

Interpersonal Perception and Metaperception in Nonoverlapping Social Groups

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Consensus, self–other agreement, and meta-accuracy were studied within and across nonoverlapping social groups. Thirty-one target persons were judged on the Big Five factors by 9 informants: 3 family members, 3 friends, and 3 coworkers. Although well acquainted within groups, informants were unacquainted between groups. A social relations analysis conducted within each social group showed reliable consensus on the Big Five personality factors. A model specified to estimate the consistency of a target person's effect on perceptions by others across social groups showed weaker agreement across groups. That is, targets were perceived consensually within groups, but these consensual perceptions differed between groups. The data suggest that personality and identity are context specific; however, there was some evidence of agreement in perceptions across groups.

There has been enduring intellectual tension within psychology concerning the degree to which behavior is consistent across social situations. Personality psychology has devoted much attention to the cross-situational consistency of behavior (Funder & Colvin, 1991; Hartshorne & May, 1928; Mischel, 1968; Mischel & Peake, 1982); moderators of this consistency (Bem & Funder, 1978; Kenrick & Stringfield, 1980); and the level of agreement among multiple judges' ratings of a common target's traits (Funder & Colvin, 1988, 1991; Moskowitz & Schwarz, 1982).

Social psychology, in contrast, is premised on the assumption that behavior is determined primarily by situational effects. The well-known studies by Milgram (1975), Darley and Latané (1968), and Festinger and Carlsmith (1959) are prototypic examples of this approach. In general, the research generated by this debate has led to the conclusion that behavioral dispositions and social situations both affect behavior (Snyder & Ickes, 1985). For example, Funder and Ozer (1983) reported effect sizes for classic studies showing situational effects in the range of .30 to .40, estimates that are roughly equivalent to cross-situational consistency coefficients (Mischel & Peake, 1982; Nisbett, 1980).

This research derives from both of these perspectives. We designed it to study consensus, self–other agreement, and the *meta-accuracy* (awareness of others' judgments of oneself) in personality judgments within and between nonoverlapping social groups.

Social Context and Interpersonal Perception

In the late 19th century, William James (1890) articulated the hypothesis that social identity and behavior are context specific:

[A person] has as many social selves as there are individuals who recognize him and carry an image of him in their mind. . . . But as the individuals who carry the images fall into classes, we may practically say that he has as many different social selves as there are distinct groups of persons about whose opinions he cares. (p. 294)

Within early-20th century American pragmatism and European Marxism, theoretical models independently emerged sharing the assumption that human behavior is determined primarily by the social situation. Vygotsky (1978), who laid a foundation for the contemporary sociocultural perspective, focused on the development of behavior within the context of family, peers, and cultural institutions. While discussing how individual psychology is determined by group processes, Vygotsky (1978) stated the following:

First, it appears between people as an interpsychological category and then within the individual child as an intrapsychological category. (p. 57)

Mead (1934) also assumed that interpersonal processes determine individual psychology and, among others, laid a foundation for symbolic interactionist theory. This model claims that evaluation by significant others (e.g., the family) causes one's perceptions of these evaluations (*metaperceptions*), which, in turn,

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affect self-evaluation. Mead (1934) maintained that social identity is situation specific:

There can be different selves, and it is dependent upon the set of social reactions that is involved as to which self we are going to be. (p. 143)

Moreover, Mead (1914) conceptualized the process that determines these different selves:

It is the possibility of putting ourselves in other's places that accounts for these different selves. We carry models indicating what we ought to be in different circumstances. (p. 70)

Therefore, contemporary sociocultural approaches rest on the conceptual foundations of James, Mead, and Vygotsky (Goffman, 1963; Laboratory of Comparative Human Cognition, 1983; Wertsch, 1985) and assume that social identity emerges primarily from social interaction within contexts. From this perspective, behavior may be expected to vary, perhaps even dramatically, across social groups, and as Mead (1934) stated, "A multiple personality is in a certain sense normal" (p. 142).

The Weighted Average Model: A Theoretical Model of Consensus and Its Implications

Consensus, or the agreement among judges about a target's personality, has been used to establish evidence of consistency in personality (Kenrick & Funder, 1988). Kenny (1991) developed a general model of consensus called the *weighted average model* (WAM), which includes six parameters: acquaintance, overlap, shared meaning systems, consistency, extraneous information, and communication. *Acquaintance* is the number of behavioral acts by a target that the judge has witnessed. *Overlap* is the extent to which multiple judges observe the same acts, and *shared meaning systems* refers to the similarity of interpretation of these acts by the judges. *Consistency* is the cross-act stability of a target's behavior. *Extraneous information* is a basis of judging the target that is unrelated to the target's acts. Finally, *communication* involves judges sharing information about a target's characteristics.

The parameters within WAM are useful to understand why the levels of consensus observed in studies vary. For example, Albright, Kenny, and Malloy (1988) documented that strangers' judgments (acquaintance and communication = 0) of a common target, with overlapping exposure to an invariant (i.e., overlap and consistency = 1.00) stimulus feature (i.e., attractiveness), activate a shared stereotype (i.e., meaning system) that produces consensus. When acquaintance, communication, shared meaning systems, and overlap can be assumed to be at high levels, consensus is substantial among both adults (Malloy & Albright, 1990) and children (Malloy, Sugarman, Montvilo, & Ben-Zeev, 1995).

A limitation in studies of interpersonal consensus with acquaintance greater than zero (see Kenny, Albright, Malloy, & Kashy, 1994, for a review) is that the parameters of WAM are not controlled or measured. Most important, when judges observe a common set of target acts and communicate about the psychological traits they represent, consensus may be quite high. But this consensus may originate primarily in psychological pro-

cesses operating within and among judges (acquaintance, overlap, communication, and shared meaning), and the effect of consistency in target behavior on judgments is not measured.

As a result, research with unique design features that imposes greater control on the parameters of WAM is necessary. A desirable study is one in which judges share the same meaning systems, with overlap and communication fixed at zero and with a high level of acquaintance. In such a study, if the target's behavior is at all consistent (i.e., greater than zero), the primary determinant of consensus is the consistency of target behavior across situations. These unique features would offer data directly relevant to the effects of personality and situations on interpersonal perception.

Conceptual and Methodological Issues

Agreement in personality judgments within groups of strangers and acquaintances (e.g., Kenny et al., 1994) and across groups of friends and strangers (e.g., Funder & Colvin, 1988) has been studied. Only recently has attention focused on interjudge agreement in ratings of a target both within and between contexts. Funder, Kolar, and Blackman (1995) evaluated the effects of overlap (exposure to the same acts by a target) and communication on interjudge agreement, by comparing target ratings provided by parents, college acquaintances, and hometown acquaintances. Results showed that "judges who know a target in the same context agree better about his or her personality than do judges who know him or her in different contexts" (Funder et al., 1995, p. 660). Across different contexts, an average interjudge agreement of about $r = .25$ was reported, whereas the average within-context agreement was about $r = .44$. Further, Funder et al. (1995) found that "judges who had never met, and therefore had never communicated with each other about the target, agreed with each other as well as judges who had met" (p. 661). Average correlations indexing interjudge agreement for those who had met and those who had not met were .29 and .26, respectively. This finding suggests that communication across groups was not the basis of interjudge agreement.

When studying interjudge agreement within or between groups, there are important conceptual, methodological, and analytic issues that warrant explicit attention. Kenny et al. (1994) addressed these issues for the within-group context, but there has not been equivalent attention to the between-group context. Below, we consider aspects of interpersonal perception that have implications for studying agreement across social groups.

Communication Effects

Agreement within a group of acquaintances is likely to be affected by communication. If uncontrolled, one cannot know the degree to which agreement reflects independent similarity of judgment or socially constructed consensus. For example, the high levels of consensus reported in studies of well-acquainted residential living groups (e.g., Malloy & Albright, 1990) or in families (Funder et al., 1995) could be due to communication effects.

Stimulus Overlap

Consensus among acquaintances is influenced by exposure to the same behavioral acts. Such agreement is a product of mutual

exposure to multiple acts in the same context rather than independent integration of multiple target acts by the judges.

Dyadic Effects in Perception

In well-acquainted social groups, the judges and targets may have a special relationship. For example, judge and target may be best friends, siblings, or rivals. Judgments within special relationships are expected to show substantial dyadic effects (Kenny & Malloy, 1988), which should be partitioned from the estimate of consensus at the individual level of analysis.

Measurement of Consensus

The statistical approach to measuring interjudge agreement is often overlooked but is an important issue. Kenny et al. (1994) reviewed various approaches to quantifying agreement and showed that a variance measure of consensus is the most desirable from the perspective of modern psychometric theory.

Group Effects in Perception

It is likely that individuals seek out and select into groups that are similar to other groups to which they belong (Caspi & Herbener, 1990; Emmons, Diener, & Larsen, 1986; Snyder & Ickes, 1985). For example, a member of a family that promotes intellectual pursuit may choose intellectual friends and select an occupation that provides intellectual stimulation. If this is the case, there are implications for the unbiased estimation of agreement across groups. Specifically, selection into similar social groups may result in correlated groups means on a variable that may bias (i.e., inflate) estimates of agreement across them. Because the average level of behavior within different groups is similar, estimates of agreement across them that do not control for correlated group means may be artificially high.

The Present Research

These conceptual and methodological concerns guided the design of this research, which simultaneously considered agreement within and across social groups while carefully controlling factors that may bias estimates of agreement. Within groups, we used a design that permitted componential analysis of interpersonal perception data (Kenny, 1994). Although the advantages of componential analysis of perception data within groups are now widely recognized (Cronbach, 1955, 1958; Kenny, 1994), little attention has been paid to the implication of componential analysis for the study of phenomena across social groups.

In this research, a componential analysis based on the social relations model (SRM; Kenny & La Voie, 1984; Malloy & Kenny, 1986) was used within groups. We specified theoretical assumptions regarding the relationships of the SRM components across social groups and a model for estimating consistency of stimulus effects across groups. We recruited 31 persons to participate in a study of rating personality characteristics. These 31 individuals, called *targets* in this study, were asked to nominate 3 family members, 3 friends, and 3 coworkers, to also participate in the study. These 9 persons are referred to as *informants*. The family, friend, and coworker groups were selected because they represent fundamental social groups within which

people lead most of their lives. Informants from the three social groups could be included only if they (a) never interacted with the informants of another social group and (b) never observed the target behave in the company of an informant from another social group. These constraints held stimulus overlap and communication at zero between social groups. The target was the only common member of the three social groups, and we confirmed that within each group, judges were well acquainted with the target, having observed literally thousands of acts during everyday activity.

A Model of Interpersonal Perception Across Social Groups

The conceptual concerns that determined the structure of the research design also have implications for statistical estimation, which, if ignored, could render the results uninterpretable. Within any of the social groups, the target and an informant could be expected to have a special relationship. Because the focus of this work is on phenomena at the individual level of analysis (i.e., consensus, self-other agreement, and meta-accuracy), these unique dyadic judgments had to be removed from individual-level effects. To accomplish this control, a round-robin design was used within each of the social groups, and all family members, coworkers, and friends (including the target) rated one another. This design was necessary for estimation of the individual-level effects while partitioning the grand mean, the dyadic effect, and random error from judgments.

The assumptions about the sources of variability in judgments within social groups and the implications for estimation of covariances across groups are presented below. Assume that there are two categories of social groups of equal size (e.g., family and friends), referred to as groups *a* and *b*. The multiple judges within these two social groups rate a target *t* on dimension *X*. If judge *i* is a member of group *a* and judge *j* is a member of group *b*, the two equations representing the components of *i*'s and *j*'s rating of *t* within each group are

$$X_{ita} = M_a + \alpha_{ia} + \beta_{ta} + \epsilon_{ita} \quad (1)$$

$$X_{jtb} = M_b + \alpha_{jb} + \beta_{tb} + \epsilon_{jtb}. \quad (2)$$

In the models above, M_a and M_b are grand means of ratings within groups *a* and *b*. The terms α_{ia} and α_{jb} are perceiver effects for judges *i* and *j* in groups *a* and *b*; β_{ta} and β_{tb} are *t*'s target effects in groups *a* and *b*. Error, confounded with relationship effects, within each group, is indicated by ϵ_{ita} and ϵ_{jtb} . The variances (σ^2) of the effects within groups *a* and *b* are

$$\sigma^2(X_a) = \sigma^2(\alpha_a) + \sigma^2(\beta_a) + \sigma^2(\epsilon_a) \quad (3)$$

$$\sigma^2(X_b) = \sigma^2(\alpha_b) + \sigma^2(\beta_b) + \sigma^2(\epsilon_b), \quad (4)$$

where $\sigma^2(\alpha)$ is perceiver variance, $\sigma^2(\beta)$ is target variance, and $\sigma^2(\epsilon)$ is error and relationship variance. These variances may be estimated by a social relations analysis within groups and provide statistical measures of perceptual phenomena (Kenny, 1994). Of most relevance here is the variance due to the target, which, when divided by the total variance, is a measure of consensus within groups.

The assumption that individuals join groups that are similar

has implications for selecting a specific statistical measure of agreement across groups. For example, one approach is to estimate the covariance (C) of the average rating of a single target t made by multiple judges within groups a (\bar{X}_{ta}) and b (\bar{X}_{tb}) (i.e., $C[\bar{X}_a, \bar{X}_b]$). The data structure from a study in which only one judge from each group evaluates the target is problematic because estimation of the effect estimates in Equations 1 and 2 is precluded. Therefore, $C(\bar{X}_a, \bar{X}_b)$ is quite likely a misleading estimate of agreement across groups because of systematic relationships between the terms in Equations 1 and 2. For example, assuming that people select into similar groups, it follows that $C(\bar{X}_a, \bar{X}_b) > 0$, which states that grand means of judgments in different social groups are related positively. Under this assumption, the covariance of average ratings of a target across groups is a biased (i.e., inflated) estimate of agreement across groups.

A preferable alternative is to estimate the agreement across groups by the covariance of target effects of Equations 1 and 2, or $C(\beta_a, \beta_b)$.¹ A social relations analysis can be used to estimate β_{ta} and β_{tb} (Kenny, 1994) and their covariance, which is an estimate of agreement across social groups in an unstandardized metric. A more interpretable estimate is the correlation of the target effects (β_{ta} and β_{tb}) in different social groups:

$$r(\beta_a, \beta_b) = \frac{C(\beta_a, \beta_b)}{[\sigma^2(T_a)\sigma^2(T_b)]^{1/2}} \quad (5)$$

The target effect estimates (β_{ta} and β_{tb}) are partitioned from the perceiver components and the group mean in the social relations analysis. They do, however, contain the target component plus the average of the relationship components. The amount of variance due to relationship is a function of the number of relationships over which averages are estimated. Therefore, these correlations $r(\beta_a, \beta_b)$ can be corrected for unreliability due to relationship effects (r') by the standard correction for attenuation formula:

$$r' = \frac{r(\beta_a, \beta_b)}{[r(\beta_a, \beta_a)r(\beta_b, \beta_b)]^{1/2}} \quad (6)$$

In Equation 6, the product-moment correlation is divided by the square root of the product of the reliabilities of the target effect estimates from different social groups. The reliability of the target effect can be determined by a social relations analysis. When the target effect is totally consistent across contexts, these corrected correlations (r') will equal 1.00.

Theoretical Predictions

Consensus within groups. Kenny's (1991) WAM predicts, and previous empirical work (Kenny et al., 1994) showed, that within social groups of varying levels of acquaintance, consensus is generally moderate and, in some cases with well-acquainted groups, is quite substantial (e.g., Malloy & Albright, 1990). Therefore, we predicted that within coworker, friend, and family groups, there would be reliable consensus in judgments on the Big Five personality factors.

Agreement across groups. Assuming that behavior within social groups is strongly determined by cultural and group-defined roles, then behavior may vary substantially across con-

texts. Because intergroup communication and overlap are constrained to zero in the present research, consensus across groups will be even smaller. These theoretical assumptions and experimental controls led us to predict that agreement across social groups would be much weaker than agreement within them.

Meta-accuracy. Both sociocultural (Vygotsky, 1978) and symbolic interactionist (Mead, 1934) theories predict that distinct social identities may emerge in different social groups. Therefore, not only did we anticipate that judgments of the target by others would vary across groups, we also anticipated that targets would accurately know how they were perceived by others in different social groups. That is, we predicted accurate metaperception in each group. However, of the three groups considered here, the family is assumed to have the most significant impact on social identity (Mead, 1934; Scarr & McCartney, 1983). So, it follows that meta-accuracy should be greater in the family group than in the friend and coworker groups.

Self-other agreement. Mead (1934) claimed that self-perception is significantly affected by family member evaluations and that this effect is mediated by accurate metaperception. That is, people know accurately how their family members judge them, which, in turn, affects self-perception. Therefore, it also follows that self-other agreement should be stronger in the family, compared with the friend and coworker groups.

Method

Participants and procedures. Thirty-one male and female volunteers (mean age of 24.3 years, $SD = 3.97$), recruited primarily from communities in Rhode Island, participated in the study. These volunteers are referred to as *targets*. To participate, each target had to nominate 3 informants from three different social groups (coworkers, friends, and family). Two constraints were imposed. Informants in different social groups must have never interacted with one another and must have never been together while observing the target behave. Overall, then, there were 31 targets and 279 informants included in the study.

A research assistant contacted targets and informants by telephone. After complete confidentiality was assured, targets and informants made judgments of each other within each of the three social groups on five variables designed to indicate the Big Five factors: *shy-outgoing* (Factor I—Extraversion), *rude-courteous* (Factor II—Agreeableness), *late-on time* (Factor III—Conscientiousness), *calm-anxious* (Factor IV—Emotional Stability), and *unintelligent-intelligent* (Factor V—Culture). Ten-point scales bounded by these adjectives were used. The 31 targets provided additional data: self-ratings and predictions of how the 9 informants would rate them (i.e., metaperceptions) on the variables. The order of persons rated and variables were randomly varied across the types of judgments.

Design and analyses. Within the coworker, friend, and family groups, there was a round-robin data structure. The only common member of each group was the target. A social relations analysis (Warner, Kenny, & Stoto, 1979) of the round-robin data was conducted within the three social groups. In these analyses, the variance of target effects is of most interest, because it measures consensus of social judgments within groups.

Target effect estimates from the social relations analysis (Kenny, 1994) for the 31 common targets within the three social groups were then merged into a single data set. Two approaches were taken in the

¹ There is a slight bias in this covariance, in that the same target is a member of both groups.

measurement of the target effect within each of the three groups. One approach involved using the target effect estimate (β_{ia} and β_{ib} of Equations 1 and 2) within a group as the measure of agreement. A second approach involved using the target effect estimates plus the group mean of ratings on the dimension (M_a and M_b in Equations 1 and 2) as the measure of agreement. The first approach isolates the target effect from the average level of ratings within groups, whereas the second approach does not. Both approaches partition the target effect from the perceiver effect. Also included in this study were the targets' self-ratings and metaperceptions. These variables were correlated with the target effect estimates to test predictions regarding the accuracy of metaperception and self-other agreement across social groups.

Results

Consensus within the three social groups. Consensus within the three social groups on the variables indicating the five factors is presented in Table 1. Included in this table is the proportion of total variance due to the target, as well as the absolute or raw target variance, which, in a social relations analysis, indexes consensus. Relative variance is in a standard metric (proportion of total perceiver, target, and relationship), and absolute variance is in a 10-point metric. The unstandardized estimates are most appropriate when considering variability of the variances across social groups and dimensions. Results in Table 1 show that overall, there was statistically reliable consensus on all variables within all social groups. Across the five variables, the consensus levels indexed by the average absolute and relative variances in the coworker and friend groups were generally equivalent at 1.66 and 1.63, respectively. Consensus was greatest in the family group, with absolute variance of 1.85. The level of consensus is about 30% of the variance, a value typical for highly acquainted judge-target pairs (Kenny et al., 1994).

Within the three social groups, the greatest consensus was observed on Conscientiousness (Factor III) and Extraversion (Factor I). Absolute variances on judgments of "on time" (Factor III) were 2.57, 3.07, and 2.71 in the coworker, friend, and family groups, respectively. Absolute variances on judgments of "outgoing" (Factor I) were 2.16, 2.29, and 2.47 in the coworker, friend, and family groups, respectively. The rank order

of absolute variances on the specific variables was identical in the friend and family groups. Following the Conscientiousness and Extraversion factors, the magnitude of variances descended in the following order: Emotional Stability (1.58 and 2.40), Agreeableness (0.68 and 1.01), and Culture (0.55 and 0.68) for the friend and family groups, respectively. Within the coworker groups, following the Conscientiousness factor, the variances were in the following rank order: Emotional Stability (2.24), Extraversion (2.16), Agreeableness (0.78), and Culture (0.57). A multivariate analysis of variance showed that there was no Social Group (family, friend, or coworker) \times Big Five Factor interaction, $F(8, 23) = 0.33, p = .94$, on the consensus measure.

We tested whether the gender of a target may be a basis for agreement within groups. If different groups used target gender similarly as a basis for making personality judgments, this could also be a basis for agreement across groups. For these analyses, target's gender was coded so that male was equal to 0 and female was equal to 1. Target gender was correlated with the measure of others' consensual judgments of the target (β_i) within each of the groups. Results showed that in the coworker (r s ranged from $-.04$ to $.20$) and family (r s ranged from $-.27$ to $.23$) groups, gender was independent of personality judgments. In the friend group, the gender and target effect correlation was significant only for judgments of intelligence ($r = .48, p < .05$) and showed that on average, women were judged as more intelligent than men. The remaining correlations ranged from $.20$ to $.29$.

Consistency of target effects across social groups. To determine if the three groups perceived the common member similarly, covariances of target effects were estimated across all three pairs of groups. When standardized as correlations and disattenuated, there was moderate consistency of an individual's target effect on others' judgments, across the coworker, friend, and family groups. Average correlations of the consistency of the focal individual's target effect across coworker-family, friend-coworker, and family-friend groups were $.14, .34,$ and $.25$, respectively. The parallel disattenuated estimates were $.19, .41,$ and $.44$. Note that if the attenuated estimates are reliable, then the disattenuated estimates may also be interpreted as reliable. Statistically significant friend and coworker agreement was seen on judgments of "outgoing" ($r = .36, p < .05$), "courteous" ($r = .49, p < .05$), and "on time" ($r = .51, p < .05$). Reliable agreement was also observed in the family and friend groups on judgments of "on time" ($r = .49, p < .05$) and "anxious" ($r = .36, p < .05$). There was no reliable agreement across the friend and coworker groups.

We also considered the estimates of agreement across groups while ignoring the possibility of correlated group means (i.e., that people exist in similar groups). These analyses showed much more evidence of agreement across groups. Mean correlations of the consistency of the focal individual's target effect plus the group mean across coworker-family, coworker-friend, and family-friend groups were $.33, .49,$ and $.46$, respectively. These estimates (which are not disattenuated) are most appropriately compared with the correlations under the column labeled r in Table 2, which averaged to $.14, .34,$ and $.25$, respectively, across the pairs of social groups. Using this approach, statistically reliable agreement was observed on all five factors across the friend and family groups, on four of five factors (all

Table 1
Consensus Within Social Groups

Variable	Factor	Social group					
		Coworker		Friend		Family	
		Rel	Abs	Rel	Abs	Rel	Abs
Outgoing	I	.47*	2.16	.45*	2.29	.45*	2.47
Courteous	II	.22*	0.78	.18*	0.68	.10*	1.01
On time	III	.40*	2.57	.45*	3.07	.33*	2.71
Anxious	IV	.35*	2.24	.26*	1.58	.35*	2.40
Intelligent	V	.28*	0.57	.24*	0.55	.25*	0.68
<i>M</i>		.34	1.66	.32	1.63	.30	1.85

Note. Entries are proportions of total variance (Rel) and absolute variance (Abs) from a social relations analysis of measures on a 10-point scale ($df = 30$).

* $p < .05$.

Table 2
Consistency of Target Effects Across Social Groups

Variable	Factor	Social groups					
		Coworker and family		Friend and coworker		Family and friend	
		r'	r	r'	r	r'	r
Outgoing	I	.25	.19	.47	.36*	.38	.29
Courteous	II	—	.16	—	.49*	—	-.07
On time	III	.44	.30	.71	.51*	.70	.49*
Anxious	IV	-.24	-.15	—	.12	.64	.36*
Intelligent	V	.28	.18	—	.16	.26	.16
M ^a		.19	.14	.41	.34	.44	.25

Note. Entries under *r* are Pearson product-moment correlations; entries under *r'* are disattenuated correlations (*df* = 29). For dashes, reliability of target effect was less than .60, and the raw correlations were used in estimation of average disattenuated correlations in all tables.

^a Averaged using Fisher's *r*-to-*z* transformation.

* *p* < .05.

but Culture) across the friend and coworker groups, and on two factors (Conscientiousness and Culture) across the coworker and family groups. These data show that considering or ignoring correlated group means in the analysis of agreement across social groups indeed has an important effect on the estimates attained.

Metaperception across social groups. Each target predicted how the 3 persons within the three social groups judged them on the five factors. These estimates were averaged within groups, and the averages were correlated across groups. These estimates, presented in Table 3, were highly stable across groups (average *r* = .73, .73, and .74 across the coworker-family, friend-coworker, and family-friend groups, respectively). The parallel disattenuated estimates were .89, .91, and .88, respectively. All 15 correlations presented in Table 3 were statistically reliable and showed that individuals believe that people in different, nonoverlapping social groups perceived them very similarly but not exactly the same.

Table 3
Consistency of Metaperception Across Social Groups

Variable	Factor	Social groups					
		Coworker and family		Friend and coworker		Family and friend	
		r'	r	r'	r	r'	r
Outgoing	I	.96	.85*	.85	.75*	.88	.81*
Courteous	II	.76	.61*	.86	.75*	.72	.57*
On time	III	.78	.71*	.73	.67*	.95	.88*
Anxious	IV	.95	.82*	.81	.69*	.69	.62*
Intelligent	V	.85	.56*	1.00	.79*	.94	.68*
M		.89	.73	.91	.73	.88	.74

Note. Entries under *r* are Pearson product-moment correlations; entries under *r'* are disattenuated correlations (*df* = 29).

* *p* < .05.

Table 4
Meta-Accuracy Within Social Groups

Variable	Factor	Social groups					
		Coworker		Friend		Family	
		r'	r	r'	r	r'	r
Outgoing	I	.69	.55*	.85	.71*	.78	.65*
Courteous	II	—	.37*	—	.15	—	.52*
On time	III	.47	.30	.62	.52*	.60	.47*
Anxious	IV	.71	.52*	—	.46*	.53	.40*
Intelligent	V	.26	.17	—	.21	.65	.43*
M		.52	.39	.52	.44	.74	.51

Note. Entries under *r* are Pearson product-moment correlations; entries under *r'* are disattenuated correlations (*df* = 29). For dashes, reliability of target effect was less than .60.

* *p* < .05.

Individuals predicted how the other members of their three social groups perceived them. Within each group, these three metaperceptions were averaged, and this average was correlated with (a) the individual's target effect and (b) the target effect with the group mean included. The raw product-moment correlations and the disattenuated estimates are presented in Table 4. These estimates are measures of *generalized* meta-accuracy (Malloy & Albright, 1990), which is awareness of how one is perceived, in general, by others. Across the five factors, average meta-accuracy estimates within the coworker, friend, and family groups were .39, .44, and .51, respectively. The parallel disattenuated estimates were .52, .52, and .63. All five meta-accuracy correlations were statistically reliable within the family group and ranged from .40 for the variable "anxious" to .65 for the variable "outgoing." Three meta-accuracy correlations were reliable in the friend group (*r* = .71 for "outgoing," *r* = .52 for "on time," and *r* = .46 for "anxious") and coworker group (*r* = .55 for "outgoing," *r* = .37 for "courteous," and *r* = .52 for "anxious"). These results show that focal targets were most accurately aware of how they were generally judged by family members and to a lesser extent by friends. In contrast with the family group, targets were relatively less aware of how coworkers judged them. Within all social groups, however, focal targets were reliably aware of how they were judged by others on the variables "outgoing" and "anxious."

When using the measure of agreement within groups that contained the target effect estimate with the group mean included, results were generally consistent, but estimates tended to increase in magnitude. Average meta-accuracy correlations using this approach were .43, .59, and .65 in the coworker, friend, and family groups, respectively.

Self-other agreement within social groups. To assess the agreement of others' consensual judgments of the target and the target's self-rating, target effect estimates within each social group were correlated with the self-rating. These results are presented in Table 5. Within the coworker group, reliable self-other agreement was observed for judgments on Factors I (*r* = .49 for "outgoing"), II (*r* = .47 for "courteous"), and IV (*r* = .39 for "anxious"). Among friends, reliable self-other

Table 5
Self-Other Agreement Within Social Groups

Variable	Factor	Social groups					
		Coworker		Friend		Family	
		r'	r	r'	r	r'	r
Outgoing	I	.56	.49*	.67	.59*	.58	.50*
Courteous	II	—	.47*	—	.13	—	.45*
On time	III	.25	.21	.49	.42*	.44	.36*
Anxious	IV	.47	.39*	—	.40*	.55	.43*
Intelligent	V	.21	.17	—	.08	.66	.41*
<i>M</i>		.40	.35	.38	.34	.54	.43

Note. Entries under r are Pearson product-moment correlations; entries under r' are disattenuated correlations ($df = 29$). For dashes, reliability of target effect was less than .60.

* $p < .05$.

agreement was observed for judgments of Factors I ($r = .59$ for "outgoing"), III ($r = .42$ for "on time"), and IV ($r = .40$ for "anxious"). Among family members, reliable self-other agreement was observed on judgments of Factors I ($r = .50$ for "outgoing"), II ($r = .45$ for "courteous"), III ($r = .36$ for "on time"), IV ($r = .43$ for "anxious"), and V ($r = .41$, for "intelligent"). Average self-other agreement was approximately equal in the coworker and friend groups, with average raw (r) and disattenuated (r') correlations of $r = .35$, $r' = .40$ and $r = .34$, $r' = .38$, respectively. In the family group, the average self-other agreement correlation was $r = .43$ ($r' = .54$) and was based on reliable agreement on all five factors. Overall, then, self-other agreement was strongest in the family group and at equal and weaker levels in the friend and coworker groups.

Discussion

Consensus within and between social groups. The results confirmed our prediction that consensus within social groups would be greater than agreement across social groups and are consistent with the results reported by Funder et al. (1995). Within the family, friend, and coworker groups, there was statistically reliable consensus on all of the Big Five factors. Averaging across the Big Five factors, interpersonal consensus was greatest in the family group (average variance of 1.85) with somewhat less consensus in the friend (average variance of 1.63) and coworker (average variance of 1.66) groups. Within the three groups, the rank order of the magnitude of the target variances on the factors was highly consistent. In the family and friend groups, they were identical, with the following order: Factors III, I, IV, II, and V. In the coworker group, the order was III, IV, I, II, and V.

This ordering of the Big Five factors is consistent with the results reported by Albright et al. (1988) on consensus within groups of strangers. Both suggest that Factors III and I may be fundamental dimensions on which group members differentiate one another, be they unacquainted or well acquainted. This consistency in the rank order of target variances within and across

groups suggests that different social groups may use the same basic dimensions to differentiate among members. Conscientiousness and Extraversion may be dimensions of behavior on which these people acquire information during mundane social interaction in everyday life.

Although agreement within groups may be characterized as moderate to strong, agreement across groups is much weaker. The greatest agreement was observed across the coworker and friend groups, followed by the friend and family groups, and then followed by the family and coworker groups. Of the 15 correlations of target effect estimates across groups (i.e., the measure of agreement across groups proposed here), only 5 were statistically reliable. Such a pattern of data is consistent with sociocultural models (James, 1890; Laboratory of Comparative Human Cognition, 1983; Mead, 1934; Vygotsky, 1978; Wertsch, 1985) that predict that identity and personality are context specific.

Self-other agreement. The analyses confirmed the prediction that self-other agreement would be strongest in the family, compared with the friend and coworker groups. The sociocultural theories of Vygotsky (1978) and Mead (1934) both predict that interpersonal processes precede and determine intrapersonal processes. Indeed, the family is the most influential social group early in development because of profound genetic and environmental effects (Scarr & McCartney, 1983). Mead (1914) also assumed that parents have a fundamental influence on core social identity: ". . . not all ideas that go to build up an organized self are brought together till after the self of the parent is organized" (p. 62). That is, only when people mature are they able to select in and out of social environments that are consistent with their own unique characteristics, and only then do they show increasing dissimilarity with parents (Scarr & McCartney, 1983). Although the targets in this study were young adults (24.3 years on average) the data suggest that the family group still occupied a fundamental role in social identity.

The accuracy of metaperceptions. Sociocultural theory, especially the ideas developed by the symbolic interactionists (Mead, 1914, 1934), assumes that others' consensual judgments affect the target's awareness of these judgments (i.e., metaperception), which, in turn, affect self-perception and context-specific behavior. Given the assumption of context-specific social identity, we anticipated and found evidence of reliable metaperception in all groups. Meta-accuracy estimates ranged from .40 to .65, with an average of .51 in the family, followed by the friend group (average $r = .44$) and then the coworker group (average $r = .39$). But recall that the consistency of metaperception across pairs of social groups is very strong, with a median disattenuated correlation of .89. Thus, targets believe that members of different social groups perceive them much more similarly than those persons actually judge them.

Summary and theoretical implications of the data. Interpersonal perceptions among well-acquainted individuals in family, friend, and coworker groups are characterized by consensus. However, in sharp contrast to the consensus observed within groups, there is much weaker evidence of agreement across groups. These differences may be explained by three different parameters within the Weighted Average Model of consensus (Kenny, 1991).

One parameter within WAM is communication. We designed

the study so that there was no communication across groups but there quite likely was communication between perceivers about targets within groups. The sociocultural model predicts that this communication should lead to consensual social judgment. On the other hand, communication effects may be smaller than intuition and theory suggest (Chaplin & Panter, 1993; Funder et al., 1995).

Another possible explanation from WAM is variability of meaning systems across social groups. Perhaps members of different groups attach different meaning to similar acts by the target. If this were the case, then targets' behaviors could be highly consistent across groups but interpreted differently. However, given the homogeneity of our sample, we believe that this is unlikely.

The third explanation is the consistency parameter within WAM. *Consistency* refers to the extent to which target behaviors are stable across situations. If there is more consensus within than between groups, this may indicate inconsistency of behavior across social groups. It can be shown mathematically that the disattenuated correlations in Table 2 are estimates of the relative consistency of behavior across to within groups.

Because the procedures held communication and overlapping behavioral information at zero across groups, and given that it is reasonable to assume that meaning systems within cultures are generally equivalent, we believe that the level of cross-situational consistency of perceptions is due to the cross-situational consistency of behavior. There is, indeed, some agreement of perception across groups, but it is uniformly weaker than agreement within groups. The average correlation of the target effect across contexts is .25 ($r' = .35$). To some extent, persons do behave in the same way across contexts, but behavior is not highly consistent.

Funder et al. (1995) also examined consensus between friends and family. Using their Table 2, consensus within friends was on average .395, consensus within families was .54, and agreement across contexts was on average .255. It can be shown that $.55 / (.255 / [(.395) (.54)]^{1/2})$ is the estimate of the correlation between target effects across the two contexts. As seen in Table 2 of this article, we estimate the same correlation (r') as .44. The reason why Funder et al.'s (1995) value is somewhat greater is quite likely because they did not remove the grand mean, as we did. Thus, our results are similar to those of Funder et al.

The assumptions about group effects and the implication for statistical models of consistency across groups, coupled with the results that include group means, suggest consistency of a different form. Whereas one's stimulus effect on others' judgments may not be consistent across groups, individuals may indeed show consistency in the average characteristics of the groups they select to join. Behavioral consistency may, paradoxically, be stronger at the group level than at the individual level of behavior.

Overall, these data are consistent with the sociocultural model, which claims that behavior and identity are context specific. Social behavior may be quite inconsistent across different social contexts because of variability of social relationships in those situations. Individuals are accurately aware of their social identity in different groups but are most accurately aware of their identity in the fundamental social group: the family. In 1978, the following question was posed by the Who (Townsend,

1978) in a rock and roll song: "Who are you?" Perhaps the best answer may have been offered in another song by the Beatles (Lennon & McCartney, 1967): "I am the egg man. . . . I am the walrus." One may behave very differently in nonoverlapping social contexts because norms and interpersonal relationships within them shape situation-specific identity.

References

- Albright, L., Kenny, D. A., & Malloy, T. E. (1988). Consensus in personality judgments at zero acquaintance. *Journal of Personality and Social Psychology, 55*, 387-395.
- Bem, D. J., & Funder, D. C. (1978). Predicting more of the people more of the time: Assessing the personality of situations. *Psychological Review, 85*, 485-501.
- Caspi, A., & Herbener, E. S. (1990). Continuity and change: Marriage and the consistency of personality in adulthood. *Journal of Personality and Social Psychology, 58*, 250-258.
- Chaplin, W. F., & Panter, A. T. (1993). Shared meaning and the convergence among observers' personality descriptions. *Journal of Personality, 61*, 553-585.
- Cronbach, L. J. (1955). Processes affecting scores on "understanding of others" and "assumed similarity." *Psychological Bulletin, 52*, 177-193.
- Cronbach, L. J. (1958). Proposals leading to analytic treatment of social perception scores. In R. Tagiuri & L. Petrullo (Eds.), *Person perception and interpersonal behavior* (pp. 353-379). Stanford, CA: Stanford University Press.
- Darley, J. M., & Latané, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology, 8*, 377-383.
- Emmons, R. A., Diener, E., & Larsen, R. J. (1986). Choice and avoidance of everyday situations and affect congruence: Two models of reciprocal interactionism. *Journal of Personality and Social Psychology, 51*, 815-826.
- Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology, 58*, 203-210.
- Funder, D. C., & Colvin, C. R. (1988). Friends and strangers: Acquaintanceship, agreement, and the accuracy of personality judgment. *Journal of Personality and Social Psychology, 55*, 149-158.
- Funder, D. C., & Colvin, C. R. (1991). Explorations in behavioral consistency: Properties of persons, situations, and behaviors. *Journal of Personality and Social Psychology, 60*, 773-794.
- Funder, D. C., Kolar, D. C., & Blackman, M. C. (1995). Agreement among judges of personality: Interpersonal relationships, similarity, and acquaintance. *Journal of Personality and Social Psychology, 69*, 656-672.
- Funder, D. C., & Ozer, D. J. (1983). Behavior as a function of the situation. *Journal of Personality and Social Psychology, 44*, 107-112.
- Goffman, E. (1963). *Behavior in public places*. New York: Free Press.
- Hartshorne, H., & May, M. A. (1928). *Studies in deceit*. New York: Macmillan.
- James, W. (1890). *Principles of psychology*. New York: Holt.
- Kenny, D. A. (1991). A general model of consensus and accuracy in interpersonal perception. *Psychological Review, 98*, 155-163.
- Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York: Guilford Press.
- Kenny, D. A., Albright, L., Malloy, T. E., & Kashy, D. A. (1994). Consensus in interpersonal perception: Acquaintance and the Big Five. *Psychological Bulletin, 116*, 245-258.
- Kenny, D. A., & La Voie, L. (1984). The social relations model. In L.

- Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 18, pp. 142–182). Orlando, FL: Academic Press.
- Kenny, D. A., & Malloy, T. E. (1988). Partner effects in social interaction. *Journal of Nonverbal Behavior*, *12*, 34–57.
- Kenrick, D. T., & Funder, D. C. (1988). Profiting from controversy: Lessons from the person–situation debate. *American Psychologist*, *43*, 23–34.
- Kenrick, D. T., & Stringfield, D. O. (1980). Personality traits and the eye of the beholder: Crossing some traditional philosophical boundaries in the search for consistency in all of the people. *Psychological Review*, *87*, 88–104.
- Laboratory of Comparative Human Cognition. (1983). Culture and cognitive development. In P. H. Mussen (Ed.), *Handbook of child psychology* (4th ed., Vol. 3, pp. 455–535). New York: Wiley.
- Lennon, J., & McCartney, P. (1967). I am the walrus. On *Magical mystery tour* [CD]. London: ATV Music.
- Malloy, T. E., & Albright, L. (1990). Interpersonal perception in a social context. *Journal of Personality and Social Psychology*, *58*, 419–428.
- Malloy, T. E., & Kenny, D. A. (1986). The social relations model: An integrative method for personality research. *Journal of Personality*, *54*, 199–225.
- Malloy, T. E., Sugarman, D. B., Montvilo, R. K., & Ben-Zeev, T. (1995). Children's interpersonal perceptions: A social relations analysis of perceiver and target effects. *Journal of Personality and Social Psychology*, *68*, 418–426.
- Mead, G. H. (1914). 1914 class lectures in social psychology. In D. L. Miller (Ed.), *The individual and the social self* (pp. 27–105). Chicago: University of Chicago Press.
- Mead, G. H. (1934). *Mind, self, and society*. Chicago: University of Chicago Press.
- Milgram, S. (1975). *Obedience to authority*. New York: Harper/Coleophon.
- Mischel, W. (1968). *Personality and assessment*. New York: Wiley.
- Mischel, W., & Peake, P. (1982). Beyond déjà vu in the search for cross-situational consistency. *Psychological Review*, *89*, 730–755.
- Moskowitz, D. S., & Schwarz, J. C. (1982). Validity comparison of behavior counts and ratings by knowledgeable informants. *Journal of Personality and Social Psychology*, *42*, 518–528.
- Nisbett, R. E. (1980). The trait construct in lay and professional psychology. In L. Festinger (Ed.), *Retrospections on social psychology* (pp. 109–130). New York: Oxford University Press.
- Scarr, S., & McCartney, K. (1983). How people make their own environments: A theory of genotype–environment effects. *Child Development*, *54*, 424–435.
- Snyder, M., & Ickes, W. (1985). Personality and social behavior. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (3rd ed., Vol. 2, pp. 883–948). New York: Random House.
- Townsend, P. (1978). Who are you. On *Who are you* [CD]. New York: MCA Records.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, England: Cambridge University Press.
- Warner, R. M., Kenny, D. A., & Stoto, M. (1979). A new round robin analysis of variance for social interaction data. *Journal of Personality and Social Psychology*, *37*, 1742–1757.
- Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press.

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