratings of interpersonal problems might show a different pattern. Indeed, one explanation for the mixed effects of awareness is that problems were self-reported. Most evidence suggesting that meta-accuracy is adaptive comes from work assessing judges’ reports of outcomes (e.g., Jon’s relationship quality with Meg, Jon’s perceptions of Meg’s adjustment), but metaperceiver-reported outcomes often show no link or are negatively associated with accuracy (Carlson, 2016a, 2016b; Mosch & Borkenau, 2016). That is, Meg’s meta-accuracy is either unrelated to her self-esteem and how she feels about Jon or predicts her liking Jon or herself less. Thus, future studies that
examine the moderating role of both self- and other-reported interpersonal problems will provide a more comprehensive picture of if and when meta-accuracy is adaptive. That said, there are blind spots in both self- and peer reports of psychopathology (Carlson, Vazire, & Oltmanns, 2013), and the degree to which self- or peer reports of interpersonal problems are more accurate is an empirical question. Also, the IIP was initially developed as a self-report tool to allow therapists to gauge a client’s presenting problems and to monitor change over time. As such, it is reassuring that people who say they have problems actually do tend to expect the worst and, at times, misunderstand how others see their characteristic patterns of traits (e.g., dominance, disaffiliative problems).

Our design did not allow us to identify exactly how or why people with interpersonal problems formed more or less accurate, positive, or self-verifying metaperceptions. These individuals might be too used to their extreme patterns of behavior to detect how they are unique from others (Leising, Rehbein, & Sporborg, 2006), or they might value their behavior and thus are not motivated to change their interpersonal style (Carlson, 2013). One key avenue for future research will be to measure behavior in social interactions and use a cue utilization approach (Brunswik, 1952) to identify cues people with problems use versus the ones that are actually informative. This would be an important line of work that would shed light on the underlying processes of interpersonal deficits and reveal potential intervention strategies designed to improve social acuity.

The current research assessed interpersonal perceptions among classmates, but results might be different when perceptions are assessed in different contexts (e.g., cooperative, competitive), for different types of relationships (e.g., romantic partners, close friends, family members), or for other dimensions of personality (e.g., emotions). For example, people with interpersonal problems might misunderstand how others experience their emotions (e.g., anger) and overreact when others do not respond to their experiences because they assume their emotions are more transparent than they really are. Thus, understanding the generalizability of these effects will be an important step in identifying whether there are some contexts or traits for which people with problems form especially inaccurate or negative views of social reality.

In sum, the current study provided a glimpse into the interpersonal world of people with interpersonal problems. Results painted a fairly dark picture, suggesting these individuals often expected to be seen in less positive ways and tended to think others saw them as they saw themselves less. Seeing one’s social world from this perspective might partially explain why these individuals struggle with interpersonal relationships. At the same time, the accuracy of metaperceptions seemed to depend on the nature of the problems. People with more distress and with a stronger desire to connect with others formed metaperceptions that were tethered to reality, suggesting that these individuals were more aware of their effect on others, whereas people who were colder or more self-focused seemed to be more blind to how others experienced them.

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Notes
1. Please see the supplemental materials for syntax and results when group was controlled for.
2. As shown in Table 1, people with more distress tended to have lower meta-accuracy after a first impression (Time 1 $b = -0.088, p < .001$, $d = -0.552$) and 4 months (Time 2 $b = -0.085, p = .002, d = -0.552$). The strength of this effect did not change ($b = -0.002, SE = .016, p = .875, d = -.011$). Relative to people with fewer dominance problems, people with more dominance problems tended to be less aware of how their peers perceived their characteristic pattern of traits after 4 months of acquaintance ($b = .006, d = -.497$) but not necessarily after a first impression (Time 1 $b = -.012, p = .643, d = -.079$). This change was significant ($b = -.060, SE = .015, p < .001, d = -.339$). Relative to people with more affiliation problems, people with more affiliation problems tended to be more aware of how their peers perceived their characteristic pattern of traits after a first impression (Time 1 $b = .075, p = .003, d = .500$) and after 4 months (Time 2 $b = .094, p < .001, d = .644$), a pattern that was stable ($\Delta b = .013, SE = .016, p = .428, d = .073$).
3. Please see the supplemental materials for a more conservative model that includes distinctive impressions, the normative profile, and distinctive self-perceptions as simultaneous predictors of metaperceptions (Model 3). This model yields an index of distinctive meta-insight (i.e., whether people know how they are seen as distinct from the typical person and from their distinctive self-perception), positivity, and distinctive transparency (i.e., the degree to which people think they are seen as they see their own distinctive attributes). We modeled distinctive meta-accuracy and meta-insight in different models to explore their independent effects rather than in one extremely conservative index (distinctive meta-insight).

References


Gallrein, M. B., Carlson, E. N., Holstein, M., & Leising, D. (2013). You spy with your little eye: People are “blind” to some of the ways in which they are consensually seen by others. *Journal of Research in Personality, 47*, 464–471.


