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Perceptions of people with personality disorders based on thin slices of behavior

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Abstract

Strangers made reliable judgments about personality traits after viewing one 30-s excerpt from interviews with anonymous target persons. Ratings were generated for 229 military recruits participating in a study of personality disorders. Approximately 28% of the recruits met DSM-IV criteria for a definite or probable personality disorder (PD). Several untrained undergraduate students rated each video clip with regard to the Big Five personality traits, physical attractiveness, and likeability. The students accurately rated people who exhibited features of paranoid, schizotypal, dependent, and avoidant PDs as being lower in extraversion. The raters also considered these people less likeable. Students accurately rated people who exhibited features of histrionic PD as being higher in extraversion and found them to be more likeable. Laypersons can make accurate judgments regarding some personality characteristics associated with personality disorders, even on the basis of minimal information. These perceptions may influence ways in which people respond to others with PDs.

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1. Introduction

Personality and personality disorders are defined by information derived from three principal sources of information: Self-report, observations of behavior, and the perceptions of other people. Most knowledge of personality—in clinical situations as well as research—is based on self-report or the person's own description

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of his or her feelings, thoughts, and motives. Much less is known about the ways in which normal and pathological personality traits are perceived by others (Clark & Harrison, 2001; Oltmanns, Turkheimer, & Strauss, 1998; Spain, Eaton, & Funder, 2000).

We have studied features of personality disorders in non-clinical samples of young adults (military recruits and college students). Our data indicate that there is substantial consensus among peers when they are asked to nominate members of their group who exhibit features of personality disorders (Thomas, Turkheimer, & Oltmanns, 2003). Furthermore, the factor structure of the peers' data is consistent with both the DSM-IV description of personality disorders and the five-factor model of personality. The information that peers provide, however, is only modestly related to that obtained using self-report. Correlations between self-report and peer-report measures for personality disorders range between .22 and .30. This pattern indicates that the perceptions of other people contain reliable information about personality traits and pathology that is not redundant with subjective information provided by the person.

Many impressions about people with personality disorders are based on thoughtful deliberation following extended observations of inconsistent, puzzling, annoying, and occasionally disturbing behaviors. We also know, however, that some personality judgments about other people are formed quickly and without conscious effort or reason (Ambady, Bernieri, & Richeson, 2000). This evidence suggests that some aspects of pathological behavior may be evident to others from the very beginning of an interaction, and these initial impressions may be an important influence on the person's pattern of social relationships. For example, it has been demonstrated that boys with either Attention Deficit Disorder or Learning Disorder are negatively evaluated by peers on a number of dimensions after the peers have viewed one minute of videotaped interaction (Bickett & Milich, 1990). For these boys, difficulties in social relationships may have their roots in first impressions. Similar effects may occur for individuals with PDs. Once an impression has been made, possibly based on very little information, it may have negative consequences for whether others decide to pursue a relationship with people who show evidence of personality disorders.

One way to study first impressions involves the use of "thin slices" of expressive behavior. A thin slice is a brief, dynamic sample of a person's behavior, typically less than 5 min and most often identified as a segment or clip taken from a longer video recording of the person interacting with others or performing some kind of task. Raters can predict accurately some personality traits of strangers after viewing clips of behavior as short as 6 s (Ambady & Rosenthal, 1992, 1993). Previous studies have focused on the prediction of variations in normal personality traits among strangers. They have not addressed the ability of strangers to perceive variations in personality found among people with personality disorders.

We do not expect laypersons to be able to identify formal diagnostic categories, particularly on the basis of minimal information. Nevertheless, they might be able to recognize broad features of personality that are associated with PDs. Many thin slice studies have utilized the five-factor model of personality. The relationship between the five-factor model and personality disorders has been studied both in

clinical populations (McCrae et al., 2001; Soldz, Budman, Demby, & Merry, 1993; Trull, 1992) and in non-clinical populations (Trull, Widiger, & Burr, 2001; Wiggins & Pincus, 1989). In fact, diagnostic categories for PDs can be described by extreme variations on these dimensions (Widiger, Trull, Clarkin, Sanderson, & Costa, 2002).

At the most general level of analysis, we expect that first impressions of people with personality disorders conform to a general pattern suggested by the five-factor model. DSM-IV divides 10 types of PD into three general clusters (Widiger et al., 2002). Within Cluster A, paranoid PD is characterized by low agreeableness, schizoid PD is characterized by low extraversion, and schizotypal PD is characterized by high openness and low extraversion. Within Cluster B, antisocial PD is characterized by low agreeableness and low conscientiousness, borderline PD is characterized by high neuroticism, histrionic PD is characterized by high extraversion, and narcissistic PD is characterized by low agreeableness. Within Cluster C, avoidant PD is characterized by low extraversion and high neuroticism, dependent PD is characterized by high agreeableness, and obsessive-compulsive PD is characterized by high conscientiousness.

This study was designed to examine initial impressions of people with PDs that are formed by strangers after they see only a brief glimpse of each person's behavior. We wanted to know whether these judgments would be accurate and whether they would influence the judges' interest in getting to know the target person better.

2. Method

2.1. Participants

The target persons were a subset of those participating in a study of personality disorders (Oltmanns, Turkheimer, & Fiedler, 2000). More specifically, they were 231 recruits (134 men and 97 women) who had been selected to complete a semi-structured diagnostic interview. When these interviews were conducted, our total sample included 1580 Air Force recruits (960 men and 630 women) who had participated in a personality assessment screening at the end of six weeks of basic training. Recruits were enlisted personnel (not pilots or officers). They were all high school graduates. The average age of the full sample was 19 ($SD = 1.5$), and their average IQ was 104. Sixty-four percent of the recruits in our sample were White, 18% were Black, 9% were Hispanic, and 3% were Asian.

The initial personality assessment screening process was conducted in groups. On the first day of basic training, recruits are assigned to groups, known as "flights." Each flight includes approximately 50 recruits. For the next 6 weeks, members of a flight do virtually everything together. On the next-to-last day of training, all recruits spend one 4-h block of time participating in basic research, and some of the flights were given the option to participate in our study. This sample offers an opportunity to examine pathological personality traits in a large, non-clinical sample of young adults—uncomplicated by substance abuse, major mood disorders, or psychosis.

2.2. Personality assessment tools

During personality assessment screening, each recruit completed the Schedule for Nonadaptive 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). The SNAP also includes 10 diagnostic scales based on the DSM-IV personality disorders. We used the sum of the items on each of the 10 diagnostic scales to form self-report PD scores for each recruit.

The recruits also completed, along with other members of their basic training group, a peer nomination procedure in which each recruit was asked to identify peers in his or her flight who exhibited features of the 10 personality disorders listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). For each of the 81 diagnostic characteristics listed in the DSM-IV, each recruit was asked to nominate at least one member of his or her group who exhibit the characteristic in question. The nominations were made on a Likert-scale from 0 (never like this) to 3 (always like this) with the default selection being 0. There was no limit to the number of group members a given recruit could nominate for any item. In order to determine the extent to which the recruits knew each other when making the ratings, recruits were also asked to rate how well they knew each member of the group. Sixty-two percent of the ratings indicated that the rater knew the target, and about half of these indicated they knew the target very well. Thomas et al. (2003) provided further information regarding the validity of this peer nomination process. Peer-nomination scores were calculated for the ten personality disorders by dividing the sum of all peer nominations the person received for each disorder by the total number of raters in his or her group.

Immediately after the personality screening process was completed, approximately 20% of the members of each flight were selected to complete a structured diagnostic interview, the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl, Blum, & Zimmerman, 1997). Approximately one third of these recruits (i.e., those chosen for an interview) were selected because their scores were among the highest in their flight on peer nominations, one third were selected because they produced high scores by self-report (SNAP), and the final third were selected randomly from the remaining recruits to serve as a control group. The interviewers were blind to information regarding self and peer report scores at the time of the interview.

The SIDP-IV 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. Each interview was scored by the interviewer and also subsequently watched and rated by another master's level clinical psychologist to determine reliability. Reliabilities for decisions regarding the number of criteria met for each disorder, which were computed using intraclass correlations, ranged between .68 (for obsessive-compulsive PD) and .90 (for avoidant PD). The mean reliability for the continuous SIDP-IV PD scores was .80. Table 1 presents a summary of

Table 1
Prevalence of personality disorders in thin slice sample

	Diagnosis	One criterion short	Percent of total
Paranoid	9	12	9
Schizoid	2	5	3
Schizotypal	0	2	1
Antisocial	10	16	11
Borderline	6	3	4
Histrionic	1	3	2
Narcissistic	3	6	4
Avoidant	3	7	4
Dependent	2	1	1
OC	16	17	14

Note. OC, Obsessive compulsive personality disorder; Numbers based on SIDP diagnoses in a sample of 229 Air Force Recruits; Numbers reflect high co-morbidity between personality disorders.

the diagnoses for the 229 recruits based on the SIDP-IV. Seventeen percent of the recruits who were interviewed met full diagnostic criteria for at least one personality disorder, and another 11% fell only one criterion short of a diagnosis.

2.3. Thin slice materials

We selected one excerpt from each of 250 videotaped diagnostic interviews. Each video clip was 30 s long and was based on the recruit's answer to the first question in the SIDP interview, "What do you enjoy doing?" In order to show these excerpts to raters, we created ten different stimulus videotapes. Each tape contained video clips from 25 different recruits. Incomplete information on several clips left the total number of clips used in the analysis of SIDP information at 231 and the total for peer nomination analyses at 229.

The image that was viewed for the thin slice ratings showed the person seated from the waist up. At the time of the interview, all of the recruits were dressed in a standard military uniform, and they all had similar, short haircuts. Anyone needing eye glasses had been issued a pair of standard plastic glasses for use during basic training. These points are important because some personality impressions in everyday life may be driven by cues such as the person's choice of clothing, hairstyle, or make-up. These cues were all standardized in this military sample.

2.4. Raters

Raters were 172 undergraduate students (145 female, 27 male) enrolled in an introductory psychology course. Most were 18 years old (range from 17 to 26).

2.5. Procedure

Each videotape was watched and rated by several participants. The mean number of people who rated each tape was 17.1 (range of 14–21). For each segment on the

Table 2
Inter-correlations of the thin slice ratings

	Five factors					Likeable	Attractive
	E	A	C	N	O		
Extraverted	1.0	—	—	—	—	—	—
Agreeable	0.87	1.0	—	—	—	—	—
Conscientious	0.61	0.87	1.0	—	—	—	—
Neurotic	−0.58	−0.52	−0.49	1.0	—	—	—
Open	0.90	0.81	0.59	−0.45	1.0	—	—
Likeable	0.88	0.87	0.64	−0.53	0.85	1.0	—
Attractive	0.41	0.42	0.33	−0.27	0.37	0.63	1.0

videotape, raters recorded impressions of the target person using seven items, each to be rated on a Likert-scale from 1 (not at all) to 10 (completely). The raters were asked to indicate the degree to which each statement described the personality of the person on the videotape. Five of the items were traits from the five-factor model of personality. A series of additional descriptors was provided for each of these traits. The traits and descriptors were: Extraverted (talkative, assertive, active, excitement-seeking, and fun-loving); agreeable (trusting, straight-forward, helpful, easy-going, and modest); conscientious (deliberate, orderly, competent, dutiful, and achievement-striving); emotional (anxious, depressed, self-conscious, impulsive, and vulnerable); and curious (non-conforming, seeks novelty and fantasy, and open to new ideas and values). Item six asked raters to indicate how physically attractive they found the target person to be. Item seven was “Based on your first impression, would you like to get to know this person better?” We will refer to this variable as “likeability.”

3. Results

We calculated the interrater reliability of the thin slice ratings as intraclass correlations. The reliabilities of composite ratings for 14 raters were: Neuroticism (emotionality), .58; extraversion, .93; openness (curiosity), .88; agreeableness, .88; and conscientiousness, .82.¹ The reliability for ratings of physical attractiveness was .90, and the reliability for ratings of likeability was .89.

Intercorrelations among the seven thin slice ratings were also calculated. These are presented in Table 2. Overall, neuroticism was negatively correlated with all of the other traits measured. Ratings of extraversion, agreeableness, and openness were highly correlated with each other, and they were positively related to likeability.

¹ We use the terms neuroticism and openness in describing our results for the sake of consistency with the five-factor model of personality. We used the corresponding terms of emotionality and curiosity, coupled with additional descriptors, in order to describe these concepts to our thin slice raters because we thought that undergraduate students would find those words easier to understand.

Our primary interest was in the relation between thin slice ratings and evidence regarding the presence of personality disorders. Pearson's correlations were calculated between the mean of each of the thin slice ratings and diagnostic scales from two sources: the SIDP and peer nomination scores. Results from the SIDP were chosen to represent self-reported personality disorder traits rather than SNAP results because structured interviews are generally considered to be the gold standard in assessing personality disorders (Loranger, 1992). These results are presented in Table 3. Although the correlations are not large, many are significant at a p level of .05, and many are in expected directions. For individuals identified by peers as having traits of Schizoid, Schizotypal, Avoidant, and Dependent personality disorders, thin slice raters observed low levels of extraversion, agreeableness, conscientiousness, and openness. The raters also found these people to be less attractive and less likeable. Targets identified by peers as having Borderline personality disorder traits were also given lower ratings on likeability by the thin slice raters, and they were rated as being low on extraversion, agreeableness, conscientiousness, and openness. Targets who identified themselves as having characteristics of Histrionic personality disorder were

Table 3
Correlations between thin slice ratings and personality disorder measures

		Five factors					Likeable	Attractive
		E	A	C	N	O		
Paranoid	SIDP	-0.08	-0.06	-0.04	0.06	-0.03	-0.11	-0.10
	Peer	-0.09	-0.12	-0.13	0.10	-0.13	-0.08	0.02
Schizoid	SIDP	-0.34	-0.31	-0.19	0.16	-0.35	-0.35	-0.17
	Peer	-0.31	-0.28	-0.19	0.26	-0.29	-0.30	-0.20
Schizotypal	SIDP	-0.03	0.03	0.01	0.03	-0.01	-0.35	-0.17
	Peer	-0.24	-0.25	-0.18	0.26	-0.23	-0.26	-0.23
Antisocial	SIDP	0.14	0.07	-0.06	-0.15	0.11	0.10	0.05
	Peer	0.01	-0.04	-0.11	0.04	-0.04	0.01	0.03
Borderline	SIDP	0.05	0.04	-0.02	-0.06	0.04	0.02	0.01
	Peer	-0.14	-0.17	-0.17	0.18	-0.17	-0.14	-0.04
Histrionic	SIDP	0.25	0.23	0.09	-0.11	0.25	0.23	0.18
	Peer	0.14	0.12	0.02	0.04	0.12	0.18	0.18
Narcissistic	SIDP	0.09	0.08	0.03	-0.09	0.09	0.09	0.12
	Peer	0.15	0.10	0.01	-0.09	0.12	0.19	0.27
Avoidant	SIDP	-0.16	-0.07	-0.02	0.15	-0.10	-0.09	-0.04
	Peer	-0.27	-0.25	-0.16	0.27	-0.26	-0.28	-0.24
Dependent	SIDP	-0.08	-0.08	-0.11	0.05	-0.05	-0.06	-0.01
	Peer	-0.20	-0.21	-0.17	0.26	-0.20	-0.21	-0.17
OCPD	SIDP	-0.01	0.05	0.13	0.02	0.01	-0.01	0.01
	Peer	0.02	-0.01	0.08	-0.03	0.04	0.04	0.08

Note. $N = 229$ for peer nomination scores, $N = 231$ for SIDP; $r > .13$ is significant at p level of .05 (significant correlations are in bold-faced type).

perceived by thin slice raters as being high on extraversion, agreeableness, openness, attractiveness, and they were considered to be more likeable.

Sequential multiple regression was utilized to determine if the five thin slice personality factors improved prediction of personality disorders beyond the attractiveness and likeability factors. These regressions were done separately for peer-nominated personality disorders and for the SIDP results. For each disorder, the peer or SIDP results were first predicted from thin slice ratings of physical attractiveness. Next, self and peer results were predicted by attractiveness and likeability. Finally, the results were predicted from all seven thin slice ratings. Due to the large number of regressions calculated, only those that reached statistical significance ($p < .05$) are presented in Table 4 (SIDP results) and Table 5 (peer-nomination results). For each, statistics are presented for the overall equation (1) with only attractiveness, (2) with attractiveness and likeability, and (3) for the equation after the five factors were added. For each step, the change in R^2 associated with the addition of the relevant 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.

For several disorders, including the variable of likeability in the regression equation accounted for a significantly greater proportion of variance than physical attractiveness alone. This pattern holds for Schizoid personality traits (both SIDP and

Table 4
Significant regression analysis results by personality disorder: SIDP results

	Model	β	R^2	ΔR^2	F for ΔR^2
Schizoid	(1) Attractive	−0.17**	0.03**		
	(2) Attractive Likeable	0.07 −0.39**	0.12**	0.09	23.32**
	(3) All 7 variables		0.14**	0.02	1.04
Schizotypal	(1) Attractive	−0.18**	0.03**		
	(2) Attractive Likeable	−0.21* 0.05	0.03*	None	
Antisocial	(3) Attractive	0.04	0.07*	0.06	3.36**
	Likeable	−0.07			
	Extraverted	0.20			
	Agreeable	0.04			
	Conscientious	−0.29**			
	Neurotic Open	−0.16 0.04			
Histrionic	(1) Attractive	0.18**	0.03**		
	(2) Attractive Likeable	0.05 0.20*	0.06**	0.03	7.28**
	(3) All 7 variables		0.09**	0.03	1.47

Note. $N = 231$.

* $p < .05$.

** $p < .01$.

Table 5
Significant regression analysis results by personality disorder: Peer results

	Model	β	R^2	ΔR^2	F for ΔR^2
Schizoid	(1) Attractive	-0.20**	0.04**		
	(2) Attractive Likeable	-0.02 -0.28**	0.09**	0.05	12.42**
	(3) All 7 variables		0.12**	0.03	1.51
Schizotypal	(1) Attractive	-0.23**	0.05**		
	(2) Attractive Likeable	-0.11 -0.19*	0.07**	0.02	4.86*
	(3) All 7 variables		0.11**	0.04	1.99
Borderline	(3) All 7 variables		0.06*	0.04	1.88
Histrionic	(1) Attractive	0.18**	0.03**		
	(2) Attractive Likeable	0.11 0.10	0.04*	0.01	2.35
	(3) All 7 variables		0.07*	0.03	1.43
Narcissistic	(1) Attractive	0.27**	0.07**		
	(2) Attractive Likeable	0.25** 0.03	0.07**	None	
	(3) All 7 variables		0.09**	0.02	0.97
Avoidant	(1) Attractive	-0.24**	0.06**		
	(2) Attractive Likeable	-0.10 -0.22**	0.08**	0.02	4.91*
	(3) All variables		0.12**	0.04	2.01
Dependent	(1) Attractive	-0.17*	0.03*		
	(2) Attractive Likeable	-0.05 -0.18*	0.05**	0.02	4.76*
	(3) All variables		0.09**	0.04	1.94

Note. $N = 229$.

* $p < .05$.

** $p < .01$.

peer), peer-rated Schizotypal personality traits, Histrionic personality traits (SIDP), and peer-rated Avoidant and Dependent personality traits. While adding in the five-factor thin slice ratings improved overall variance explained for many disorders, the change in variance explained was significant only for Antisocial personality traits measured by the SIDP. For antisocial traits, thin slice ratings of conscientiousness were the strongest predictive variable.

4. Discussion

After viewing only 30 s of each target person's behavior, raters were able to generate reliable personality judgments. The highest level of agreement among raters was found for extraversion (.93), and the lowest level of agreement was found for

neuroticism (.58). The differences in reliability found among the traits may be a function of the visibility of the traits. Extraversion is a highly visible trait, and previous studies have found that it is rated more reliably than other traits (Funder & Colvin, 1988; Levesque & Kenny, 1993). The verbal content of our target persons' answers undoubtedly provided some important information for these ratings (e.g., "I like to spend time with my friends"), but the raters were probably also influenced by non-verbal cues, including signs of animation in the person's face and voice. Information regarding neuroticism is less easily visible because it hinges largely on private emotional experiences. Therefore, it is not surprising that the reliability is lower.

An interesting pattern illustrated throughout the results is the tendency of the thin slice ratings of extraversion, openness and agreeableness to cluster together and to be highly positively related to likeability. Other researchers have found this same cluster (of extraversion, openness, and agreeableness) to predict observer ratings of relationship quality, another positive attribute (Berry & Hansen, 2000). Attractiveness and conscientiousness ratings were also related to the extraversion cluster but the correlations were lower in magnitude than the likeability relationship. Neuroticism was negatively related to all of the other thin slice rating variables.

The regression results illustrate the possibility that raters were rating targets on a general extraversion/positive trait cluster that was related to likeability but distinct from ratings of physical attractiveness. While it is clear from these results that they were not based solely on attractiveness, the only disorder for which the personality characteristics explained a significant proportion of the variance when likeability and attractiveness were controlled was for antisocial personality traits. In general, ratings of personality factors (including the extraversion cluster of thin slice ratings) could not be empirically separated from ratings of likeability, possibly due to the fact that raters rated all five factors at the same time as well as rating likeability and attractiveness. This format may artificially foster more clustering of traits when rating the target individuals.

Correlation results for personality disorders predicted to include extraversion components indicated that the judges' ratings were not only reliable but were also accurate. People who were unacquainted with our target persons detected accurately the low extraversion of individuals with personality traits of schizoid and avoidant PDs and the high extraversion of individuals with histrionic personality features based on thin slices of behavior. For these disorders, the overall pattern of results was similar regardless of whether the criterion measure of pathological personality traits was based on the results of a structured diagnostic interview or nominations made by the target person's peers.

Accurate ratings were also made for the low extraversion of individuals with schizotypal personality features, the high neuroticism of individuals with borderline or avoidant features, the high conscientiousness of individuals with obsessive-compulsive personality features and the low conscientiousness of individuals with antisocial personality features. These findings are strengthened by their appearance above and beyond the high proportion of variance accounted for by the general extraversion trait cluster. Some counterintuitive findings were also observed, most notably low openness with schizotypal personality features and low agreeableness with

dependent personality features. For both of these disorders, the thin slice raters seemed to form a global, negative impression of the target person. Because the raters did not like the target person, they rated that person negatively on all traits in the extraversion cluster (failing to make fine distinctions among the different personality traits).

For most disorders, there was little relationship between the way that thin slice raters viewed individuals who were rated by peers to have pathological personality features and those who were selected by structured interview scores. Only with the three disorders most clearly linked to extraversion and thus most legible to naive observers (histrionic, schizoid, and avoidant) did thin slice ratings overlap for peer and SIDP groups. The discrepancy in the way the peer- and interview-identified groups appear to thin slice raters is probably due to two mechanisms. First, the group of targets who were identified by peers as having personality features did not overlap very much with the targets who were identified by use of a self-report structured interview. The correlation found between peer and self report for personality disorder features is only in the range between .22 and .30 (Thomas et al., 2003). Additionally, thin slice raters can be viewed as more closely aligned with peers of the targets than with the clinician-based structured interview results. The higher correlations between thin slice ratings and peer-report are likely a result of this feature.

Two caveats are important with regard to the correspondence between thin slice ratings and diagnostic information regarding personality disorders. First, we do not intend to imply that the thin slice raters were able to detect or diagnose the presence of a PD. They were asked to make judgments about variations in personality traits, such as extraversion, rather than decisions about the presence of absence of mental disorders. To say that they were sensitive to certain characteristics that are associated with PDs is not the same as saying that they were aware that any of these people might meet the diagnostic criteria for specific types of disorder. The present level of analysis is not able to provide fine-grained distinctions among different types of personality disorder.

The thin slice ratings clearly paint a very broad and, in some cases, markedly inaccurate picture of these people. For example, narcissistic people are expected to be low on agreeableness and dependent people are expected to be high on agreeableness. The impressions formed by our thin slice raters ran contrary to both of these expectations. Nevertheless, the thin slice ratings do indicate that the students quickly became aware of certain general characteristics of the people whose interviews they watched, and they did also form global impressions about how attractive and likeable they found those people to be.

Second, the magnitude of the correlations between our thin slice ratings and the measures of personality disorders is only modest, at best. None of these correlations exceed .35 (see Table 3). Ambady et al. (2000) have summarized correlations between thin slice judgments and outcomes in many different areas of social life (e.g., teaching effectiveness, workplace performance, health care outcomes, and personality). Their review indicates a typical correlation of .20 when thin slice ratings are used to predict other measures of personality. The surprising part of these results is that there is *any* significant relation between thin slice ratings and the results of more comprehensive

personality assessments. No one would suggest that first impressions should replace these other measures. Personality is certainly a complex and elusive construct, anchored by information from a variety of sources. The thin slice results simply suggest that people do make quick judgments that are at least partially accurate.

Impressions based on thin slices of behavior form the basis for attitudes and expectations that might easily influence the probability and nature of future interactions between the target and the judge. In our data, perceptions of pathological personality traits influenced the extent to which the thin slice raters were interested in getting to know the person better. The raters formed a negative impression of the people with schizoid, schizotypal, and avoidant personality traits. This was true for both peer and self-report measures of these disorders. Conversely, thin slice raters were attracted to, or were more interested in getting to know, people who exhibited traits associated with histrionic and narcissistic personality disorders.

These patterns suggest possible mechanisms that may maintain or exacerbate personality difficulties. For example, to the extent that people who are avoidant create a negative first impression, they may become even more anxious about their interactions with other people. On the other hand, histrionic and narcissistic behaviors may be perpetuated by the way in which they attract others, at least temporarily. These traits may not become interpersonally disruptive until the relationship becomes more intimate. For example, Paulhus (1998) found that people with narcissistic personality traits received positive evaluations from other members of a discussion group after the first 20 min of interaction. Seven weeks later, narcissistic individuals were no longer positively rated by other group members.

There may also be important individual differences that influence the accuracy with which people are judged. Some people may be more “legible” than others when viewed from a thin slice perspective (Ambady et al., 2000). Previous research has suggested that thin slice ratings are more accurate when the target persons are better adjusted, e.g., more extraverted, agreeable, conscientious, and stable (Colvin, 1993). The results of our study indicate that people with personality problems can also be judged accurately. The signal that is being read by the thin slice raters in this study seems to be strongest for certain disorders, especially schizoid, avoidant, and histrionic PD (see correlations in Table 3). Variations in the magnitude of these correlations raise questions about the extent to which people with certain kinds of PDs are more or less able to manage the impressions that they convey to other people. It may be more difficult to make accurate judgments regarding people with paranoid or antisocial PD. We intend to examine these issues in future studies.

Several methodological issues also need to be addressed. For example, we do not know what would be found if we took our thin slice samples from a point in the interview other than its beginning moments or from interactions that were not governed by the format of a semi-structured diagnostic interview. People who are less comfortable in social situations, such as schizoid and avoidant PDs, may become less noticeable (or aversive) after the interviewer has had more time to establish rapport. We also do not know on what basis the raters pick up this signal or what information they use in making these personality ratings. We do know that it is not the person’s clothing or haircut or make-up—which is all held relatively constant in this

military sample. Our clips included a wide range of information: Facial expressions, vocal signals, and verbal content. Raters might be responding to nonverbal cues, such as smiles, gestures, eye contact, rate of speech, or vocal inflections. They also might be responding to what the recruits said. Further exploration will be necessary to determine how people are able to make these ratings. Systematic analyses of these and other questions will undoubtedly help us understand the ways in which people with personality disorders are perceived by other people.

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