The Organization and Accuracy of Personality Impressions: Neophytes Versus Experts in Trait Attribution*

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In this study subjects who were high or low in Attributional Complexity had short conversations with strangers under two goal conditions: personality appraisal of their partners or a communication exercise. As predicted, attributionally complex subjects produced significantly more complex and more accurate personality impressions of their partners than attributionally simple subjects, but only when in-depth dispositional processing was encouraged in the personality appraisal condition. In addition, as expected, behavioural traits (e.g., talkative) were generally attributed more accurately than cognitive traits (e.g., intelligent). We concluded that people who possess complex attributional schemata have more ability than people with simple schemata to effectively interpret and utilize a large array of trait related individuating information, but only when such information is processed in an in-depth and goal-driven fashion; under these same conditions the personality attribution performance of simple subjects appears to deteriorate. Various explanations are advanced and some implications discussed.

The question of how personality impressions are organized and represented in cognitive schemata is a central topic in person perception and social cognition. Psychologists working under the rubric of implicit personality theory have typically conceived of personality impressions as comprised of traits organized into correlational matrices (Schneider, 1973). Two major principles have been invoked to explain the organization of these structures. The first is in terms of the semantic similarity between traits, and the second claims that our personality schemata faithfully represent the co-occurrence of dispositions as they occur in everyday behaviour (Schneider, Hastorf, & Ellsworth, 1979).

Another and less remarked upon feature that may help organize personal dispositions into coherent cognitive structures is the perceived pattern of causal relations between the personality dispositions and other elements in the personality impression. This notion is intuitively plausible: If we know that Fred comes from a sheltered background, is shy, insecure, and has a nervous twitch then causal inferences between these elements seem hard to resist. Consistent with this example, there is good evidence that causal inferences are involved in the organization of personality impressions (Asch & Zukier, 1984; Bradshaw & Anderson, 1982; Crocker, Hannah, & Weber, 1983; Fletcher, Danilovics, Fernandez, Peterson, & Reeder 1986; Hastie, 1984; Snodgrass, 1977; Stern, Marrs, Millar, & Cole, 1984).

In this research we further investigate the causal inference process in relation to personality impressions, but from an individual differences perspective. More specifically, we wished to study the role played by individual differences in attributional schema complexity in the organization and accuracy of personality impressions. We intended to measure schema complexity in the causal attribution domain using a recently developed scale, termed the Attributional Complexity Scale. Fletcher et al. (1986) reported this 28-item scale had good internal reliability and test-retest reliability, and also obtained evidence for the scale's convergent and discriminant validity, concurrent validity, and predictive validity.

The Attributional Complexity Scale is based on the notion that, in the human behaviour domain, attributionally complex schemata are characteristic of expert naive social psychologists. Accordingly, those possessing complex attributional schemata should be generally motivated to explain human behaviour, indulge in meta-cognitive attributional thinking, tend to infer complex causal explanations that are both internal and external, and so forth. The scale includes items such as "I don't usually bother to explain people's behaviour", "I prefer simple rather than complex explanations for people's behaviour", and "I tend to take people's behaviour at face value and not worry about the inner causes for their behaviour (e.g., attitudes, beliefs, etc.)."

Complexity of Personality Impressions

In this study, subjects who were either attributionally complex or simple (as defined by their scores on the Attributional Complexity Scale) had short conversations with strangers, then described their partners' personalities using free response descriptions and structured personality scales. The degree of complexity inherent in the personality descriptions was assessed according to the number of personality dispositions produced, and the extent to which these dispositions were organized and integrated in complex patterns. In addition, we attempted to manipulate the level of dispositional and attributional processing by assigning two separate conversation goals: In the personality appraisal condition subjects were explicitly instructed to find out what sort of person their partners were, while in the casual conversation condition subjects were told it was a communication exercise. We predicted that attributionally complex subjects would produce more detailed and sophisticated personality impressions than simple subjects in the personality appraisal condition, but not in the casual conversation condition.

We based this prediction on the proposition that it is unlikely that many people will unendingly produce complex and detailed explanations for the behaviour of others; a person who did so would remain permanently lost in thought. In daily life we are all faced with the task of making rapid causal judgments, often on the basis of minimal information. Moreover, we may often lack the motivation to develop a thoroughgoing or complete explanation. Hence, it follows that in situations where people are not motived or do not have the opportunity, for whatever reason, to consciously analyze another person's personality to any depth, they may, simple and complex alike, rely on the more automatic and data driven aspects of the person perception process (Bargh, 1984). Conversely, when more conscious and in-depth cognitive processing takes place, then higher-order schemata should assume a more influential role. More specifically, we expected that when subjects had the goal of forming a personality impression, compared to having a casual conversation, more extensive causal reasoning would occur during the process of organizing personality dispositions into coherent impressions. In short, individual differences in the complexity of attributional schemata should have more impact on subsequent personality impressions in the personality appraisal condition than in the casual conversation condition.

Accuracy of Personality Impressions

An extensive body of research in the 1940's and 1950's dealt with questions related to the accuracy of personality judgements. The early research suggested that being a good judge of character was related to such factors as artistic ability and intelligence levels (Dymond, 1950; Estes, 1938; Vernon, 1933), though little evidence was found for the existence of a general ability to assess other people's personalities accurately across stimulus persons and situations (Taft, 1955). This research program floundered after Cronbach's (1955) trenchant methodological critique of this area, although there has been sufficient research carried out over the last three decades to establish that, under certain conditions, there is good agreement between self personality judgements and judgements of peer raters, and also reliable inter-judge agreement concerning the individual being rated (see Funder, 1987, for a recent review of this re-

search). However, there has been little interest in individual differences concerning the accuracy of personality judgements, since Cronbach and others pointed out the serious methodological flaws in the earlier research.

Two previous findings suggest that high Attributional Complexity is associated with increased accuracy in inferring dispositions from behavioural criteria. First, Funder and Harris (1986) found that Attributional Complexity was significantly and positively correlated with the ability to interpret nonverbal information, using a test devised by Rosenthal and his colleagues (Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1977). Second, Fletcher, Bull, and Reeder (1988) had subjects read essays whose authors had been randomly assigned to write an essay either defending or attacking the view that homosexuality should be illegal (i.e., the authors had no choice concerning the direction of the essay). Attributionally complex subjects, according to the Attributional Complexity Scale, were significantly more accurate than simple subjects in assessing the authors' real attitudes (that were assessed prior to the essays being written), but only in conditions where they were enabled to carry out in-depth processing of the essays.

However, these findings were derived from artificial laboratory settings which involved no behavioural interaction. One purpose of the present study was to test whether the relation between Attributional Complexity and accuracy of trait attribution would hold up using experimental tasks that more closely approximated the kind of freewheeling social interaction, characteristic of real-life social situations. We hypothesized that attributionally complex subjects would produce more accurate personality impressions than simple subjects. However, in line with our previous theorizing we also expected that this difference between high and low Attributional Complexity would only become apparent when the goal of the conversation was personality appraisal. Our reasoning here was that giving attributionally complex subjects the goal of personality appraisal would provide these subjects with the necessary motivation to exploit their superior expertise

in trait inference. The more extensive dispositional and attributional processing produced by attributionally complex subjects in this condition, as compared to simple subjects, should enable them to build more accurate personality impressions.

We planned to measure accuracy of trait attribution in terms of the agreement between self and partner personality ratings, using a scale that sampled a broad range of representative dispositions. The personality scale developed for this purpose was based on Norman's (1963) five factor model of personality: Extraversion, Neuroticism, Conscientiousness, Agreeableness, and Intellect[1]. There is a good deal of evidence that these factors represent a comprehensive and robust set of personality categories that capture an underlying structure in the enormous lexicon of personality descriptors available in our language (Norman, 1963; McCrae & Costa, 1985; 1987).

Funder and Dobroth (1987) found that self-other agreement was highest for those personality judgements that loaded on Extraversion and Conscientiousness, and significantly inaccurate on the traits that loaded on Neuroticism. Funder and Dobroth's explanation, based on related data and analyses, was in terms of the differential "visibility" of personality traits. For example, traits related to Extraversion, such as sociable or outgoing, typically refer to overt patterns of behaviour and appear to be more easily judged. By contrast, traits related to Neuroticism, such as sensitive or daydreams regularly, more often refer to private states of mind or mental events that are not observable and must be inferred. However, Funder and Dobroth's raters and ratees were longstanding acquaintances. The question addressed in this study is whether such differences will emerge when subjects have much more limited access to

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[1]The greatest argument over Norman's five factors concerns the Culture factor, which has variously been labelled as Intellect, Intelligence or Openness to Experience. In this particular study we considered the most appropriate label was Intellect, based on the face validity of the three dimensions we chose to measure this factor: intelligent-stupid, complex-simple, and curious-uncurious.

information concerning the subject being rated.

Following Funder and Dobroth's reasoning, we predicted that subjects would generally be most accurate for traits related to Extraversion, Agreeableness, and Conscientiousness, and be least accurate on traits concerned with Neuroticism and Intellect. However, consistent with our earlier theorizing, we predicted that attributionally complex subjects would generally be more accurate than simple subjects in the personality appraisal condition. We left open the question of whether or not the advantages in accuracy accruing to the complex subjects would vary according to the category of personality trait.

To summarize, subjects in this study had a 15 minute conversation under goal conditions that manipulated the motivation to carry out in-depth dispositional processing. We predicted that, under high motivation conditions, subjects with complex attributional schemata would be more likely than subjects with simple schemata to produce more complex and more accurate personality impressions of their partners. In addition, we expected that subjects would generally produce relatively accurate trait judgements related to Extraversion, Agreeableness, and Conscientiousness, but be less accurate on traits related to Neuroticism and Intellect.

Method

Subjects

One hundred and seventy four women and 126 men, who were first year psychology students attending The University of Canterbury (New Zealand), initially participated in this study. The final sample consisted of 118 women and 83 men[2].

Procedure

The study was run during laboratory periods that were part of an undergraduate psychology class. Subjects were run in groups of 25-45, and were randomly paired with other group members of the same sex. They were asked if they had previously talked to or had any prior acquaint-

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[2]No significant sex differences were found in any prior analyses. Hence, this variable will not be mentioned further.

ance with their partners. Subjects who reported any prior acquaintance with their partners were paired with a different, and unknown, same-sex partner. In order to lower the probability of subjects knowing other students in their class, this experiment was conducted at the beginning of the academic year with a large first year class. Fewer than 5% of the subjects reported having any prior acquaintance with their original partner.

Subjects had conversations that were timed to last 15 minutes. After the conversation, subjects moved away from their partners to other positions in the large room in which the study was conducted. Subjects then wrote personality descriptions of their partners and completed the personality scales and the Attributional Complexity Scale (Fletcher et al., 1986), in that order. Subjects were asked to be completely honest and were assured that the written material was confidential, anonymous, and would not be seen by their partners. This message was repeated verbally and in the written instructions prior to each dependent measure. Subjects were debriefed at the end of the session.

Before analyzing the data, we tested whether the data from the conversation pairs of subjects were independent by calculating intraclass correlations for each dependent and independent variable within each conversation condition. All six correlations were nonsignificant ($p > .25$) and close to zero. On the basis of these findings, we treated the data from the conversation pairs as independent (see Kenny & La Voie, 1985 for more details).

Independent Variables

Two sets of instructions were used to manipulate the goal of the conversation and the subsequent depth of cognitive processing. In both conditions subjects were instructed to have a 15 minute conversation with one other person, during which time they could talk about whatever they wished. In the casual conversation condition subjects were told that the task was an exercise in communication. In the personality appraisal condition the subjects were told that it was a person perception exercise, and were instructed to try and get to know their partners as best they could and find out what sort of people they were.

Attributionally complex and simple subjects were derived from scores obtained on the Attributional Complexity Scale (Fletcher et al., 1986). This scale has previously been used only with North American samples. However, the internal reliability coefficient with the present sample was .85, suggesting the scale is suitable for New Zealand students. Total scores from the

scale were ranked and attributionally complex and simple groups were created by selecting subjects scoring in the upper and lower tertiles.

There was no overall relation between the Attributional Complexity scores of the final sample of subjects and the Attributional Complexity scores of their partners ($r = .07$). Hence, it is unlikely that the Attributional Complexity level of the subjects' partners is a confound in the results.

Dependent Measures

Personality descriptions. Subjects were asked to describe their partners and write their impressions and assessment of his or her personality. The complexity level of these personality descriptions was assessed using two criteria — the number of personality dispositions mentioned and the organizational complexity of these dispositions. Personality dispositions refer to internal stable traits, beliefs, abilities etc. Factors such as biographical information, hobbies, or behaviour during the conversation were not included. The third author coded each personality description, blind to the condition or complexity level of the subject, and recorded each disposition. To check the reliability of the coding procedure, the first author coded 50% of the descriptions selected randomly from each condition. An agreement rate of 86% was achieved. The data from the third author were used in this study.

To measure the organizational complexity of the personality descriptions, a new scale was developed based on the method devised by Schroder, Driver, and Streufert (1967) to score open-ended protocols. If a subject simply listed dispositions without explicitly attemping to relate them to one another or to other factors, then this represented 1 on the 6 pt. scale. The highest possible score was 6. The presence of each of the following factors added 1 pt. to the total organizational complexity score: (a) Relating an external behavioural trait to an internal disposition; e.g., outwardly he is confident but inwardly he is insecure, (b) relating a disposition to a past causal factor; e.g., she came from a large family which may be why she is so warm, (c) stating or implying that one disposition is causally linked to another; e.g., his shyness is caused by his insecurity, (d) resolving or noting contradictions in a person's personality, (e) some discussion of the basis for the subject's personality judgements[3]. The first author coded all the personality descriptions blind to the subjects' complexity level or experimental con-

dition — these data were used in the present study. To test the reliability of this scale, the third author coded 50% of the personality descriptions randomly selected from each condition, after a short training period. The percentage agreement rate varied from 70% to 100% for the six categories. An overall Cohen's Kappa of .77 was attained. To summarise, the above coding procedures were reasonably reliable.

The mean number of dispositions produced was 6.3 ($SD = 3.1$), and the mean organizational complexity score was 2.7 ($SD = 1.3$). As expected, the two measures of complexity were significantly positively correlated ($r = .49, p < .001$). One impression complexity measure was derived by standardizing each complexity variable (converting to z scores) and summing the two variables.

Personality scales. The 15-item scale used was derived from an 80 item scale developed by McCrae and Costa (1985) to measure Norman's five-factor model of personality. Three items were selected from each one of Norman's five personality factors, based on the factor loadings obtained in the factor analysis reported by McCrae and Costa (1985). All items used 7 point semantic differential scales. Examples of items measuring each factor were: quiet-talkative (Extraversion), stubborn-flexible (Agreeableness), disorganized-organized (conscientiousness), relaxed-high strung (Neuroticism), simple-complex (Intellect). Each subject filled out two copies of the scale. One scale referred to the subject's own personality. The other scale referred to his or her partner's personality. One subject from each conversation pair was randomly selected to complete the self-scale prior to the partner-scale; each subject's partner completed the personality scales in the reverse order[4].

Each subject's set of personality ratings of his or her partner was correlated with the self ratings of the partner. These within subject correlations (converted to Fisher's z scores) were used as measures of the accuracy of subjects' personality judgements.

Methodological Issues in Measuring Accuracy

There are a number of methodological problems, first pointed out by Cronbach (1955), in the measurement of accuracy. First, using difference scores to measure accuracy produces response bias problems (termed "elevation" by

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[3]A full description of the coding scheme is available from the first author.

[4]The order in which these scales were completed had no effect on any of the dependent variables, and hence will not be mentioned further. A copy of this personality scale can be obtained from the first author.

Table 1: *Mean Impression Complexity Scores of Personality Descriptions as a Function of Conversation Goal and Attributional Complexity Level*

Conversation Goal	Simple	Complex	t value	p
Personality appraisal	-.50 (1.6)	.75 (1.9)	3.6	<.001
n's	41	53		
Casual conversation	-.46 (1.5)	.19 (1.6)	1.6	ns
n's	62	45		

Note. Higher impression complexity scores represent more complex personality descriptions. The t values and probability levels are derived from planned comparisons within each conversation goal condition. The sd's for each cell are shown in brackets.

Table 2: *Mean Correlations Measuring Accuracy of Subjects' Personality Judgements of Their Partners as a Function of Conversation Goal and Attributional Complexity Level*

Conversation Goal	Simple	Complex	t value	p
Personality appraisal	.17 (.36)	.35 (.33)	2.8	< .005
Casual conversation	.28 (.33)	.28 (.39)	0.0	ns

Note. The t values and probability levels are derived from planned comparisons within each conversation goal condition. The sd's for each cell are shown in brackets.

Cronbach). These problems are circumvented by using correlational measures of accuracy, which we used in this study. Second, self-partner agreement may be confounded with the degree of perceived similarity which in turn may be related to actual similarity. This issue was addressed in this study by measuring and controlling for the degree of actual similarity in self-rated personality traits. Third, greater accuracy may be the result of more accurate stereotypes concerning the personalities of the class of people being rated, rather than on the basis of information gleaned from the individual being rated. Although stereotypical judgements were not measured in this study, if attributionally complex subjects are more accurate because of their stereotypes then they should be more accurate in *both* conversation conditions. In contrast, we predicted subjects would be more accurate in the personality appraisal condition but not in the casual conversation condition.

Results
Complexity of Personality Descriptions

The mean impression complexity ratings derived from the personality descriptions can be seen in Table 1. As predicted, attributionally complex subjects produced significantly more complex personality descriptions than simple subjects, but only when the goal of the conversation was personality appraisal.

Accuracy of Personality Impressions
Overall agreement between subject-

partner and partner-self ratings. Subjects completed personality scales for both themselves and their partners. As described previously, within subject correlations (converted to Fisher's z scores) were used as measures of the accuracy of subjects' personality judgments. The mean correlations (converted back from Fisher's z scores) can be seen in Table 2. As predicted, attributionally complex subjects were significantly more accurate than simple subjects in the personality appraisal condition, but not in the casual conversation condition. High attributional complexity subjects became more accurate when the dispositional inference process was explicitly encouraged, whereas the simple subjects' accuracy actually declined under these conditions.

To test whether the actual degree of personality similarity between conversation pairs could have artifactually produced these results, we regressed attributional complexity (as a continuous measure) onto the accuracy correlations in the personality appraisal condition, but partialling out actual personality similarity. Actual personality similarity was measured by correlating each subject's set of self personality ratings with each subject's partner's self ratings (and converting to Fisher's z scores). Attributional complexity main-

Table 3: *Mean Correlations Measuring Accuracy of Subjects' Personality Judgements of Their Partners as a Function of Conversation Goal, Attributional Complexity Level, and Personality Category*

Personality Category	Personality Appraisal		Casual Conversation	
	Simple	Complex	Simple	Complex
Extraversion	.06	.34*	.42**	.05
Conscientiousness	.40**	.58***	.28*	.04
Agreeableness	−.34*	.43**	−.13	.40**
Neuroticism	.06	.19	−.02	.00
Intellect	.02	.06	.20	.26

Note. Significance levels were calculated using 2-tailed tests.
  * $p < .05$
 ** $p < .01$
*** $p < .001$

tained a significant relation with the accuracy correlations in this analysis ($\beta = .21$, $p < .05$). Hence our results are not simply an artifact of actual similarity between the personalities of the conversation pairs.

Agreement between subject-partner and partner-self ratings using Norman's (1963) five personality factors. A principal components factor analysis of the self personality scale items for the complete sample ($n = 300$) produced strong confirmation of Norman's five factor structure. Five factors were produced with eigenvalues greater than 1, together explaining 60.5% of the variance. The orthogonally rotated structure showed that all but one of the 15 items obtained high and positive loadings on the expected personality factors, (M loading $= .70$). The trait of curiosity loaded on the Extraversion factor, rather than the Intellect factor as had been expected.

Separate scores for each of the five personality factors were created by summing the three items in each subscale (but including curiosity in the Extraversion factor). Each set of personality scores, representing the subjects' judgements of their partners, were then correlated with the equivalent self ratings of the subjects' partners across subjects, but within the two conversation goals. The resulting correlations are shown in Table 3.

As can be seen in Table 3, 7 out of the 12 accuracy correlations for the Extraversion, Conscientiousness, and Agreeableness personality categories were positive and significant. In contrast, not one of the 8 correlations for the Neuroticism and Intellect categories were significant. Hence, there was general support for our hypothesis that personality judgements in the former three categories would be more accurate than in the latter two categories.

Mirroring the results of the overall accuracy correlations (see Table 2), the attributionally complex subjects in the personality appraisal condition achieved more positive and significant accuracy correlations than the other groups. In the personality appraisal condition, the complex subjects were moderately accurate in their judgements of Extraversion, Conscientiousness, and Agreeableness. By contrast, in the same condition, the attributionally simple subjects scored just one positive significant correlation (Conscientiousness) and were significantly inaccurate at assessing Agreeableness.

Why were the Attributionally Complex Subjects More Accurate in the Personality Appraisal Condition?

First, we tested whether the complexity of the personality impressions was mediating the link between Attributional Complexity and accuracy in the personality appraisal condition. When personality impression complexity was controlled for, the partial regression coefficient between Attributional Complexity and accuracy was nonsignificant but still well above zero ($\beta = .14$). This analysis provides only weak evidence that in the personality appraisal condition, the complex subjects were producing more accurate personality im-

pressions as a function of their increased sophistication of trait organization and integration.

A more artifactual explanation for the suppressed accuracy of the simple subjects in the personality appraisal condition, is that attributionally complex subjects may have dominated the conversations and prevented the simple subjects from acquiring as much information as themselves. We attempted to test this hypothesis by computing correlations between the accuracy correlations (converted to Fisher's z scores) of the simple subjects and the Attributional Complexity scores of their partners, within the personality appraisal condition. If the above hypothesis is correct, the accuracy correlations of the simple subjects should be negatively related to the Attributional Complexity scores of their partners. The correlation was in fact nonsignificant and close to 0.

A second and related possibility is that Attributional Complexity may covary with other personality traits, such as extraversion, that might help account for these differences. To examine this hypothesis, we correlated the Attributional Complexity scores with the sub-totals from Norman's five personality factors (calculated from the self personality ratings) for the whole sample ($n = 300$). The resultant correlations were nonsignificant for Agreeableness, Conscientiousness and Neuroticism. Subjects who were higher on Intellect were significantly more complex ($r = .24$, $p < .001$), and subjects who were more extraverted were more complex ($r = .12$, $p < .05$). The correlation with Intellect is consistent with the underlying construct of Attributional Complexity. The correlation with Extraversion is significant but is low and explains only .01% of the variance. A recent study by Funder and Harris (1986) also found low and nonsignificant correlations between Attributional Complexity and a range of personality traits including extraversion. Taken together, these results suggest that the difference in accuracy between complex and simple subjects, in the personality appraisal condition, is not simply caused by complex subjects dominating the interaction.

Discussion

The results generally supported our major hypotheses. Attributionally complex subjects produced significantly more complex and more accurate personality impressions than simple subjects when more effortful and conscious dispositional and attributional processing was encouraged. However, the differences between attributionally complex and simple subjects were not significant when the conversations were more casual and not explicitly aimed at determining the partners' personalities.

Our results confirm the proposition that causal attribution processes are integrally involved in the formation of person impressions. We believe that causal inferences between personal dispositions and other items in person impressions are one important source of the "cognitive glue", that enables the elements in person impressions to be organized into cognitive units for storage and retrieval. If we are right, then people with complex attributional schemata should be able to store and recall personality impressions more efficiently than those with simple schemata; but, again if our prior theorizing is correct, this tendency should be enhanced when effortful in-depth processing takes place. This hypothesis seems worthy of future investigation.

Why were the trait judgements of the attributionally simple subjects less accurate in the personality appraisal condition than in the casual conversation condition, whereas the complex subjects demonstrated the opposite pattern, attaining higher accuracy in the personality appraisal condition? There are several plausible explanations. The possibility that complex subjects may have dominated the interaction, thus preventing the simple subjects from gaining as much information as themselves, was not supported by our subsidiary analyses. In addition, the finding that similar levels of accuracy were obtained by complex and simple subjects in the casual conversation condition argues against the possibility that complex subjects were simply using more accurate student stereotypes in the trait judgements of their partners.

Of course, complex subjects may well

have asked their partners more acute and diagnostic questions than simple subjects in the personality appraisal condition. However, a more general explanation for these results, that also encompasses the prior findings of Fletcher et al. (1988), is that complex subjects have the ability to effectively integrate a welter of trait related individuating information when that information is processed in an in-depth and goal-directed fashion. In contrast, the same motivating conditions seem to produce a deterioration in the trait attribution performance of simple subjects. These results support our previous arguments that it is precisely when there is a profusion of incoming information, and there is both the time and the motivation to carry out consciously controlled, in-depth, inferential processing that we might expect higher order cognitive schemata to exert its strongest influence.

As predicted, the traits loading on Extraversion, Conscientiousness, and Agreeableness were generally attributed with more accuracy than the traits loading on Neuroticism and Intellect. These findings are consistent with Funder and Dobroth's (1987) results, and give further support to the idea that some traits are easier to judge than others. The Agreeableness factor comprised the set of trait judgements for which complex subjects were the most consistently accurate across conditions; oddly, the simple subjects were the most inaccurate on the same group of traits. These results are intriguing given that this factor consisted of the dimensions stubborn-flexible, suspicious-trusting, and critical-lenient: traits that appear to be both cognitive and abstract. It is possible that attributionally complex subjects, for some reason, have more accurate stereotypes concerning these particular traits than simple subjects.

One issue relevant to our results concerns the relation between Attributional Complexity and (social) intelligence. Fletcher and his colleagues have found no evidence that Attributional Complexity is related to academic ability (Fletcher et al., 1986), or to intelligence tests measuring verbal and number reasoning (Fletcher et al., 1988). On the other hand the present results and

other research findings (Fletcher et al., 1988; Funder & Harris, 1986) suggest that Attributional Complexity is related to the concept of social intelligence, which has typically been defined, in part, in terms of the ability to judge the internal psychological traits and states of others (see Sternberg, & Smith, 1985). Social intelligence has also usually been conceptualized in terms that are closer to personality or behavioural traits, such as empathy, social maturity, and social skills. The evidence from this study and the work of Funder and Harris (1986) suggest that Attributional Complexity is not related to these more behavioural aspects of social intelligence.

Over the last decade or so there has been intense interest in the errors and biases inherent in commonsense thinking (Funder, 1987; Nisbett & Ross, 1980). The model of the naive perceiver's thinking processes generated by this work is an unflattering one, and the work on trait attribution is no exception. The layperson is said to overestimate the importance of the internal dispositional causes of behaviour and underestimate the external causes (a tendency tagged the fundamental attribution error by Ross, 1977), to exaggerate the stability of behaviour across situations (Kunda & Nisbett, 1986), and to overplay the extent to which others share our personal beliefs and attitudes (a bias often labelled the false consensus effect, Ross, Greene, & House, 1977). The naive perceiver is left looking like a "naive simpleton".

Trait attributions are certainly pervasive in everyday person perception, and there is evidence that they can be made rapidly and automatically, and based on minimal information (Smith & Miller, 1983; Winter, Uleman, & Cunniff, 1985). Hence, we are inclined to accept that the trait inference process is often centered around simple heuristics or rules that will at times result in bias and error. However, our research suggests that when in-depth attributional and dispositional processing is encouraged, individual differences in schema complexity will partly determine both the complexity and the accuracy of subsequent person impressions. In short, under certain conditions, some naive perceivers will re-

semble experts rather than simpletons in personality judgement.

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