Trait Diagnosticity Versus Behavioral Consistency as Determinants of Impression Change in Adulthood

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Age differences in the types of processing associated with impression change were examined. Young, middle-aged, and older adults formed an impression of a target based on a short vignette that described either positive or negative characteristics in 1 of 2 domains (ability vs. morality). Impression change was examined after presentation of additional behavioral information that was inconsistent with the original vignette. Replicating previous findings, younger adults changed their impressions in response to the consistency of the new information with the initial target description. In contrast, impression change in the 2 older groups was based on the trait diagnosticity of the original and new information, suggesting greater use of inferential, knowledge-based processing with age. The results indicate that qualitative differences exist in impression change processes, with different-aged individuals considering different types of information when constructing and updating social representations.

Substantial research indicates that aging is associated with changes in the effectiveness and efficiency of basic cognitive and intellectual skills (Craik & Salthouse, 1992). Recent social-cognitive research also demonstrates, however, that aging is associated with changes in the construction and complexity of representations about social events and people that are attributable to factors other than the efficiency of these basic skills. For example, increasing age in adulthood is associated with consideration of more sources of information in making causal attributions (Blanchard-Fields, 1994; Blanchard-Fields & Norris, 1994), greater attention to the emotional content of social interactions (Carstensen & Turk-Charles, 1994), and an increased focus on how events relate to personal experience (Adams, 1991; Adams, Labouvie-Vief, Hobart, & Dorosz, 1990). One way to think about these observed age effects is to assume that they reflect age-related differences in the availability, strength (i.e., accessibility), or both of social schemas, which in turn influence the salience of specific goals and the importance attached to specific events in the environment (Hess, 1994). Presumably, these changes in availability and accessibility reflect experience and progression through age-graded roles. For example, Carstensen and Turk-Charles (1994) argued that the increased salience of emotion-related information in later adulthood reflects a shift in the importance of specific social goals, with those being associated with maintaining positive affective outcomes increasing in significance with age as those associated with information acquisition decrease.

The results of recent research by Hess and Pullen (1994) dealing with impression change appear to be consistent with this hypothesis of increased complexity in representational processes with age. In this research, young and older adults read vignettes designed to elicit either a positive or negative evaluation of a fictitious target person. These individuals were then presented with additional behavioral information about the target, some of which was evaluatively and descriptively inconsistent with the vignette. Impression ratings were collected both before and after presentation of this new information, and these ratings were then examined as a function of the information presented to the individual to determine factors influencing impression change. Hess and Pullen found that the degree of impression change—as reflected in judgment shifts in the direction of the new, inconsistent information—for younger adults was similar regardless of the nature of the initial vignette or the subsequent information. The fact that impression change was observed suggested that these individuals were integrating the new information with their original impression of the target. The similarity in degree of impression change across conditions, however, suggests that the young adults were not engaging in extensive inferential processing, with their revised representations primarily reflecting the extent to which the new information was evaluatively consistent with the behavioral information initially provided about the target.

In contrast, older adults focused on negative information in determining their impressions, exhibiting less impression change when positive behaviors were attributed to a person initially evaluated in negative terms than when negative behaviors were attributed to a target previously viewed in positive terms. In addition, the amount of change in the latter condition was significantly greater than that observed for younger adults. Hess and Pullen (1994) hypothesized that this pattern of performance reflected the influence of beliefs about the diagnosticity of specific behaviors with respect to underlying traits that formed the basis for their impressions. The term diagnosticity is borrowed from the concept...
learning literature (e.g., Rosch, 1978) and refers to the extent to which a cue associated with a specific object or event contains probabilistic information about its assignment to specific categories. In this case, behaviors are the cues, and people presumably consider these cues in the context of all the information available to them to determine which category of person (e.g., the prototype of an honest person) best describes the target. In Hess and Pullen's (1994) Experiments 2 and 3, the majority of behaviors were related to traits associated with the morality domain (e.g., honesty, helpfulness). Skowronske and Carlston (1987, 1989) have argued that within this domain, behaviors relating to the negative end of the trait dimension (e.g., lying) are typically more diagnostic about where the person falls on that trait dimension than are positive behaviors and thus should have a greater impact on determining impressions. For example, both honest and dishonest people tell the truth, but only dishonest people tell lies. Thus, information about dishonest behaviors should be given more weight than information concerning honest behaviors, at least when both types of information are available. The facts that older adults' negative impressions were unaffected by positive information and that their positive impressions were disproportionately affected by negative information thus suggests that diagnosticity was a prime factor underlying their perceptions of the target.

The age differences obtained by Hess and Pullen (1994) are suggestive of increased knowledge-based processing with age. That is, older adults appear more likely than younger adults to interpret events in terms of normative belief systems associated with diagnosticity. This may be due to the accumulation of experience in the social world with age, resulting in these belief systems being more firmly ingrained and thus having a higher degree of chronic accessibility for older than younger adults. A potential confound in the materials used in that study, however, may limit support for the argument that beliefs have a stronger impact on judgments with increasing age. Specifically, diagnosticity was confounded with negativity in the behavioral information used as stimuli, and thus it is unclear whether the age differences in impression judgments were attributable to attention to diagnostic information or some aspect associated with negativity. For example, research with younger adults (e.g., Pratto & John, 1991) has shown that negative information is more attention-grabbing than positive information. On the basis of current theorizing that suggests that aging is associated with a reduction in control of attentional resources (Craik & Byrd, 1982; Hasher & Zacks, 1988; Salthouse, 1991), it could be argued that the disproportionate weighing of negative information may have actually reflected age-related decrements in cognitive functioning.

The goal of the present research was to disentangle these potential explanatory mechanisms by eliminating the confound between behavior valence and diagnosticity. In this research, we replicated the basic procedure of Hess and Pullen (1994) by presenting different-aged participants with a positive or negative target vignette followed by additional behavioral information that was inconsistent with this vignette. In addition to using behavioral descriptions relating to the morality domain, we also used descriptions relating to the ability domain. In contrast to the morality domain, diagnosticity is positively correlated with valence in the ability domain (Skowronske & Carlston, 1989). For example, getting an A in calculus is more diagnostic of where the individual falls on the intelligence dimension than is failing a test, which could be attributable to any number of factors besides lack of intelligence (e.g., not studying, illness). Thus, inclusion of descriptions relating to the ability domain should allow a more precise test of the basis for age differences in impression change.

In this research, we expected to replicate the findings of Hess and Pullen (1994) using the morality-related stimuli. That is, behavioral consistency (i.e., the congruence between the initial information about the target and the subsequently provided behavioral information) was expected to be the primary determinant of impression change in young adults, whereas diagnosticity and negativity was expected to increase in importance with age. The critical information in the present research comes from comparisons between performance in the morality and ability domains. If behavioral consistency is the primary determinant of performance for younger adults, similar patterns of ratings should be observed across conditions, with impression change being similar regardless of the behavioral domain or the valence of the target vignette. For older adults, the contrast in performance across domains is critical in determining whether diagnosticity or valence is the primary determinant of impression change. If older adults focus on negative information, a similar pattern of performance to that observed by Hess and Pullen in the morality domain should also be observed in the ability domain. That is, change should be greater when positive impressions are followed by negative information than when the opposite occurs. If diagnosticity is the primary determinant of impression change in the older adults, opposite patterns of performance should be observed across domains, with change being greater when positive information follows a negative impression in the ability domain.

To get a better picture of the developmental course of impression change processes, we also included a middle-aged group of adults in our research. Inclusion of this group might also facilitate distinguishing between competing explanations. For example, if the expected age differences reflect a shift from behavioral consistency to diagnosticity due to increasing experience with social interactions, we might expect that middle-aged adults would perform more like older adults because of an average of approximately 25 additional years of social experience compared with younger adults. It may be, however, that differences between middle-aged and both younger and older adults might result in somewhat unique patterns of performance. For example, Labouvie-Vief, Chiodo, Goguen, Diehl, and Orwell (1995) examined age differences in representations of self and obtained results suggesting that the complexity of representational processes peak in midlife. This would lead to the hypothesis that middle-aged adults would be even more likely than older adults to engage in knowledge-based inferential processing in our task.

**Method**

**Participants.** A total of 140 individuals participated in this study, with 47 (25 men and 22 women) in the young group, 47 (14 men and 33 women) in the middle-aged group, and 46 (22 men and 24 women) in the older group. Sample characteristics are presented in Table 1. The young adults were recruited from introductory psychology classes at North Carolina State University and participated to fulfill a course option. The remainder of the participants were recruited from the community through newspaper advertisements and received $10 for their participation. As can
be seen in Table 1, relative to the young group, the two older groups had significantly more education. $F(2, 134) = 39.05, p < .001$, and better performance on Vocabulary Test 2 (Parts 1 and 2) from the Kit of Factor-Referenced Cognitive Tests (Ekstrom, French, Harman, & Derman, 1976), $F(2, 134) = 58.11, p < .001$. Significant between-groups differences were also observed in raw scores on the Digit Symbol subtest of the Wechsler Adult Intelligence Scale–Revised (Wechsler, 1981), $F(2, 134) = 39.17, p < .001$, with the two younger groups outperforming the older group. Finally, to assess working memory functioning, we gave participants a loaded listening span task similar to that developed by Daneman and Carpenter (1980). Scores on this task also varied with age, $F(2, 134) = 26.71, p < .001$, with the two younger groups again outperforming the older group.

**Materials.** Four different vignettes were developed for this task, each describing a fictitious male target (see the Appendix). Two of the vignettes were designed to create a positive impression, one relating to honesty and the other relating to intellectual ability. The other two vignettes were designed to create negative impressions on these two trait dimensions. For each dimension, a set of 20 behaviors was also developed. Four of these behaviors were buffer items (e.g., “John went fly fishing with his new rod and reel”) and did not explicitly relate to either intellectual ability or honesty. The remainder of the set consisted of 8 behaviors reflecting the negative end of the dimension and 8 behaviors associated with the positive end of the dimension (see the Appendix). The behaviors were presented in list form with two buffer items at the beginning and end of the list of 16 target behaviors, which were randomly arranged with the stipulation that no more than two positive or negative behaviors would appear consecutively. The target behaviors were selected from a larger group of 46 behaviors in each domain that were constructed by the authors or adapted from other sources (Hess & Pullen, 1994; Skowronsks & Carlson, 1987). These behaviors were initially presented to an independent group of 39 younger adults, who rated each one on the trait dimension of interest using a 9-point scale (1 = dishonest/stupid, 9 = honest/intelligent). The final sets of behaviors selected for inclusion in the study had mean ratings of 7.31 and 3.14 for the positive and negative behaviors reflecting the intelligence dimension and 7.62 and 3.11 for the positive and negative behaviors on the honesty dimension, respectively. Note that the behaviors included in the stimulus set did not reflect extremes on these two dimensions. We specifically chose more moderate behaviors because extremity also appears to be a indicator of diagnostically (e.g., Skowronsks & Carlson, 1987). Thus, the use of such behaviors should result in a focus on valence-related aspects of diagnosticy within our two domains rather than on extremity-based characteristics.

A form consisting of nine different trait dimensions was developed for obtaining impression ratings. Each dimension was characterized by a 7-point scale bounded by the appropriate negative and positive trait terms. Two primary dimensions were developed that related to each of the trait dimensions of interest (i.e., stupid–intelligent, dull–clever, dishonest–honest, and insincere–sincere). Two secondary dimensions relating to ability (i.e., incapable–capable and unimaginative–imaginative) and morality (i.e., cruel–kind and selfish–generous) were also included to examine the extent to which impression ratings generalized to traits within the same domain. Finally, a likability scale (unlikable–likable) was also included to examine general evaluations. Two separate sets of these ratings were developed, reflecting different random arrangements of the eight ability and morality scales. The likability scale was always presented last.

Two sets of test booklets were constructed, one for use in the positive condition and the other for use in the negative condition. Each consisted of four different impression-formation tasks. The materials for the two target tasks, occurred first and last, with each consisting of five pages containing the vignette, the trait-rating form, the appropriate list of 20 additional behaviors, the trait-rating form once again, and a blank page for behavior recall. The two filler tasks were similar in format, each consisting of some initial information followed by a list of questions or rating scales. To minimize participant expectations about the final target task, however, the two filler tasks did not require recall of any information and used different types of materials (e.g., a description of someone painting his or her room) and required different responses (e.g., dispositional and situational attributions) than those used on the two target tasks. The font type used to print each of the four tasks also varied to further reduce perceived similarity across tasks.

**Procedure.** Testing was done individually or in groups of 2–4. Approximately half the participants in each age group were assigned to the positive vignette condition, with the remaining participants assigned to the negative vignette condition. A series of $3 \times 2$ (Age x Vignette Valence) analyses of variance (ANOVAs) were performed using years of education, health self-ratings, and Digit Symbol, reading span, and Vocabulary scores as dependent variables. No significant effects involving vignette valence were obtained ($F < 1.2$), suggesting that no unintended biases occurred as a result of assignment to conditions. Approximately half the participants in each of the just-described conditions were presented with the ability domain impression-change task first and the morality domain task last, whereas this order of presentation was reversed for the remaining participants. At the beginning of the test session, participants were told that they were going to be presented with information about four people and that in each case they were then going to be asked some questions about the person based upon the information presented. Participants were also informed that in each case, the types of questions that were to be asked would be different. They were then given the test booklet and, after reading and signing the informed consent form, proceeded through the four tasks in the
order presented. Each of these tasks took approximately 5-10 min to complete.

The procedure for the two target tasks was identical. Participants were allowed 1 min to read through the vignette and were instructed to form an impression of what the target person was like. They then provided ratings on the first rating form that reflected their impression. After this, participants were told that they were to be presented with some new information about the target and were instructed to read through the list of 20 additional behaviors and to think about them relative to the initially presented information so that they might form a more complete impression of the target. Note that the behavior set was identical for the positive and negative vignettes within each domain. The only thing that changed was the consistency of the specific behaviors with the vignette. After reading through the list of behaviors one time, participants provided impression ratings that incorporated this new information using the second rating form. Finally, they were asked to write down as many of the additional behaviors as they could remember. Participants were allowed 5 min for recall. After the second target task, we asked participants whether they had anticipated that we would test their memory for the additional behaviors in that task. We discovered that more younger adults (80%) were expecting recall than either middle-aged (53%) or older adults (57%), but an examination of recall for the second target task revealed that this expectancy did not affect performance. After completion of the first two impression-formation tasks, participants were presented with the Digit Symbol and Vocabulary tests. They then completed the final two impression tasks and were debriefed. Finally, participants performed the listening span task and then filled out a background questionnaire.

**Results**

**Impression change.** Impression ratings before and after presentation of the additional behavioral information in each target task were obtained for the four ability-related traits and four morality-related traits. To determine whether ratings were specific to individual trait dimensions, we correlated ratings for the two primary trait dimensions within each domain with those for the two secondary indexes within the same domain (e.g., ratings concerning intelligence and cleverness were correlated with those reflecting creativity and capableness). These correlations were all positive but exhibited a fair degree of variability, ranging from .12 to .72 (compared with correlations of .57 to .69 between primary trait dimensions). Thus, although participants' ratings appear to reflect generalizations about the target domain (i.e., ability or morality), the more consistent relationships between the primary trait dimensions suggest a more systematic influence associated with the target trait dimensions than with the more general domain (e.g., intelligence vs. ability).

We next compared ratings on the four ability domain dimensions with those on the four morality domain dimensions within each task. If participants' ratings reflect domain-specific inferences, little systematic relationship should be observed in comparisons across domains. This was in fact the case, in that a nonsystematic and highly variable pattern of correlations (range = -.28 to .42) was observed when ratings at each time of test were compared.

To examine impression change, we calculated a mean impression rating for the two primary and secondary trait dimensions within each domain at each time of test. To simplify interpretation of patterns of impression change, we also inverted the trait ratings for the negative vignettes so that, in all cases, high ratings reflected attributions on the target-trait dimensions that were consistent with the initial vignette and low ratings reflect inconsistent attributions. For example, high ratings for participants receiving the negative morality vignette reflect attributions of dishonesty. These ratings were initially examined using a $3 \times 2 \times 2 \times 2 \times 2$ (Age Group × Vignette Valence × Presentation Order × Vignette Value × Domain [morality vs. ability] × Trait Dimension [primary vs. secondary]) × Test (before vs. after presentation of additional behavioral information) ANOVA. The last three factors were within subjects. An alpha level of .05 was adopted for tests of statistical significance. No systematic impact of presentation order was observed here or in any subsequent analyses, so this variable was dropped from further consideration. Given the somewhat uneven distribution of men and women across age groups, we also conducted each analysis using the sex of the participant as an additional variable. No systematic effects attributable to sex or its interaction with age were obtained either; thus, this variable was also dropped from further consideration.

Significant main effects indicated that trait attributions were more consistent (i.e., higher) with the initial vignette for positive than for negative vignettes, $F(1, 134) = 133.25$, $MSE = 2.02$, in the morality domain than in the ability domain, $F(1, 134) = 31.71$, $MSE = 2.25$, and before presentation of the new behaviors than after, $F(1, 134) = 448.27$, $MSE = 1.16$. A significant Vignette Valence × Domain interaction, $F(1, 134) = 88.58$, $MSE = 2.25$, indicated that the just-described valence effect was primarily attributable to participants being less likely to attribute the vignette-biased trait to the target in the negative ability condition ($M = 3.85$) than in the other three conditions ($Ms > 5.20$). In other words, participants appeared less willing to infer lack of ability than to make other types of inferences. Additional effects were observed for the Vignette Valence × Test, $F(1, 134) = 4.74$, $MSE = 1.16$, and Vignette Valence × Domain × Test, $F(1, 134) = 23.23$, $MSE = 0.83$, interactions. For the most part, these interactions reflected the fact that the degree of impression change was contingent on whether previously unavailable diagnostic information was presented in the new behavior set. Specifically, impression change (pretest minus posttest) was greater in the morality domain when negative (i.e., diagnostic) information was presented after a positive (i.e., nondiagnostic) vignette than when positive information followed a negative vignette (mean change = 1.7 vs. 0.9), whereas the opposite pattern was found in the ability domain (mean change = 1.3 vs. 1.6), in which positive information is considered diagnostic. Note also, however, that the difference in degree of change was greater in the morality domain than in the ability domain.

The results of this analysis also indicate that impression change was stronger for the primary trait dimensions than for the secondary dimensions, as reflected by a significant Trait Dimension × Test interaction, $F(1, 134) = 34.59$, $MSE = 0.25$. Specifically, the mean change in impression ratings was 1.54 for the primary dimensions versus 1.19 for the secondary dimensions. Thus, although impression change was observed across all traits within a given domain, the greatest change was observed for the specific trait dimensions targeted by the new behavioral information (i.e., honesty and intelligence).

Of primary concern for the present research, however, was two significant interactions involving age: Age × Domain × Test, $F(2, 134) = 3.27$, and Age × Vignette Valence × Domain × Test, $F(2, 134) = 5.54$, $MSEs = 0.42$. To decompose these effects, we
performed separate Vignette Valence x Domain x Test ANOVAs within each age group. In these analyses, our main interest was in the effects associated with test, which would reflect patterns of impression change. Specifically, if participants modified their impressions based only on the consistency of the new behavioral information with the original vignette (i.e., they did not consider the diagnostic value or valence of the information), a significant test effect should be obtained that is not modified by either vignette valence or vignette valence and domain. In contrast, if impression change is contingent on the valence of the original and new information, test should interact with vignette valence, with change being greater when negative behaviors are presented after a positive vignette than when positive behaviors are presented after a negative vignette. Finally, if participants are responding to the diagnosticity of the information in modifying their impressions, a significant three-way interaction should be observed, reflecting greater impression change in the negative ability and the positive morality conditions than in the positive ability and negative morality conditions.

For the young adults, the only significant test-related effects were the main effect, F(1, 45) = 138.94, and the Domain x Test interaction, F(1, 45) = 7.31, reflecting an overall reduction in ratings over tests that was somewhat greater for the ability domain (1.55) than for the morality domain (1.12). The similarity in change across vignettes of different valences within domains, however, suggested that the diagnosticity of behavioral information had little impact on impression change in this age group (see Figure 1). In contrast, performance in the middle-aged adults was clearly associated with diagnosticity. Significant effects were observed for test, F(1, 45) = 156.41, as well as its interaction with both domain and vignette valence, F(1, 45) = 24.81. In both domains, the interaction between test and vignette valence was significant (Fs > 5.48), reflecting differential change as a function of the diagnosticity of the initial vignette. Specifically, impression change was greater in the morality condition when nondiagnostic and positive information was followed by diagnostic and negative information than with the opposite trend (1.92 vs. 0.62). The opposite pattern was observed for the ability domain, in which the relationship between diagnosticity and valence was positive (0.79 vs. 1.42).

The pattern of performance in the older adult group was somewhat more complex. Significant effects were obtained for test, F(1, 44) = 157.63, and its interaction with valence and domain, F(1, 44) = 6.46. As can be seen in Figure 1, the older adults' judgments varied in the expected manner as a reflection of diagnosticity, although the impact of diagnosticity on performance—as indicated by a significant Valence x Test interaction—was significant only in the morality domain, F(1, 44) = 10.32. The difference in performance patterns across domains appeared to reflect an emphasis on both negativity and diagnosticity in determining change in this group. That is, the greatest amount of change observed in the older adults was when new diagnostic and negative information was presented.

One concern that might be raised in interpreting the patterns of ratings change has to do with the somewhat limited range of variability for impression change in the negative ability condition. That is, because participants in this condition provided initial ratings on the target dimension that were closer to the midpoint of the scale than were those in other conditions, there was less room for impressions to change. Thus, the somewhat weakened diagnosticity effect observed in the ability domain relative to the morality domain may reflect this restriction of range. To deal with this problem, we converted ratings to z scores based on each participant's rating within each of the two target tasks. The outcome of this analysis, however, did not differ from that of the original.

The impact of consistency, diagnosticity, and negativity can be seen more clearly if we group conditions by diagnosticity of the initial vignette (i.e., whether the vignette contained behavioral information that was diagnostic to the target trait dimension) rather than by trait domain and then examine the amount of impression change as a function of age and vignette valence (triangles represent negative valence and circles represent positive valence). Bars reflect 2 SEs.

Figure 1. Impression change as a function of age and vignette valence (triangles represent negative valence and circles represent positive valence). Bars reflect 2 SEs.
change as a function of these variables. This grouping was not used in our main analysis because the rearrangement confounded domain with diagnosticity and valence. For example, the positive vignette containing diagnostic information was taken from the ability domain, whereas the negative diagnostic vignette was from the morality domain. This data arrangement is informative, however, for illustrating diagnosticity effects. If participants were weighing the diagnostic value of specific behaviors in determining impressions, less change should be observed if the information in the initial vignette is diagnostic with respect to the target trait dimension than if diagnostic information is presented for the first time in the new behavior set following a nondiagnostic vignette.

As can be seen in Table 2, this pattern was obtained for the middle-aged and older adults, but not for the young adults. We again note that caution should be exercised in interpreting these patterns because of the confounding of trait domain with diagnosticity and valence.

One assumption that we make is that the above-described age effects in performance were not attributable to age-related decrements in cognitive functioning. To provide support for this view, we performed regression analyses to determine whether the listening span or Digit symbol score would account for significant age-related variance in impression change within each Vignette Valence × Domain condition. In no case did these measures of cognitive functioning account for significant age-related variance, supporting the argument that the obtained age effects in impression change reflect something other than the efficiency of basic cognitive processes.

We also examined likability ratings using a 3 × 2 × 2 × 2 (Age Group × Vignette Valence × Domain × Test) ANOVA to determine whether trait-specific impressions influenced affective responses to the targets (see Table 3). Note that, unlike in the previous two analyses, the ratings in the negative vignette condition were not inverted so that higher ratings reflected greater likability in all conditions. As would be expected, likability ratings were greater for targets initially portrayed in positive terms (M = 5.56) than for those portrayed in negative terms (M = 4.57), F(1, 134) = 63.88, MSE = 2.16. In addition, likability ratings declined over tests, F(1, 134) = 10.61, MSE = 0.56, and were higher in the ability domain (M = 5.75) than in the morality domain (M = 4.39), F(1, 134) = 172.48, MSE = 1.46. Interactions among these three variables, however, indicated that the obtained effects were primarily confined to the morality domain. Specifically, a significant Domain × Valence interaction, F(1, 134) = 116.19, MSE = 1.46, reflected the fact that likability ratings were affected by valence in the morality domain (5.44 vs. 3.35), but not in the ability domain (5.68 vs. 5.75). In addition, significant interactions between test and valence, F(1, 134) = 46.15, MSE = 0.56, and among test, valence, and domain, F(1, 134) = 50.61, MSE = 0.46, were attributable to the change in ratings over tests being reliable only in the positive morality condition, in which ratings declined from 6.02 to 4.87. Thus, diagnosticity had an impact on affective responses in the morality domain. Interestingly, likability ratings in the ability domain were unaffected by the initial depiction of the individual or by the presentation of new, inconsistent information. These results suggest that morality information evokes stronger affective responses than ability information, perhaps accounting for the relatively larger degree of impression change relating to diagnosticity when considering morality-based behaviors.

Consistent with the trait-based ratings, an examination of Table 3 suggests that the diagnosticity effect in the morality domain was stronger in the two older groups than in the young group. Whereas significant Age × Domain, F(2, 134) = 3.49, MSE = 1.46, and Age × Domain × Test, F(2, 134) = 5.80, MSE = 0.46, interactions were obtained, the critical four-way interaction was not (p > .25). Given our expectations regarding age differences in the use of diagnostic information, however, we determined whether the change in ratings from the first to the second test was significant for each age group within each vignette for the morality domain. For the young adults, the degree of change (T(T1 − T2) was similar for the positive and negative vignettes (0.78 vs. 0.67) and significant in each case (ps < .01). For the middle-aged adults, change was substantially greater with the positive vignette than with the negative vignette (1.41 vs. 0.20), with the difference being significant only in the former case, F(1, 21) = 33.58. A similar discrepancy in change was observed for the older adults (1.25 vs. 0.73), although change was significant for both the positive, F(1, 24) = 38.33, and the negative F(1, 21) = 5.27, vignettes. Thus, the results of these analyses again suggest that the impact of diagnosticity on impression change increases with age.

Behavior recall. Hess and Pullen (1994) found that the recall of diagnostic behaviors by older adults was enhanced relative to their recall of other types of behaviors. This pattern was less obvious for young adults. Given the hypothesized independence of impression judgments and memory when impressions are formed on-line (e.g., concurrent with presentation of behavioral information; Hastie & Park, 1986), we do not believe that the age differences in recall patterns account for the obtained age effects in impression change. Rather, we assume that the pattern of recall may be a consequence of the differential processing accorded to

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<td>Mean Impression Change (Test 1 − Test 2) as a Function of Age Group and Condition</td>
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diagnostic behaviors by the older adults due to their informativeness. If true, it would be expected that a similar pattern of recall would be observed in the present research, that is, diagnostic behaviors would have a recall advantage for those participants who are focusing on diagnosticity (i.e., the middle-aged and older adults).

To investigate this possibility, we examined recall levels for behaviors recalled from the set of new behaviors. Two raters independently scored the recall protocols for the presence of the 16 target behaviors. To be scored as correct, the participant had to recall the gist of the behavior and maintain its original relation (i.e., consistency) to the vignette. Interrater agreement was extremely high, with disagreements occurring on less than 1% of the behaviors. These disagreements were resolved by one of us. We then obtained the proportion of positive and negative behaviors recalled by each participant and examined these using a 3 X 2 X 2 X 2 (Age Group X Vignette Valence X Trait Domain X Behavior Type [positive vs. negative]) ANOVA. The young group (M = 0.42) and middle-aged (M = 0.34) adults recalled more behaviors than did the older adults (M = 0.22), F(1, 134) = 25.33, \( \text{MSE} = 0.07 \). A significant interaction was also obtained between domain and vignette, \( F(1, 134) = 6.85, \text{MSE} = 0.02, \) due to recall in the negative ability condition (0.34) being greater than that in the negative morality condition (0.30). No domain effect was present in the positive vignette condition (\( M = 0.33 \) and 0.34). Domain also interacted with age, \( F(1, 134) = 3.58, \text{MSE} = 0.02, \) due to middle-aged adults recalling a higher proportion of behaviors in the intelligence domain (0.37) than in the morality domain (0.32), \( F(1, 45) = 8.97 \). No domain effect was observed for the other two age groups.

Our main interest was in the variability of recall of positive and negative behaviors as a function of age, domain, and vignette valence. There was no overall difference in recall for these two types of behaviors (\( p > .35 \)). Behavior type did, however, interact with vignette valence, \( F(1, 134) = 23.79, \text{MSE} = 0.02, \) due to the commonly observed recall advantage of impression-inconsistent over impression-consistent behaviors. Specifically, negative behaviors were recalled better than positive behaviors (0.37 vs. 0.30) in the positive vignette condition, whereas the opposite pattern was obtained (0.30 vs. 0.34) in the negative vignette condition.

Behavior type also interacted with domain, \( F(1, 134) = 6.44, \text{MSE} = 0.02, \) with positive behaviors being recalled worse than negative behaviors in the ability domain (0.32 vs. 0.36), whereas the opposite effect was obtained in the morality domain (0.33 vs. 0.31). This pattern of performance is somewhat counterintuitive in that recall is better for nondiagnostic behaviors within a domain than for diagnostic behaviors. Inspection of Table 4 (bottom) suggests, however, that this pattern is representative only of performance in those conditions in which the initial vignette provides diagnostic information (i.e., positive ability and negative morality). Although the Vignette X Domain X Behavior interaction only approached significance, \( F(1, 134) = 2.94, \text{MSE} = 0.02, \) \( p = .09, \) we decided to follow up these observations by examining performance within each domain. Consistent with our observations, a significant Vignette X Behavior interaction was obtained in the ability domain, \( F(1, 134) = 21.59, \) with the recall advantage of negative behaviors being significant only with the positive vignette. The same interaction obtained significance in the morality domain, \( F(1, 134) = 5.76, \) in which the recall advantage of positive behaviors obtained significance only with the negative vignette. Assuming that higher levels of recall indicate more extensive processing, these data suggest that it is not simply the diagnosticity of behaviors that is important in determining whether participants will engage in more elaborative processing but the informational value of diagnostic behaviors within contexts. When such behaviors are uninformative (i.e., they suggest traits already attributed to the target), they may be accorded less attention and thus are remembered more poorly than when they convey new information about the target. In contrast, nondiagnostic behaviors are remembered at approximately the same level regardless of their relation to the initial vignette.

Note that there were no reliable age differences in the recall of positive or negative behaviors across domains and vignettes. Thus, the factors that influenced processing and ultimately led to the obtained pattern of recall were operating in a similar fashion across age groups. In other words, the diagnostic value of specific be-
haviors had similar effects on recall for young, middle-aged, and older adults, a finding in direct contrast to that obtained in our examination of impression change.

In a final analysis, we used regression analyses to examine the proportion of age-related variance accounted for by our two measures of cognitive skill (i.e., Digit Symbol score and listening span) within each Vignette × Behavior Type condition. In contrast to the ratings analysis, these measures accounted for 50%-98% of the age variance, suggesting that cognitive skill had an impact on recall. This argues further for the independence of on-line impressions and memory in this study.

To briefly summarize, the results of this experiment indicate that age differences exist in the extent to which the trait diagnosticity of behavioral information is considered in modifying impressions. The fact that diagnosticity had similar influences on performance (e.g., behavior recall) in other situations suggests that the age effect is attributable to participants' use of such information rather than to differences in the understanding of diagnosticity. Given the lack of independent information about perceptions of diagnosticity, however, this conclusion must be considered tentative. In addition, it may also be the case that age differences exist in perceptions of the extent to which the stimulus behaviors reflected the target traits, which in turn might affect perceptions of diagnosticity. Such information was not available because the original ratings for trait representativeness were based only on the ratings of younger adults. Therefore, to examine these possibilities and more clearly interpret our findings, we collected ratings reflecting these dimensions from young, middle-aged, and older adults drawn from the same populations as those in the original study. We also examined affective reactions to individual behaviors, which might influence attention to diagnostic content.

### Experiment 1b

#### Method

**Participants.** Participants were recruited and compensated as in Experiment 1a. The young group consisted of 23 men and 21 women (age range = 18–35 years). There were 11 men and 19 women in the middle-aged group (age range = 41–59 years), and 16 men and 14 women in the older adult group (age range = 62–85 years).

**Materials and procedure.** Two sets of questionnaires were developed for each domain using the 16 target behaviors from Experiment 1a. One questionnaire listed the 16 sentences along with 34 other sentences in random order, with a response line on either side of the paper. This was used to obtain evaluative and representativeness ratings. Participants were presented with this questionnaire along with a sheet that contained a 7-point rating scale (1 = extremely negative, 7 = extremely positive) and were asked to evaluate each behavior. They were instructed to indicate their response on the blank space to the left of the behavior. After providing these ratings, their responses were covered and another 7-point rating scale (e.g., 1 = dishonest, 7 = honest) representing the appropriate trait dimension was provided. Participants were asked to rate where the behavior fell on this dimension by writing the appropriate number in the space to the right of each behavior.

A second questionnaire was developed to measure aspects of diagnosticity. Using a procedure similar to that of Skowronski and Carlston (1987), participants were asked to indicate how probable it was that a person who was characterized in positive or negative terms on the relevant trait dimension would perform the behavior using a 7-point scale (1 = extremely unlikely, 7 = extremely likely). Thus, the questionnaire contained 32 questions, with each behavior being listed twice, once with the positive trait and once with the negative trait from the relevant trait dimension. To limit the influence of representativeness and evaluation responses on rating for the diagnosticity scale, we had half the participants in each group fill out one of the questionnaires for one trait dimension and the other questionnaire for the remaining trait dimension. Questionnaires were completed while participants were taking part in another study.
Results

**Diagnosticity.** The best illustration of diagnosticity effects should be seen in the probability ratings assigned to behaviors that are inconsistent with an ascribed trait. Consistent with the previous characterization of these effects, honest people should be less likely to display trait-inconsistent behaviors than should dishonest people, whereas the effect would be reversed for the intelligence domain. To examine this effect, we first standardized ratings from the diagnosticity questionnaire for each participant to control for differences in the way the rating scales were used (i.e., some participants tended to use only the two extreme and the middle points on the scale, whereas other participants spread their scores across the entire range). The mean probability ratings for performing a behavior that was inconsistent with an ascribed trait were then obtained for both the positive and negative trait associated with each dimension and examined using a 3 X 2 X 2 (Age Group X Trait Dimension X Trait Valence) ANOVA. As expected, a significant Dimension X Valence interaction was obtained, $F(1, 99) = 12.59$, $MSE = 0.13$, reflecting the fact that trait-inconsistent behaviors were rated as more likely for dishonest people ($M = -0.59$) than for honest people ($M = -0.86$), whereas trait-inconsistent behaviors were rated as less likely for stupid people ($M = -0.24$) than for intelligent people ($M = -0.33$). This result is consistent with that of Skowronski and Carlston (1987). More important for present purposes, no significant effects involving age were obtained for these ratings ($ps > .15$), suggesting that perceptions of trait-diagnosticity associated with the target behaviors remained relatively stable over the age span investigated.

**Representativeness.** Age differences in representativeness ratings were examined in two ways: First, the mean standardized rating for each of the 16 target behaviors in each condition was obtained for each age group, and correlations for these ratings were calculated between age groups. These correlations ranged from .98 to .99, reflecting a high degree of concordance in ordering of behaviors between age groups. Mean ratings for the 8 positive behaviors and the 8 negative behaviors in each domain were also examined using a 3 X 2 X 2 (Age Group X Trait Dimension X Behavior Valence) ANOVA. More important, all effects involving age were not significant ($Fs < 1$), indicating no age differences in perceptions of representativeness. As would be expected, positive behaviors ($M = 0.89$) received higher ratings than negative behaviors ($M = -0.89$), $F(1, 98) = 4289.75$, $MSE = 0.04$. In addition, representativeness ratings for both types of behaviors were more extreme in the honesty domain ($M_{positive} = 0.99$, $M_{negative} = -1.04$) than in the intelligence domain ($M_{positive} = 0.79$, $M_{negative} = -0.68$), as reflected in a significant Trait X Valence interaction, $F(1, 98) = 112.30$, $MSE = 0.04$. This difference in extremity of ratings does not, however, negate the fact that the positive and negative behaviors in both trait conditions were clearly representative of the appropriate end points on the trait dimension.

**Evaluation.** Similar analyses were conducted on the evaluation ratings. Correlations between age groups for each trait dimension again ranged from .98 to .99. Analysis of mean evaluative ratings, however, provided somewhat different results. As expected, positive behaviors ($M = 0.88$) were liked better than negative behaviors ($M = -0.76$), $F(1, 98) = 4515.68$, $MSE = 0.03$. In addition, a Trait X Valence interaction, $F(1, 98) = 65.92$, $MSE = 0.03$, indicated that ratings for behaviors in the honest condition ($M_{positive} = 0.92$, $M_{negative} = -0.98$) were again more extreme than those in the intelligence condition ($M_{positive} = 0.83$, $M_{negative} = -0.65$). More important, a significant Age X Valence interaction, $F(1, 98) = 54.48$, $MSE = 0.03$, was also obtained. This reflected the fact that ratings for both positive ($M_{young} = 0.83$, $M_{middle aged} = 0.89$, $M_{old} = 0.93$) and negative behaviors ($M_{young} = -0.76$, $M_{middle aged} = -0.83$, $M_{old} = -0.85$) became more extreme with increasing age. Although significant for both types of behaviors, the impact of age was particularly strong for the negative behaviors: positive, $F(1, 98) = 9.99$, negative, $F(1, 98) = 86.38$.

In summary, these ratings provided no evidence for age differences in perceptions of diagnosticty and trait representativeness of the target behaviors used in the main experiment. This suggests that the obtained age effects in impression change cannot be attributed to variations in these factors. Age-related variation was observed, however, in affective responses toward the behaviors, with the extremity of these responses increasing with age. Although unexpected, this finding may reflect an increased focus on the affective outcomes of social interactions with age in adulthood. Finally, we also observed variation across domains in all three types of ratings, with the positive and negative behaviors in the ability domain being somewhat less distinct in terms of representativeness, evaluation, and diagnosticty than those in the morality domain. This may account for the somewhat weaker effects of diagnosticty on impression change in the former domain.

**General Discussion**

Our goal was to examine age differences in impression change processes and to identify the bases for such changes. Consistent with previous research (Hess & Pullen, 1994), we found that adults of all ages updated their impressions of people in response to new information. The fact that this occurred suggested that participants in each age group integrated new information into existing representations of the target. We also found, however, that the nature of this updating was related to age. Impression change in the young-adult group was primarily characterized by responses to behavioral consistency. Specifically, the younger adults appeared to modify their impressions based on the extent to which they were presented with new behavioral information that contradicted inferences drawn from previous information presented about the same target. More important, this modification was not substantially altered by the nature of information presented initially or by the nature of the subsequent behavioral information. Thus, younger adults modified their responses to approximately the same degree for targets initially characterized in either positive or negative terms. This result is interesting in that it suggests that these individuals are engaging in little inferential processing beyond that associated with deriving trait or evaluative implications from behaviors.

In contrast, the middle-aged and older adults exhibited more selective responses to inconsistencies that were presented about the target. Individuals in both of these age groups not only altered their responses in reaction to the presentation of inconsistent behavioral information but also in response to additional trait-diagnostic cues associated with the descriptions of the target. In the middle-aged group, impression change was greater when the new behavioral information had a higher diagnostic level than did that of the originally presented information. Thus, when dishonest behaviors were attributed to a target originally portrayed as honest,
impression change was greater than when the opposite scenario occurred. Similarly, greater impression change was observed in response to intelligent behaviors attributed to a target originally portrayed as unintelligent than in response to unintelligent behaviors attributed to an intelligent target. The fact that the pattern of change associated with the positive and negative vignettes in the ability domain was opposite to that observed in the morality domain indicates that participants were reacting to the diagnosticity of the behaviors rather than their valence.

The older adults' performance was somewhat more complicated. When the content of the initial vignettes was not considered (see Table 3), the older adults displayed clear diagnosticity effects in impression change. When domain was taken into account, the impact of diagnosticity was primarily evident in the morality domain. Whereas the pattern of change was consistent with expectations associated with cue diagnosticity, diagnosticity played a reduced role in determining impression change in the ability domain (e.g., the degree of change was not reliably different across the positive and negative vignette conditions). Note that diagnosticity also had less of an impact on impression change in the ability domain than in the morality domain for the middle-aged adults, although the impact was significant in both cases.

The general pattern of performance observed in the two older groups is consistent with Skowronski and Carlson's (1989) observation that diagnosticity displays opposite relationships to valence in the ability and morality domains and that diagnosticity is an important determinant of impression formation. What is somewhat puzzling in both the present studies and the research reported by Hess and Pullen (1994) is that diagnosticity did not play a bigger role in determining impression change for the young adults. Previously, Skowronski and Carlson (1987, 1992) had shown that younger adults do attend to diagnostic information, although they found that nondiagnostic behaviors also influenced impressions. The discrepancies between studies are even more curious given that we used some of the same behaviors as Skowronski and Carlson and that many other aspects of our procedure (e.g., presentation of behaviors in a list format, use of undergraduates as participants) were similar. One factor that may account for the discrepancies and provide information about the age-related effects relates to the extremity of the behaviors on the relevant trait dimension. Skowronski and Carlson (1992) examined impression judgments as a function of the number of behaviors that were inconsistent with an initial behavior attributed to the target. If impressions in their study are compared when no inconsistent behaviors were available (essentially our Time 1 judgments) with those for which four inconsistent behaviors were presented (our Time 2 judgments), we get a between-participants analog of the present procedure. Their data indicate that participants were reacting to the diagnosticity and representativeness of specific traits.

Another finding of interest was that diagnostic information had a greater impact in the morality domain than in the ability domain, particularly for older adults. One factor that may account for the differences has to do with the fact that the target behaviors in the ability domain were somewhat less clearly distinguished in terms of diagnosticity and representativeness than were those in the morality domain, which in turn may have had an impact on the salience of diagnostic information. Consistent with our previous reasoning, the generally higher affective responses associated with morality behaviors may have also encouraged individuals to make more diagnosticity-based inferences about these behaviors. Indeed, likability ratings were more reactive to the valence of behavioral information in the morality domain than in the ability domain in all age groups, causing greater impression change by the young adults and greater attention to diagnosticity in the two older groups in the former condition. (A similar finding was obtained for young adults by Brycz & Wojciszke, 1992.) This suggests that participants had stronger affective reactions to the morality-related behaviors. These factors, however, do not account for the older adults' differential use of diagnosticity across domains because the variation in evaluative ratings across domains did not vary as a function of age.
The morality domain may be more salient than the ability domain to older adults, however, for reasons other than those associated with general affective responses to specific behaviors. The apparently greater inferential processing exhibited by older adults with respect to morality-based behaviors may reflect an increasing focus on affective outcomes associated with interpersonal situations with age, as proposed by Carstensen (1991). An inspection of the target behaviors used in our research makes it clear that those having to do with morality have more of an interpersonal focus than those associated with ability. That is, morality behaviors tend to have positive or negative consequences for others, whereas ability behaviors have consequences more on the self (see Wojciszke, 1997; Wojciszke, Brycz, & Borkenau, 1993). Thus, the differential impact of diagnosticity across domains in the older adult group may reflect the interpersonal focus of the target behaviors having to do with honesty and the increased salience of affective outcomes associated with social interactions in later adulthood.

In addition to assessing impression change, we also examined recall of specific behavioral information to determine whether the differential attention to behavioral cues across age groups would also affect what was remembered about the targets. Although the variations across age groups did not reflect the obtained age differences in impression ratings, the results indicate that the diagnosticity of the behaviors influenced recall. Specifically, the diagnostic behaviors in the new behavior set were recalled better when they were inconsistent with the initial vignette than when they were consistent. This most likely reflects the fact that these behaviors were more informative, and thus were processed more extensively, in the former situation than in the latter situation, where they were redundant with information that the perceiver already had about the target. Interestingly, nondiagnostic behaviors did not vary much in recall levels across conditions, but they were recalled as well as diagnostic behaviors that were inconsistent with the initial vignette. It seems reasonable that nondiagnostic behaviors would have elevated recall levels when they were inconsistent with previous information, but it is unclear why recall would be enhanced when these behaviors are redundant with this information. It may be that all behaviors are processed more extensively in this latter situation because of the uncertainty and impression updating instigated by presentation of new diagnostic behaviors. This may be similar to the bolstering effect described by Wyer and Srull (1989), in which the examination of inconsistencies relative to consistent behaviors results in higher levels of recall for consistencies without degradation of recall levels for inconsistent behaviors.

Note that we are assuming that relatively higher levels of recall are associated with more extensive or integrative processing (Hastie, 1984; Hess & Tate, 1991; Srull & Wyer, 1989). Naturally, these are speculations in the absence of on-line measures of processing associated with specific behaviors. It is reasonable to assume, however, that the patterns of recall are reflections of processing and do not necessarily form the bases for the observed impression ratings. If participants were accessing these specific behaviors in determining impressions, it would be expected that a change in any condition would reflect the relative availability of positive versus negative (or diagnostic vs. nondiagnostic) behaviors. Instead, there was little correspondence between recall and impression change, suggesting that the memory data are more of a reflection of processing strategies than anything else. This is consistent with the notion that memory and impression judgments are independent when impressions are formed on-line (Hastie & Park, 1986), as occurred in the present research. One other finding of interest in the recall data is that the trait diagnosticity of specific behaviors had similar effects on the recall of young adults compared with the two older groups. This further suggests that diagnostic information was available to adults of all ages and that the age effects observed in impression ratings reflected variations in the extent to which such information was used to construct representations of the targets.

One interesting note in the present research is that the pattern of age effects was not related to any age-related ability factors. Although there were age differences in perceptual–motor speed and working memory capacity, the obtained patterns of age-related effects were not accounted for by these factors. This suggests that the age differences in impression ratings represent qualitative changes in processing strategies and are not just reactions to or reflections of declining skills. This result is consistent with studies of text recall by Adams (1991; Adams et al., 1990), who found that increasing age is associated with less emphasis on verbatim reproduction along with greater use of interpretive processing. Presumably, this trend reflects the fact that older adults adopt different goals than younger adults during text processing as they attempt to impart personal meaning to the to-be-remembered passages. In the present case, the differences between the young group and the two older groups might be conceptualized in similar terms, as middle-aged and older adults appeared to interpret the information about the target not just in terms of consistency within the experimental context but also in terms of belief systems regarding the informativeness of certain behaviors.

In conclusion, we have shown that adult age differences exist in the manner in which people create and change impressions of others. Our analyses suggest that these differences are not associated with aging-related variations in cognitive skills but reflect qualitative differences in the manner in which people process behavioral information. Beginning in middle age, individuals appear to engage in more inferential processing than at earlier points in adulthood, with greater emphasis on the implications of behavioral cues with respect to specific trait categories or person prototypes. These differences exist in spite of the absence of age differences in perceptions of trait diagnosticity, although the specific mechanisms underlying the observed age differences are still open to debate. The increased use of diagnostic information with age may reflect age differences in the accessibility of specific types of interpretative schemas associated with social experience or the intensity of affective reactions to specific target behaviors. There is also some suggestion that age-related changes in goals, such as those having to do with interpersonal interactions, may influence the importance attached to specific behaviors, which in turn may affect the types of inferences made about the target based on those behaviors. Future researchers should concentrate on distinguishing between these potential explanations. They should also attempt to isolate the conditions associated with the use of diagnostic information in younger adults as well as the generalizability of the obtained effects across different populations (e.g., students vs. nonstudents) and domains of expression (e.g., impression ratings vs. social interactions).
References


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Appendix

Vignettes

Positive Morality

John lives in a small community and works for the local power company. He is married and has two daughters and a son. John is well respected at work because of his dedication and trustworthiness. Due to these characteristics, he is often allowed to work late without supervision. On the weekends, John enjoys participating in outdoor activities and playing games with his children. During the games, John constantly teaches his kids the importance of good sportsmanship and fair play. They never play poker because John feels it encourages dishonesty. John and his wife have had their share of tough times but have maintained a good relationship. John thinks this is because they try to express their feelings as honestly as possible and never lie to each other. Even when it may be painful, John feels compelled to tell the truth. This summer he plans to take his family to the Grand Canyon and then on to Utah to visit his brother’s family.

Negative Morality

John lives with his sister and her husband in a small community. He moved in with his sister last week after losing the lease on his apartment. John lost his lease because he had not paid the rent in 2 months, although he kept promising his landlord he would have the money in a few days. John had not been able to pay the rent since he became unemployed. He has been searching for a new job for over a year. He has not told anyone why
he lost his last job, although his sister suspects he stole some money from his previous employer. John now works part-time at a local music store. This past weekend his car broke down, and he had to borrow money from his sister to pay the bill. He decided to put 10 hr more than he worked on his time card. That way he could pay his sister back as soon as possible. John figured that because the owner of the store just bought a new car and house, he could afford to give him more money. The following day, John picked up his paycheck and cashed it at a local store. When his sister came home that night he returned the money he borrowed. His sister asked John where he got the money from because she knew it would be several months before he could pay her back. John told his sister that after 1 week of work his boss decided to give him a raise.

Positive Ability

Mike and his wife just bought a new house. Mike, a senior financial analyst, has been with his current employer since he graduated from business school 4 years ago. He and his wife thought it would be a long time before they could ever own their own home. Real estate prices are very high in the city which they live. However, Mike was just given a big promotion and salary increase, so they could afford the down payment. He is the youngest person ever in his company to advance to his current position. Mike was surprised at his promotion, but his wife knew he would get it. Even when they were dating in college, Mike was receiving awards for his writing and math abilities. In fact, he paid his way through college by tutoring calculus and English in the evening. Although his new position at work is very demanding, Mike and his wife still find time to work on their new home and enjoy their hobbies. In fact, Mike has just designed a computer system to control the house’s utilities. They both love cooking, reading, and classical music.

Negative Ability

Mike lives in a big city with his wife and two children. He and his wife both work full time, but his wife is primarily responsible for the household chores and childcare because Mike holds two jobs. Both of Mike’s jobs involve manual labor and require little thinking. Mike is well liked by his supervisors because of his hard work and dedication, but he is generally given the simple jobs to do because he has trouble understanding complicated instructions and gets confused easily. Mike usually drives to work unless his wife needs the car, in which case he takes the bus. When this happens, Mike is uncomfortable because he cannot seem to figure out the bus routes and sometimes takes the wrong one. On the weekends, Mike enjoys watching sports on TV and playing with his children. Occasionally, Mike takes his family bowling, but he lets his wife fill out the score sheet. Mike and his family attend church regularly, where his children sing in the choir.

Behaviors

Positive Morality

John admitted to the officer he had been speeding.
John refused to give his friend the answers to the exam.
John worked hard while the boss was away.
John left a note on the car he backed into.
John reported all his taxable income to the IRS.
John acknowledged that his coworker’s idea was better.
John admitted he broke an expensive vase.
John told the store clerk he was undercharged.

Negative Morality

John got student tickets with his expired school ID.
John cheated at Monopoly.
John cut in front of some people who were waiting in line.
John exchanged a sweater for full price that he purchased on sale.
John wrote a bad check.
John kept some money he found.
John took the newspaper without paying for it.
John stole some pens from his office.

Positive Ability

Mike completed the New York Times crossword puzzle.
Mike figured out how to repair his computer.
Mike organized a successful committee.
Mike was on the chess team in college.
Mike won an essay contest.
Mike compared prices at different stores before buying.
Mike devised a way for his company to save money.
Mike made money in the stock market.

Negative Ability

Mike could not program his VCR.
Mike failed his driving test.
Mike got Fs on most of his final exams in high school.
Mike could not follow instructions to assemble a bike.
Mike had difficulty writing a letter.
Mike needed a calculator to add two numbers of any kind.
Mike got lost on his way home from work.
Mike did not look both ways while crossing the street.

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