



Interpersonal perception and personality disorders: Utilization of a thin slice approach [☆]

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Abstract

Study 1 expands upon previous research by looking at the ability of untrained raters to detect pathological traits within a normal population of college students. In Study 1, 30-s video clips of 81 target persons were shown to 42 raters. Ratings of traits of personality disorders made by thin slice raters reliably predicted scores on the personality pathology measures obtained from the targets themselves and from close peers. Study 2 is a preliminary examination of how pathological rater traits impacts thin slice accuracy. In Study 2, peer and self-report data were examined regarding 87 thin slice raters. Raters who exhibited traits of narcissistic personality disorder were significantly less accurate in making personality predictions regarding targets. Three clusters of personality items were identified based on rater characteristics related to accuracy in predicting behavior.

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1. Introduction

Interpersonal difficulties are a hallmark of personality disorders (American Psychiatric Association, 2000); one of the most common forms of psychopathology afflicting between 10 and 15% of the adult population (Mattia & Zimmerman, 2001). Many of these interpersonal difficulties may have their roots in first impressions that are made quickly, often without intention or awareness. Research on thin slices of expressive behavior has demonstrated that fairly accurate judgments about strangers can be made on the basis of minimal information (Ambady & Rosenthal, 1992; Ambady, Bernieri, & Richeson, 2000). Once formed, these impressions can have a lasting impact on subsequent judgments about others (Sunnafrank & Ramirez, 2004). With regards to personality disorders, first impressions are of interest in two domains: the person being judged and the individual making judgments. People who are viewed negatively by others at the outset of a relationship may have difficulty overcoming the impact of this impression in future interactions. Additionally, people who form less accurate first impressions of others may also encounter problems in developing relationships.

Initial studies of the relation between first impressions and personality pathology have focused on broad personality features of the person being judged. Untrained undergraduate raters were able to make reliable personality judgments of military recruits based on a 30-s excerpt of a videotaped interview (Oltmanns, Friedman, Turkheimer, & Fiedler, 2004). First impressions, recorded in terms of the five-factor model of personality, were systematically related to evidence of personality pathology in the target persons. Raters found individuals with personality features related to schizoid and avoidant personality disorders to be low in extraversion, agreeableness, and openness. They also rated them as being less attractive. In contrast, they found individuals with features of histrionic personality disorder to be high on the same three personality traits and also more attractive. These patterns were found regardless of whether the target person's pathological personality characteristics were originally assessed using a semi-structured diagnostic interview or using peer nominations. Our second study (in a different sample of target recruits) examined the basis for these impressions by decomposing the signal that was presented to raters. We found that impressions of individuals with pathological traits were based on information that is present in several informational channels; similar effects were found when thin slice raters were presented with sound alone, picture alone or a written transcript (Friedman, Oltmanns, Gleason, & Turkheimer, 2006).

In the studies outlined above, thin slice judges were asked to rate target persons on broad personality dimensions. They were not asked to make judgments about the presence of specific pathological personality features, such as grandiosity or paranoia. Extensive evidence supports the utility of the five-factor model in the conceptualization of personality disorders (Costa & Widiger, 2002; Lynam & Widiger, 2001) and our findings were consistent with these predictions. We originally chose the five-factor model as a descriptive format for our thin slice raters because it employs terms that do not require knowledge of psychiatric jargon and are intuitively obvious to untrained student raters. In fact, it lends itself well to this purpose. The five-factor model has been described as a "psychology of the stranger" (McAdams, 1992) because it provides a broad summary of the kinds of things one would want to know about another person if no other information were available. Our results suggested that, at this broad level, thin slice judges do form modestly accurate impressions of people who exhibit pathological personality features. In the present study,

we wanted to move beyond this phenomenon to determine if thin slice raters are also able to perceive the presence of specific pathological traits.

Our previous studies also employed two different populations as raters (college students) and targets (military recruits). Some research has found improved accuracy in interpersonal judgments when raters and targets are matched on demographic attributes such as age, education level, and socio-economic status (Wright & Drinkwater, 1997). The recruits and the undergraduate students were similar in age, but many also differed on factors such as education level and socio-economic status of their families of origin. In the present study, this concern was addressed by collecting (on videotape) brief samples of behavior in which undergraduate students described themselves specifically for the purpose of thin slice ratings (as opposed to using the first 30s of an interview that was collected for diagnostic purposes). These thin slices of expressive behavior were then rated by student judges who did not know the target persons but were part of the same university community.

There are two sides to the first impression phenomenon. One involves the person who is being perceived, and the other involves the person who is making the perception. The ability to detect pathological personality traits in another person during a brief initial encounter is almost certainly adaptive. Some investigators have shown that people who are skilled at interpersonal perception are viewed positively by their peers (Costanzo & Archer, 1989). Conversely, aggressive children have been shown to have poor interpersonal perception beginning at an early age, and these deficits can lead to inappropriate, hostile reactions in ambiguous situations (Dodge, 1980). Since individuals with personality disorders have difficulties in interpersonal relationships, a logical extension of this argument would be that these individuals may have impairments in the ability to accurately perceive and respond to others appropriately.

While limited research on the thin slice rating accuracy of individuals with pathological personality traits has been conducted, some research has been conducted to determine the influence that personality factors have upon differential accuracy among thin slice raters. The presence of pathological traits has a negative impact on interpersonal perception. People with borderline personality disorder and Cluster C personality disorders (dependent, avoidant, obsessive–compulsive personality disorders) have been found to be less accurate than people without personality disorders in rating individuals in film clips (Arntz & Veen, 2001). Social anxiety and shyness, highly related to avoidant personality disorder, have been found to impair the decoding of non-verbal information from strangers (Schroeder, 1995). Women with Cluster B personality disorder traits (histrionic, narcissistic, borderline or antisocial) and men with Cluster A personality disorder traits (schizoid, schizotypal or paranoid) rate interaction partners more harshly than do raters without these traits after a 25-min interaction (King & Pate, 2003).

Research has shown that inducing negative emotions leads to reduced accuracy and efficiency in making thin slice ratings (Ambady & Gray, 2002.) People with low self-esteem have been shown to be impaired in decoding the negative non-verbal behavior of interaction partners and instead focus solely on polite verbal expressions (Swann, Stein-Seroussi, & McNulty, 1992). Socially anxious individuals have been shown to be unable to detect interpersonal deception at greater than a chance level (DePaulo & Tang, 1994). Contrary to these findings, other researchers found that raters who were less expressive, less sociable, and with lower self-esteem (all of which could be related to mood or personality disorders) were more accurate than other judges (Ambady, Hallahan, & Rosenthal, 1995). There does

not seem to be a clear consensus among researchers at this point in time with regards to how pathological traits impact ability to accurately rate others.

While we have conducted research which demonstrates that untrained raters respond differentially to individuals with pathological personality traits and control individuals based on thirty seconds of videotape, insufficient research has been conducted to explore how individuals with pathological personality traits perceive others in the same context. The following two studies aim to expand and replicate earlier work by applying social psychological research techniques to study how individuals with pathological personality traits perceive, and are perceived, by others. We expected that previous findings would be replicated in this new target sample, and that raters with pathological personality traits would be impaired in their perceptions of others.

2. Study 1

2.1. Method

2.1.1. Participants

There were two independent groups of participants: the raters and the targets. Both groups of participants were undergraduate students. The target participants were 81 undergraduates (42 females, 39 males) randomly selected from participants in a mass personality testing conducted in 1999 as part of the larger personality pathology study. All target participants were in their third year at the university at the time of participation in this study. Raters were 42 undergraduates (28 females, 14 males) recruited from the psychology research pool. The majority of the raters were in their first year of study at the university and the median age was 18. The racial composition of the two samples was 79% Caucasian, 7% African-American, 2% Biracial, 8% Asian, 3% Hispanic, and 1% other. The samples accurately reflect the overall racial composition of the student population.

2.1.2. Procedure

In the larger peer assessment project, the target participants were screened along with the other members of their dormitory group at the beginning of the spring semester of their first year at the university. Members of each group were tested simultaneously in a single 2-h session with each participant using his or her own computer in his or her dorm room. Testing involved an interactive web-based system that included a wide variety of self- and peer-measures of personality pathology (discussed below). A full description of this larger study is published elsewhere (Oltmanns & Turkheimer, 2006).

During the spring of 2001, 97 of the participants screened in 1999 were brought into the peer assessment lab to take part in a follow-up laboratory exercise. These participants were selected so that approximately one-third had received high peer nomination scores, one-third had produced high scores on a self-report measure of personality disorders, and one-third were control participants (not high on either self-report or peer scores). Detailed personality disorder characteristics for the target participants are provided in Table 1. Twenty-three percent of the targets met criteria or were one criterion short of a diagnosis of a personality disorder based on peer information. Forty-three percent of the targets met personality disorder diagnostic criteria based on their responses to the self-report questionnaire. Individuals one criterion short of a diagnosis based on peer-reported data were included in the table to more fully capture the continuum of pathological traits in the

Table 1
Personality disorder diagnoses for target individuals

Disorder	Peer diagnosis		SNAP diagnosis
	Met criteria	1 criteria short	Met criteria
Paranoid	0	1	3
Schizoid	4	6	2
Schizotypal	0	3	4
Antisocial	4	5	2
Borderline	0	1	6
Histrionic	1	1	18
Narcissistic	0	1	10
Avoidant	0	1	8
Dependent	1	1	6
Obsessive–compulsive	1	1	8

Note. $N = 81$; Numbers are likely inflated by comorbidity between disorders; 38% of individuals met more than one diagnosis for a personality disorder based on the SNAP; SNAP numbers for Histrionic personality disorder have been found to be relatively high in overall study.

sample. It was not possible to calculate this same measure for the self-report measure used during Study 1. High comorbidity was found for the self-report data for this sample. Thirty-eight percent of individuals in this sample met criteria for more than one personality disorder based on the SNAP. It should be noted that the high percentages of personality disorder criteria endorsed in this sample reflect the fact that the sample was selected from the larger study (of approximately 1000 undergraduates) to maximize presence of personality disorder characteristics. While results in the larger study reflect low agreement between peer- and self-reports of personality disorder, some participants were likely elevated on both peer- and self-measures of pathological personality traits (Oltmanns & Turkheimer, 2006).

When selected target participants were brought into the lab, trained undergraduate research assistants asked target participants to “Tell us about yourself. Mention anything that you think is important. Please speak for at least 30 s.” Undergraduate participants primarily spoke about what activities they were involved in, where they were from or what things they liked about the university they attended. Half of the interviews were conducted by male and half by female undergraduate research assistants.

After the tapes were collected, participants were asked to sign a release form that would allow their tapes to be shown to future participants. Eighty-one (42 female, 39 male) of the participants signed the release forms (16 participants declined to participate). Three master tapes were then compiled using tapes with signed releases. Each master tape consisted of twenty-seven 30-s videotape clips from the interviews, with the names of the target participants edited out. Rater participants then viewed one of the three stimulus videotapes on a 32” television screen (a total of 14 participants watched each tape). The experimenter paused the videotape briefly between clips to allow participants to rate the target. For each clip, participants were asked to indicate whether they knew the target person. If they did know the person, their ratings for that target person were dropped from the analyses. This resulted in the elimination of ratings by three raters on one of the 27 video-clips viewed, so for one of the 81 clips only 11 ratings were obtained. The remaining 80 clips were rated by 14 raters per clip.

2.1.3. Measures

As part of the larger peer nomination study, target persons completed a variety of peer and self-report personality pathology measures. Targets also completed the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI). The BDI is a 21-item inventory including attitudes and symptoms often expressed by depressed inpatients and is a widely used clinical screening tool for depression (Beck, Steer, & Garbin, 1988a). The BAI is also a 21-item inventory that was developed to complement the BDI. The purpose of the BAI is to assess the severity of anxiety symptoms (Beck, Epstein, Brown, & Steer, 1988b). We also selected the following measures for use in this study: one measure of peer reported personality pathology and a second self-report measure of personality pathology.

2.1.3.1. Peer report. As part of the initial peer assessment study in 1997, 105 items were assembled to measure peer-report of pathological personality traits. (Thomas, Turkheimer, & Oltmanns, 2003). Eighty-one of the items are based on the DSM-IV features of personality disorders. These items were constructed by translating the DSM-IV criterion sets into lay language. The other 24 items focused on positive characteristics. For each item, participants were asked to nominate at least one member of the group who exhibited the characteristic in question. Peer nomination scores used in these analyses are the sum of the peer nominations calculated separately for each of the 10 personality disorders. Further details on this procedure including descriptive statistics and internal consistency measures are provided in Thomas et al. (2003).

2.1.3.2. Schedule for non-adaptive and adaptive personality (SNAP). The SNAP is a factor-analytically derived, self-report questionnaire composed of 375 true/false items designed to assess trait dimensions in the domain of personality disorders (Clark, 1993). Included in the SNAP are 34 scales: 12 trait scales, 3 temperament scales, 6 validity scales, and 13 diagnostic scales (Clark, 1996). Sums of the items for each of the 10 scales designed to diagnose DSM personality disorders were used in the following analyses.

2.1.3.3. Thin slice rating form. Raters completed a brief thin slice rating form after watching each 30-s videotape clip. The first item was a dichotomous measure asking participants if they knew the person shown on the videotape clip. The remaining 15 items were rated on a Likert scale from 1 (not at all) to 10 (completely). Seven of the items were the same as those used in our previous studies, including one item for each trait associated with the five-factor model of personality, one item for physical attractiveness, and one for likeability² (Oltmanns et al., 2004). The remaining eight items were selected from the peer assessment measure for four disorders found in our previous work to be highly discernible to thin slice raters. We selected only these four disorders and limited items to two per disorder in the interest of keeping materials brief (consistent with measuring a first impression). These items were chosen to measure schizoid (“Prefers to do things alone” (alone) and “Has no close friends” (no friends)), histrionic (“Is unhappy when he/she is not the center of attention” (attention) and “Uses physical appearance to draw attention to him/

² While we included normal personality variables used in our previous studies in this study for continuity, we will limit the presentation and discussion of results to the pathological variables that were introduced in this study. This has been done both in the interest of brevity and because results from the normal personality variables replicate our earlier findings. Those interested more extensive results should contact the authors.

herself”(appearance)), narcissistic (“Is stuck up or high and mighty”(stuck-up) and “Takes advantage of other people”(advantage)), and avoidant personality disorders (“Worries that other people will criticize or reject him or her” (worries) and “Thinks he/she is clumsy, unattractive or inferior to other people” (clumsy)). Overall, for each clip there are measurements of personality pathology for all 10 disorders from self-report (SNAP, obtained in 1999) and peer-report (peer nomination, obtained in 1999), and thin slice ratings for pathological traits related to four personality disorders (thin slice ratings, obtained in 2001).

2.2. Results

Intraclass correlations were employed to calculate reliability separately for each of the thin slice rating variables. Reliabilities of the composite ratings (based on groupings of 14 raters who watched each tape) were: alone, 0.90; no friends, 0.80; attention, 0.85; appearance, 0.87; stuck-up, 0.84; advantage, 0.84; worries, 0.79; clumsy, 0.85. The reliability for ratings of physical attractiveness was 0.93 and the reliability for ratings of likeability was 0.84. Reliability for both of these ratings was similar to previous research (Oltmanns et al., 2004; Friedman et al., 2006).

Pearson’s correlations were calculated between the thin slice variables to determine patterns of responses (Table 2). There were high correlations between pairs of questions designed to measure the same personality disorder. For example, the avoidant personality disorder trait question “worries” was correlated 0.73 with the avoidant question “clumsy”. There were also high correlations between the two questions designed to measure histrionic personality disorder traits and the two relating to narcissistic personality disorder. High correlations also occurred between the questions designed to measure schizoid personality disorder traits. Further, strong negative relationships occurred between the Cluster B questions and the questions designed to measure avoidant and schizoid personality disorder traits.

Pearson’s correlations were next conducted between the thin slice ratings of personality disorder features and the personality disorder trait measures from peer nominations and the SNAP. Three of the targets did not complete self-measures of personality

Table 2
Correlations between thin slice ratings (Study 1)

	Schizoid		Histrionic		Narcissistic		Avoidant	
	Alone	No friends	Attention	Appearance	Advantage	Stuck-up	Worries	Clumsy
Likeable	−0.59	−0.66	0.06	0.34	−0.26	−0.17	−0.45	−0.53
Attractive	−0.62	−0.63	0.29	0.71	0.05	0.16	−0.34	−0.65
Alone	1.0	0.83	−0.57	−0.62	−0.32	−0.41	0.50	0.79
No friends	—	1.0	−0.32	−0.52	−0.08	−0.13	0.39	0.64
Attention	—	—	1.0	0.68	0.80	0.87	−0.11	−0.54
Appearance	—	—	—	1.0	0.53	0.61	−0.22	−0.65
Advantage	—	—	—	—	1.0	0.88	−0.06	−0.43
Stuck-up	—	—	—	—	—	1.0	−0.11	−0.49
Worries	—	—	—	—	—	—	1.0	0.73
Clumsy	—	—	—	—	—	—	—	1.0

Note. $N = 81$. Alone, prefers to be alone; Attention, attention-seeking; Appearance, appearance-oriented; Advantage, takes advantage of others. $r > .34$ significant at $p < .00$ level; $r > .22$ significant at $p < .05$ level.

pathology and are thus not included in the analyses involving SNAP data. Sequential multiple regression was then employed predicting each disorder rating (for both peer and SNAP) first from attractiveness, then from likeability and attractiveness, and finally adding thin slice ratings of personality disorders to determine if the personality disorder ratings significantly increased variance explained in ratings from the larger study. A total of 30 regressions were calculated for peer and 30 regressions for SNAP ratings.

Correlations between the thin slice measures of schizoid, histrionic, narcissistic, and avoidant personality traits are shown in Table 3. Several correlations are equal to or greater than 0.50. Thin slice measures of schizoid traits are positively correlated with peer nominations of schizoid, schizotypal, avoidant, and obsessive–compulsive traits and negatively correlated with antisocial, histrionic, and narcissistic traits. Thin slice measures of histrionic traits are positively correlated with peer-nominated antisocial, histrionic, narcissistic, and dependent traits and negatively correlated with peer nominated schizoid, schizotypal, and avoidant traits. Targets that peers indicated had traits of paranoid, antisocial, borderline, histrionic or narcissistic traits were rated by thin slice raters to be more narcissistic than other targets. Thin slice raters found targets with peer-nominated schizoid, schizotypal, avoidant or obsessive–compulsive personality characteristics to be higher on avoidant traits while those described as antisocial, histrionic or narcissistic were not seen as having these traits.

Thin slice ratings of personality disorder traits were also correlated with SNAP ratings of personality disorder traits. These results are found in Table 4. Self-ratings of paranoid, schizoid, schizotypal, and avoidant traits were positively correlated with thin slice ratings of schizoid and avoidant traits. Thin slice ratings of schizoid and avoidant traits were also negatively related to self-ratings of histrionic personality disorder characteristics. Thin slice ratings of avoidant personality traits were negatively related to antisocial trait scores from the SNAP. Thin slice ratings of histrionic personality traits were positively correlated to histrionic and narcissistic personality disorder traits from the SNAP, and negatively correlated with schizoid, schizotypal, avoidant, and obsessive–compulsive personality traits. Thin slice ratings of narcissistic personality traits

Table 3
Correlations between thin slice PD ratings and peer PD ratings (Study 1)

	Schizoid TS		Histrionic TS		Narcissistic TS		Avoidant TS	
	Alone	No friends	Attention	Appearance	Advantage	Stuck-up	Worries	Clumsy
Paranoid (peer PD rating)	−0.07	0.06	0.12	0.11	0.23	0.20	0.12	−0.04
Schizoid	0.52	0.58	−0.16	−0.41	−0.03	−0.04	0.31	0.41
Schizotypal	0.39	0.49	−0.03	−0.26	0.08	0.09	0.30	0.31
Antisocial	−0.30	−0.14	0.30	0.37	0.34	0.33	−0.06	−0.24
Borderline	−0.06	0.07	0.17	0.15	0.23	0.22	0.20	0.03
Histrionic	−0.35	−0.20	0.42	0.42	0.31	0.37	−0.01	−0.24
Narcissistic	−0.36	−0.20	0.29	0.25	0.31	0.34	−0.30	−0.34
Avoidant	0.51	0.50	−0.27	−0.39	−0.17	−0.21	0.50	0.51
Dependent	−0.12	−0.05	0.23	0.28	0.14	0.12	−0.05	0.06
Obsessive–compulsive	0.23	0.27	−0.18	−0.22	−0.05	−0.04	0.27	0.11

Note. $N = 81$. TS, thin slice measures; Alone, prefers to be alone; Attention, attention-seeking; Appearance, appearance-oriented; Advantage, takes advantage of others; $r > .34$ significant at $p < .001$ level; $r > .22$ significant at $p < .05$ level.

Table 4
Correlations between thin slice PD ratings and SNAP ratings (Study 1)

	Schizoid		Histrionic		Narcissistic		Avoidant	
	Alone	No friends	Attention	Appearance	Advantage	Stuck-up	Worries	Clumsy
Paranoid	0.23	0.29	-0.09	-0.22	0.08	0.06	0.19	0.23
Schizoid	0.50	0.50	-0.35	-0.53	-0.13	-0.18	0.18	0.40
Schizotypal	0.37	0.42	-0.20	-0.40	-0.07	-0.09	0.26	0.38
Antisocial	-0.10	0.03	0.14	0.12	0.35	0.22	-0.26	-0.26
Borderline	-0.03	0.10	0.17	-0.02	0.34	0.26	0.05	-0.02
Histrionic	-0.37	-0.22	0.42	0.37	0.37	0.32	-0.21	-0.34
Narcissistic	-0.13	0.04	0.26	0.08	0.39	0.36	-0.14	-0.18
Avoidant	0.50	0.47	-0.45	-0.52	-0.29	-0.29	0.36	0.53
Dependent	-0.11	-0.06	0.04	-0.03	0.03	0.03	0.16	0.14
Obsessive-compulsive	0.22	0.18	-0.22	-0.32	-0.17	-0.14	0.07	0.19

Note. $N = 78$. Alone, prefers to be alone; Attention, attention-seeking; Appearance, appearance-oriented; Advantage, takes advantage of others. $r > .35$ significant at $p < .001$ level; $r > .22$ significant at $p < .05$ level.

were positively correlated with self-reported antisocial, borderline, histrionic, and narcissistic personality disorder traits and negatively correlated to self-reported avoidant personality traits.

Sequential multiple regression was utilized to determine if the thin slice ratings of personality disorder traits improved prediction of personality disorders characteristics beyond factors of general attractiveness and likeability (similar methodology used in earlier studies, see Oltmanns et al., 2004). Due to the large number of regressions calculated, only those that reached statistical significance ($p < .05$) are presented in Table 5 (peer-results, four disorders reaching significance) and Table 6 (SNAP results, five disorders reaching significance). For each disorder, the change in R^2 associated with the addition of the personality variables is provided with related tests of significance. In the interest of brevity, standardized regression coefficients are only included for models that accounted for a significantly higher proportion of variance explained than lower models, and regression coefficients related to moving from step 1 (including just attractiveness) to step 2 (likeability and attractiveness) are not presented in the table.

Thin slice ratings of personality disorder traits explained a significantly greater proportion of variance than likeability and attractiveness ratings for antisocial, histrionic, narcissistic, and dependent personality disorder scores based on peer-report (Table 5). Ratings did not meet significance for other personality disorders (including schizoid and avoidant, which were specifically measured by thin slice ratings). Standardized regression weights for prefers to be alone (antisocial) and appearance-oriented (antisocial, histrionic, and dependent) were reliably different from zero. Including personality disorder thin slice ratings in the multiple regression equation explained a significantly greater proportion of variance than likeability and attractiveness alone for SNAP ratings of schizoid, antisocial, histrionic, narcissistic, and avoidant personality disorders (Table 6). Ratings for the other five personality disorders did not reach significance. Standardized regression weights indicate individual effects for appearance orientation (schizoid and avoidant), takes advantage of others (antisocial) and attention seeking (avoidant).

Table 5
Regression results predicting peer PD ratings from thin slice PD (Study 1)

Model	β	R^2	ΔR^2	F for ΔR^2
<i>Antisocial</i>				
Attractive	−0.15	0.24*	0.19	2.18*
Likeable	0.02			
Alone	−0.60*			
No friends	0.28			
Attention	−0.44			
Appearance	0.46*			
Advantage	0.30			
Stuck-up	0.08			
Worries	0.06			
Clumsy	0.15			
<i>Histrionic</i>				
Attractive	−0.24	0.27**	0.22	2.64*
Likeable	0.05			
Alone	−0.50			
No friends	0.24			
Attention	0.08			
Appearance	0.46*			
Advantage	−0.15			
Stuck-up	0.10			
Worries	0.11			
Clumsy	0.12			
<i>Narcissistic</i>				
Attractive	0.14	0.24*	0.20	2.30*
Likeable	−0.18			
Alone	−0.51			
No friends	0.11			
Attention	−0.18			
Appearance	−0.02			
Advantage	0.17			
Stuck-up	0.22			
Worries	−0.34			
Clumsy	0.31			
<i>Dependent</i>				
Attractive	−0.04	0.26*	0.23	2.72*
Likeable	−0.14			
Alone	−0.46			
No friends	0.24			
Attention	0.35			
Appearance	0.51*			
Advantage	0.05			
Stuck-up	−0.51			
Worries	0.11			
Clumsy	0.39			

Note. $N = 81$.

* $p < .05$.

** $p < .01$.

Table 6
Regression results predicting SNAP PD from thin slice PD (Study 1)

Model	β	R^2	ΔR^2	F for ΔR^2
<i>Schizoid</i>				
Attractive	0.27	0.40**	0.21	2.93**
Likeable	−0.03			
Alone	0.11			
No friends	0.17			
Attention	−0.31			
Appearance	−0.58**			
Advantage	0.26			
Stuck-up	0.27			
Worries	−0.05			
Clumsy	0.1			
<i>Antisocial</i>				
Attractive	−0.19	0.28**	0.27	3.14**
Likeable	0.01			
Alone	−0.16			
No friends	0.22			
Attention	−0.43			
Appearance	0.15			
Advantage	0.72**			
Stuck-up	−0.26			
Worries	−0.15			
Clumsy	−0.23			
<i>Histrionic</i>				
Attractive	−0.16	0.26*	0.23	2.60*
Likeable	−0.02			
Alone	−0.34			
No friends	0.17			
Attention	0.32			
Appearance	0.3			
Advantage	0.31			
Stuck-up	−0.46			
Worries	−0.2			
Clumsy	0.13			
<i>Narcissistic</i>				
Attractive	−0.48	0.27*	0.23	2.64*
Likeable	0.1			
Alone	−0.34			
No friends	0.17			
Attention	−0.37			
Appearance	0.1			
Advantage	0.28			
Stuck-up	0.28			
Worries	−0.04			
Clumsy	−0.13			
<i>Avoidant</i>				
Attractive	0.15	0.46**	0.33	5.12**
Likeable	0.23			
Alone	−0.16			
No friends	0.27			

(continued on next page)

Table 6 (continued)

Model	β	R^2	ΔR^2	F for ΔR^2
Attention	−0.69**			
Appearance	−0.39*			
Advantage	0.06			
Stuck-up	0.64			
Worries	0.21			
Clumsy	0.27			

Note. $N = 78$.

* $p < .05$.

** $p < .01$.

2.3. Discussion

Results from this study extend previous findings to show that untrained raters are able to make reliable ratings of personality disorder characteristics based on 30 s of information. The PD features that our judges rated were correlated with several disorders in predicted directions. Correlations between peer-rated and self-rated personality disorder traits and thin slice ratings were consistently high (up to 0.50) within each cluster. Unfortunately, there was little specificity between some personality disorder characteristics from Cluster A and Cluster C, most notably schizoid, schizotypal, avoidant, and obsessive–compulsive PD features. This finding could partly be explained by the commonly found co-occurrence of diagnostic categories within personality disorder clusters (McGlashan et al., 2000). The raters may have accurately detected the co-occurrence of these features. It is also possible, however, that the thin slice ratings of personality disorder features are only broad, yet accurate, impressions that are applied to targets whom the thin slice raters perceive as being unusual in some aspect. Earlier work on this subject suggests that raters are reacting to the content of the thin slice primarily with regards to both content of the message and other vocal aspects (such as tone and prosody) (Friedman et al., 2006). Thin slice raters may thus be reacting to a broader level of discrimination rather than picking up on specific personality disorders.

Including thin slice ratings of pathological personality traits in the regression equation not only significantly predicted peer and self-personality pathology measures from the larger study, but did so in a manner superior to predictions from likeability and attractiveness. Thin slice ratings of personality disorder traits were related to personality disorder ratings from the larger study, but not always in predicted ways. For example, thin slice predictions of “takes advantage of others” (a trait associated with narcissistic personality disorder) were strongly positively related to measurements of target levels of antisocial personality traits taken from the SNAP 2 years before the targets were videotaped. This specific result and others speaks to both the comorbidity of personality disorders when regarding specific traits (Lynam & Widiger, 2001), as well as to the possibility that raters were making thin slice ratings based on broad reactions to stimuli rather than at the specific personality disorder level.

In general, thin slice rating results for schizoid, schizotypal, histrionic, and avoidant personality disorder traits were remarkably similar for those whose peers described them as having these traits and those who self-reported pathological traits. Though self-peer correlations for personality disorders are generally low in the larger study (0.20–0.30)

(Thomas et al., 2003), it seems for traits of these particular disorders, thin slice raters are highly adept at noticing and rating cues. For other disorders, thin slice raters were much more likely to agree with and reproduce peer ratings of pathological traits than self-ratings, likely because for some disorders (such as narcissistic), individuals with these personality traits tend to self-enhance and have low agreement with peers (South, Oltmanns, & Turkheimer, 2005). Based on these findings, it is important to consider both peer and self-personality pathology findings in future research.

While other thin slice studies (Ambady et al., 2000) and our pilot research typically reported correlations in the 0.20 range, several correlations from this study are as high as 0.50. These relatively high correlations also occurred when comparing thin slice ratings of schizoid, histrionic, narcissistic and avoidant personality traits and peer and self-ratings of personality disorder traits collected in the larger study. It is possible that by using college students (instead of Air Force recruits) as target individuals, raters were able to relate better to targets and provide more accurate ratings. It is equally possible, and more likely, that including pathological traits on the thin slice rating forms prompted raters to think of targets in more globally negative terms. Unfortunately, we were unable to include a broader spectrum of personality disorder traits, and our selection of criteria and personality disorders may have led to artificially stronger results than including ratings based on other criteria or disorders. Further research that controls for order and presence of pathological questions would be necessary to help determine the source of the difference.

One of the most interesting aspects of this research is that unacquainted peers can make personality ratings that reliably and accurately predict personality data collected 2 years before targets participated in the current study. One possibility is that individuals with pathological personality traits form such a negative first impression that peers avoid forming relationships with them, and impressions do not substantially change even after a 6-month span. To truly test this hypothesis, a future study collecting personality ratings at set time intervals (beginning after first meeting and continuing for a year) would help contribute to our knowledge in this area. It is clear at this point that pathological personality features are rapidly apparent to peers, whether presented in a verbal or visual context. Our second study focuses on the other half of the interpersonal equation to investigate how individuals with personality disorder traits respond to interaction partners.

3. Study 2

3.1. Method

3.1.1. Participants

Target participants were the same 81 participants described above in Study 1. Rater participants were 87 participants (22 males, 65 females) who were screened as part of the larger peer nomination study of personality disorders. None of the raters in Study 2 had served as targets in Study 1. All participants were in their first year at the university when they participated in the larger study, and took part in the current study within 12 months of their initial screening. The majority of rater participants were 18 years of age at the time of initial screening. Racial characteristics of the rater sample were similar to the university population as a whole and were: 79% Caucasian, 8% Asian, 7% African-American, 1% Bi-racial, and 5% other race not specified. Eight percent were of Hispanic descent.

Personality disorder information for those who agreed to participate is presented in Table 7. Forty-six percent of the participants met criteria or were one criterion short of personality disorder diagnosis based on a semi-structured diagnostic interview, the SIDP-IV (see below). Forty percent met criteria or were one criterion short of a personality diagnosis based on peer nominations. While these numbers are higher than what would be expected in the general population, it is important to note that two-thirds of the participants who were chosen to complete the diagnostic interview were specifically selected because they had received high scores on self-report or peer measures of personality pathology (the remaining third were selected as control individuals).

3.1.2. Procedure

In the spring semesters of 2002 and 2003, additional waves of peer assessment data were collected at freshman dorms. After the data were collected in the dorm groups, approximately 20% of the participants were selected to return for a semi-structured diagnostic interview for personality disorders (SIDP-IV; Pfohl, Blum, & Zimmerman, 1997): approximately one-third because of high peer nomination scores, one-third because of high self-report scores, and one-third with neither (control). Interviewers were blind to the reason for selection. After completing the SIDP-IV, participants completed a thin slice rating form for all of the clips on one of the three master tapes described in the study above. Eighty-seven of the participants who were interviewed agreed to participate in the study. Each of the participants rated one of the three tapes (of 27 clips). No ratings needed to be dropped due to familiarity of target (see Study 1).

3.1.3. Measures

As part of the larger peer nomination study, both raters and targets completed a variety of peer and self-report personality pathology measures which are described in detail in Study 1 above. While peer measures were available for both groups, SNAP scores were only available for target individuals due to a change in measures during the course of the larger study. All of the raters in this study were given the Inventory of Interpersonal Problems (IIP; Barkham, Hardy, & Startup, 1994; Horowitz, Rosenberg, Baer, Ureno, & Villaseñor, 1988, 2000) as part of the larger study, and were also given the SIDP-IV. We will focus on the SIDP-IV as a self-report measure of rater personality psychopathology.

Table 7
Personality disorder diagnoses for rater participants (Study 2)

Disorder	SIDP-IV diagnosis		Peer diagnosis	
	Met criteria	1 criterion short	Met criteria	1 criterion short
Paranoid	2	4	1	1
Schizoid	0	1	4	1
Schizotypal	0	0	2	1
Antisocial	0	3	1	6
Borderline	2	0	0	1
Histrionic	2	1	2	1
Narcissistic	2	0	6	2
Avoidant	1	2	0	0
Dependent	0	2	0	0
Obsessive–compulsive	8	7	0	3

Note. $N = 87$; Numbers are influenced by comorbidity between disorders.

The SIDP-IV (Pfohl et al., 1997) investigates behaviors and experiences that correspond to diagnostic criteria for the 10 types of personality disorder listed in DSM-IV. Questions are arranged by themes (e.g., interests and activities, work style, emotions) rather than by disorders. The interview includes 101 questions and usually takes 45–90 min to administer, and all were administered by a master's level clinical psychologist. Interviewers were trained by one of the authors of the interview (Ms. Blum) as part of the larger study (Jane, Pagan, Turkheimer, Fiedler, & Oltmanns, 2006). Interrater reliability for diagnosis made on a continuum for the larger study of undergraduate students ranged from 0.74 to 0.84. Ratings of the videotape clips were collected on the same thin slice rating form described in Study 1.

3.2. Results

Intraclass correlations were calculated to determine reliability separately for the group of raters with personality disorder traits and the control group (Table 8). For reliability analyses, raters were considered to be in the personality disorder group if they met criteria for at least one diagnosis or were one criterion short based on the SIDP-IV. Due to uneven group sizes, reliability for the personality disorder trait group was calculated based on an average of 9 raters watching each tape while the control group was calculated based on an average of 19 raters per tape. Due to this difference in group size, the reliability of the personality disorder trait group will likely be lower than average reliability for the control group. Fisher's r to z transformations were performed on the reliabilities for the different groups, and found no statistical difference in reliability between the two groups.

3.2.1. Moderating role of rater characteristics

To determine the moderating role, if any, of rater personality disorder characteristics on making thin slice ratings, a sum score was created for each of the four target personality disorders by merging the two thin slice items for each disorder (i.e., appearance and attention for histrionic). Next, we calculated the correlation between these four thin slice sum variables and peer ratings for the target individuals on those disorders for each rater. A series of correlations were also computed between the individual rater correlations for predicting SNAP

Table 8
Reliability of ratings by rater personality disorder status (Study 2)

Rating	Personality disorder	Control
Prefers to be alone	0.86	0.91
Attention seeking	0.83	0.87
Stuck-up	0.73	0.83
Worries	0.68	0.82
No friends	0.80	0.83
Appearance-focused	0.84	0.89
Takes advantage	0.73	0.81
Clumsy	0.79	0.88
Likeability	0.64	0.77
Physical attractiveness	0.85	0.93

Note. $N = 87$ total; N personality disorder = 26 (met criteria or were one short of diagnosis based on SIDP-IV); Approximately 9 personality disorder and 19 control raters watched each tape, thus reliability calculated for group of 9 and 19, respectively.

target information and the four personality disorder sum variables. These calculations provided an index of the rater's ability to predict target information. Then we were able to compute for each rater the mean ability to predict self characteristics (SNAP) correlations using thin slice variables ($\alpha=0.48$) and the mean ability to predict peer characteristics ($\alpha=0.72$). The mean of these two scores was then computed for overall ability to accurately predict personality disorder characteristics using thin slice variables ($\alpha=0.76$).

Once these indices of ability to predict peer characteristics, self characteristics, and overall ability to predict personality characteristics were created, they were correlated with rater personality disorder information provided by peers of the raters and from the SIDP interviews of the raters. There was a significant negative correlation between the overall ability to accurately rate personality disorder characteristics of targets using thin slice and being nominated by peers as having narcissistic personality disorder traits ($r=-.23$, $p=.038$). Raters who were identified as exhibiting features of narcissistic personality disorder based on the SIDP-IV were also impaired in rating personality disorder characteristics of targets using thin slice variables ($r=-.23$, $p=.038$). No correlation between rater characteristic (either via SIDP or peer ratings) and ability to accurately rate others was found for the other nine DSM-IV personality disorders.

In order to further isolate the rater characteristics that are related to accurately predicting target personality using the thin slice technique, the correlations between the individual items from the larger study (including the BAI, BDI, IIP, SIDP-IV, and peer-report items) and the eight ratability indices were calculated to develop a pool of related items. An exploratory factor analysis was then conducted using these items (88 total) in a random sample of 100 participants from the larger study. Four items did not load onto any of the factors and were dropped. Results should be interpreted with caution given the small number of participants analyzed until replication with a larger sample is possible in future studies. Since factors were intercorrelated, oblique rotation was performed using promax. Factor intercorrelations are presented in Table 9. Four factors were found from this analysis, accounting for 41.08% of the total variance. Eigenvalues for the four factors were as follows: factor 1 = 20.11, factor 2 = 11.39, factor 3 = 5.22, and factor 4 = 4.34. Factor 1 accounted for 13.42% of the total variance, factor 2 accounted for 11.23%, factor 3 accounted for 5.14%, and factor 4 accounted for 5.21%.

Chronbach's alpha was calculated for each of the four factors, as a measure of internal consistency, and three of the four factors showed an acceptable level of consistency (factor 1: $\alpha=0.97$; factor 2: $\alpha=0.95$; factor 3: $\alpha=0.91$). The items (33 total) included in first factor (externalizing factor) included peer-rated characteristics of histrionic, antisocial, paranoid, and narcissistic traits and responses on the IIP related to expressing anger towards others. The second factor (internalizing factor, 45 items total) included peer and self-reported items related to traits of anxiety, depression, and avoidance of conflict and social interaction. The third factor (positive trait factor, 23 items total) included mostly positive

Table 9
Factor intercorrelations (Study 2)

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.0			
Factor 2	-0.49	1.0		
Factor 3	-0.60	-0.03	1.0	
Factor 4	0.38	0.28	-0.57	1.0

social traits, such as social skills and good emotional control. Items on this factor included both peer items and negatively loaded items from the BAI, BDI, SIDP, and IIP.

The resulting three scales were then correlated with the rater accuracy correlation indices previously created to determine rater ability to predict self and peer target information (see above). The externalizing factor was negatively correlated with the ability to accurately predict self-report target information using thin slice methodology ($r = -.27, p < .05$). Both the internalizing factor ($r = .24, p < .05$) and positive trait factors ($r = .22, p < .05$) were positively correlated with the ability to accurately predict self-report target information. None of the three factors identified correlated with the measure of rater ability to predict peer-reported target information.

3.3. Discussion

As is often found in samples of people with personality disorder traits, there was a high level of comorbidity between traits for different personality disorders (Lynam & Widiger, 2001), which blurred classification for raters. This complicates the examination of how personality disorder traits affect accurate rating. For most disorders, it does not appear that personality disorder characteristics impair reliability of judgments of others. However, narcissistic personality disorder characteristics, whether self-reported or peer-reported, appear to impair accuracy in making judgments of others using thin slice methodology. Two possibilities could account for the accuracy discrepancy. One is that raters with personality disorder characteristics were less attentive in making ratings, thus introducing variation which reduced overall reliability. The other possibility is that personality characteristics of the raters led to impaired ability to observe and process target personality information.

While the factor analysis results are preliminary in nature due to relatively small sample size, results are consistent with findings of the reduced accuracy of narcissistic raters. Raters whose peers describe them as being stuck-up and jealous, as well as numerous other Cluster B personality characteristics, are significantly less able to interpret thin slice information when forming an impression of others. Individuals whose peers describe them as being non-assertive and who describe themselves as being anxious, non-confrontational, and uncomfortable in social situations are significantly better at interpreting thin slice information. A third group, individuals whose peers describe as being agreeable, cooperative, and even-tempered, are also significantly better at interpreting thin slice information than those without those traits.

One possibility for interpretation of these findings hinges on the self-enhancement effect that has been shown numerous times in social psychological research. Psychologically healthy individuals tend to view themselves in a more positive light than others would rate them (Armor & Taylor, 1998). The universality of self-enhancement for most individuals has been shown in several cultures, though with culturally specific traits (Sedikides, Gaertner, & Toguchi, 2003). As a result of this bias, targets probably rated themselves more positively on the SNAP than they would have been rated by peers; with an unconscious tendency to present themselves in the most favorable light possible.

Though the target individuals would be biased towards self-enhancement, past research suggests that the raters, in general, would be more likely to rate others negatively due to a tendency towards implicit self-enhancement (Brown, 1988). Improved accuracy would result when the discrepancy between the positive bias of target self-ratings and negative bias of ratings made by raters is minimized. Raters who were identified by peers as being

notably psychologically healthy and sincere individuals (based on the positive traits factor) could reasonably be expected to be individuals who view others in a positive manner, since they are liked by peers. This might help explain their demonstrated accuracy in predicting how targets describe themselves. While there is some research documenting that high levels of interpersonal sensitivity is related to accurate judgments of others (Carney & Harrigan, 2003), further research is needed to explore the relationship between positive traits and interpersonal accuracy.

Several studies have demonstrated that individuals with narcissistic personality disorder traits will rate others in an overly critical manner if their self-esteem is threatened (Smalley & Stake, 1996; South, Oltmanns, & Turkheimer, 2003). While our experiment did not involve a threat applied to the raters' self-esteem, it is possible that the narcissistic raters, as well as raters whose peers described as being hostile and angry, had a latent tendency to be more negative in their ratings of targets even without a perceived threat to their own self-esteem.

A more complicated effect to interpret is the finding that anxious and non-confrontational raters were more accurate in judging personalities of strangers. This finding replicates some findings from the literature (Ambady et al., 1995) but is in direct contrast to what would be expected based on other research findings (Ambady & Gray, 2002; Schroeder, 1995). One possibility is that raters with depressive symptoms and with low self-esteem have a pattern of viewing others in an unrealistically positive way due to cognitive distortions in their own self-perceptions (Beck, 1976; Johnson & DiLorenzo, 1998). This pattern of social comparison is often found in individuals suffering from depression (Swallow & Kuiper, 1988). Studies on depressive realism or the experimental finding that individuals with symptoms of depression are more accurate in their ratings than others, predict that the self-depreciating bias of the depressed raters would lead to a positive skew in ratings (Ackermann & DeRubeis, 1991). Since in this case accuracy is being measured by agreement with the targets own (likely enhanced) ratings, accuracy would be enhanced.

Unfortunately, it is impossible to factor out the impact carelessness and/or low motivation may have had in determining ratings, which offers an alternative explanation for the findings. Raters who were described by peers as having Cluster B personality traits, including narcissism, are likely to be individuals who will demonstrate less respect for authority and less motivation to pay full attention to a repetitive task, such as rating video clips. Individuals who are strongly motivated to please others, whether in a manner that is psychologically healthy or pathological, may be more likely to pay full attention to laboratory tasks and put forth full effort. Without a measure of effort or attention, it is impossible to determine whether rating discrepancies are a direct result of impaired social judgment or are a bi-product of reduced motivation (also related to personality variables). In future research, a rote task that measures attention and cooperation should be included to help rule out this variable.

4. General discussion

These two studies and our earlier research have identified a replicable, robust finding: untrained raters can reliably respond to individuals with pathological personality traits after viewing 30s of videotaped behavior. This assertion is true whether raters describe their first impressions using the five factor model of personality or specific pathological traits, and it is true when predicting either peer or self-reported information about the

targets. In addition to this general finding, results from these two studies contribute to the understanding of several specific research questions. One overall caveat of this study and related research is that videotaped behavior, while allowing a convenient format for studying responses, is a poor substitute for the full quality of interaction observed in daily life. Results from this study must then be considered at best an estimate of how individuals would respond in a naturalistic setting.

4.1. Rater response to pathological targets

Based on previous research, raters were expected to respond negatively to individuals with Cluster A and Cluster C pathological personality traits and to respond positively to targets with Cluster B personality traits. Instead, raters responded in a negative and often accurate manner to targets with personality pathology in all three clusters. The most plausible reason for this finding is the inclusion in this study of items specifically related to personality disorders in addition to the more neutral five factor items. By increasing the spectrum of traits to which a rater was attending, the raters may have become more aware of the negative ramifications of the presence of Cluster B personality pathology. The use of targets similar in demographic characteristics to the raters probably enhanced this effect by increasing the degree to which raters identified with the targets (Wright & Drinkwater, 1997). The overall impact of these two factors included correlations that were relatively higher than those found in other studies using thin slice methodology (Ambady et al., 2000), and which were replicated in both studies.

4.2. Predicting peer-report versus self-report information

Personality disorder research has demonstrated that peer information is a unique and important component of understanding personality pathology, and that it is important to consider above and beyond self-report information (Klonsky, Oltmanns, & Turkheimer, 2002; Thomas et al., 2003). Given this, it is not unusual that thin slice ratings (which are peer ratings) have better agreement with peer-information about the targets than with self-reported information. Of particular interest in this study is the finding substantial agreement in ratings of schizoid, schizotypal, histrionic, and avoidant personality disorder traits across multiple methods of peer and self ratings and across different time periods of measurement (given the 2-year lag in self-rating completion and the tape stimuli creation).

Of note, however, is the four disorders selected have repeatedly been predicted by thin slice ratings. Of the 10 personality disorders, these four are most clearly linked to the trait of extraversion, with histrionic individuals being high in extraversion and schizoid, schizotypal and avoidant personality disorders being high in introversion (Widiger, Trull, Clarkin, Sanderson, & Costa, 2002). Since extraversion has been repeatedly identified as a trait that is easy for others to rate (Levesque & Kenny, 1993), it is not surprising that these four traits are easiest for thin slice raters to read whether the source of the personality disorder information is coming from peer or self-report. Results from this study, which only examines ratings of these four traits, may therefore be inflated. Further research is needed to determine if similar findings will be noted with other, less behaviorally observable, pathological traits.

To further explore the relationship of thin slice ratings to peer ratings, in future work it might be helpful to obtain a secondary source of peer information. In the larger study,

correlations between peer and self were low (Thomas et al., 2003). The peer information about the targets was taken from the mean ratings of peers who had known the targets for approximately 6 months at varying levels of acquaintanceship (with some subgroups likely knowing each other to a greater degree). Other studies have shown that as individuals become better acquainted, the self-peer agreement increases simply as a factor of increased exposure and is unrelated to similarity or liking (Kurtz & Sherker, 2003; Watson, Hubbard, & Wiese, 2000). Future research should include at least one individual informant for each target, who is highly acquainted with the target, and whose ratings could then be compared to the thin slice ratings to obtain a larger spectrum of acquaintanceship.

4.3. Importance of rater characteristics

This study provides general information about what rater characteristics lead to accuracy and inaccuracy in making ratings of others, but further research is needed. The largest indicator of the need for further research is the lack of mechanism to evaluate effort in making the ratings. Effort clearly is related to personality characteristics in the raters. Without controlling for the effects of differences in attending to the stimuli, the possible underlying distortions or enhancements of judging interpersonal characteristics cannot be examined.

The results do provide a starting point for beginning to examine rater characteristics in other research. Individuals with Cluster B personality traits are less accurate in their responses, which either necessitates shorter forms for those individuals or a related measure of effort. Both individuals who are psychologically healthy and individuals with low-self esteem/depressive symptoms were more accurate in their ratings. This finding could be due to a desire to please the experimenter or simply a heightened sensitivity to interpersonal communication. Further research along these lines may help clarify the source of the accuracy differences.

4.4. Implications for research and treatment

Even with the limitations to generalization inherent in using a laboratory setting, including such design caveats as using videotapes in a fixed order, the results of this study have interesting implications for understanding the impact of pathological personality traits on interpersonal interactions. From the very first interaction, individuals with pathological personality traits have difficulty responding accurately to others, and make negative impressions on their interaction partners. These initial problems may contribute to the documented difficulties that individuals with personality disorders have in interpersonal relationships. A brief encounter with someone with pathological personality traits may be enough to keep many people from pursuing any form of relationship. These findings should be considered when developing therapeutic techniques for individuals with personality disorders.

While further research is needed on treatment outcome for personality disorders, some researchers have documented the short-term success of social skills training in either individual or group settings for patients with personality disorders (Piper & Joyce, 2001). Whether approached in an individual or group setting, individuals with personality disorders need to learn to detect cues in others and to modify their own behavior in initial encounters in order to help improve the likelihood of forming new interpersonal

relationships. As additional information is obtained about the way that individuals with personality disorders form and maintain interpersonal relationships, perhaps clinical psychologists will develop a better comprehension of and treatment of interpersonal difficulties related to personality disorders.

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