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The Information Used to Judge Supportiveness Depends on Whether the Judgment Reflects the Personality of Perceivers, Objective Characteristics of Targets or Their Unique Relationships

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THE INFORMATION USED TO JUDGE SUPPORTIVENESS DEPENDS ON WHETHER THE JUDGMENT REFLECTS THE PERSONALITY OF PERCEIVERS, THE OBJECTIVE CHARACTERISTICS OF TARGETS, OR THEIR UNIQUE RELATIONSHIPS

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People who judge their relationships as more supportive enjoy better mental health than people who judge their relationships more negatively. We investigated how people made these judgments; specifically, how people weighed different types of information about targets under three different conditions: when judgments reflected the personality of perceivers, the objective characteristics of targets, and the unique relationships between perceivers and targets. Participants (i.e., perceivers) judged the same four videotaped targets on personality, similarity to perceivers and likely supportiveness. As in previous research, perceivers based their judgments on perceived target similarity to perceivers, and on target personality. However, how perceivers weighed personality and similarity information varied dramatically depending upon whether the judgment reflected the personality of perceivers, the objective characteristics of targets, or the relationship between perceivers and targets. Implications for understanding how people make support judgments were discussed.

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People who judge important relationships as supportive have better physical and mental health than people who judge relationships more negatively (Sarason, Sarason, & Gurung, 2001; Uchino, Cacioppo, & Keicolt–Glaser, 1996). This fact is important because it has implications for prevention and treatment (Cohen, Underwood, & Gottlieb, 2000; Hogan, Linden, & Najarian, 2002). However, translating social support research into effective interventions may require an understanding of how people judge others as more or less supportive (Lakey & Lutz, 1996; Hogan et al., 2002). The goal of the research described in this article was to apply new research methods from generalizability theory (Brennan, 2001a; Cronbach, Gleser, Nanda, & Rajaratnam, 1972; Shavelson & Webb, 1991) to advance our understanding of how people make support judgments.

Historically, most social support scholars assumed that people based support judgments on the amount and quality of the specific supportive actions provided (i.e., enacted support, e.g., advice, reassurance, tangible assistance; Sarason, Sarason, & Pierce, 1990). Although there is some evidence that people use such information, the strength of the correlation between enacted support and support judgments is modest, accounting for only about 9% of the variance (Barrera, 1986; Dunkel–Schetter & Bennett, 1990). Thus, people must rely on information beyond enacted support to judge the supportiveness of others. Some of this additional information appears to be the perceived similarity between recipients and providers in attitudes, values (Lakey, Ross, Butler, & Bentley, 1996), and life experiences (Suitor, Pillemer, & Keeton, 1995), as well as providers' personality characteristics, especially agreeableness (Lakey et al., 2002; Lutz & Lakey, 2001).

In addition to investigating the type of information that people use to judge supportiveness, other research has focused on the extent to which support judgments reflect the characteristics of the people making the judgments (i.e., *perceivers*), the characteristics of the people being judged (i.e., *targets*), and the unique *relationships* between perceivers and targets. When all perceivers judge the same targets, generalizability theory (Cronbach et al., 1972) and the Social Relations Model (Kenny, 1994) enable investigators to determine the extent to which support judgments reflect each of these three determinants (e.g., Lakey, McCabe, Fisicaro, & Drew, 1996). Perceiver effects reflect differences among perceivers in rating targets as more or less supportive, averaged across targets. These effects reflect traitlike tendencies of perceivers to see all targets as more or less supportive, regardless of the actual characteristics of the targets. Target effects reflect the extent to which perceivers agree that some targets are more supportive than others, averaged across perceivers. Target effects reflect the extent to which support judgments reflect the objectively sup-

portive properties of targets, insofar as interobserver agreement indexes objectivity. Relationship effects reflect systematic disagreement among perceivers that some targets are more supportive than other targets. Simply put, relationship effects reflect the extent to which supportiveness is a matter of personal taste. For example, Jack may see Jill as more supportive than Mary, but Bob may see Mary as more supportive than Jill. These disagreements do not reflect error in measurement, but reflect differences in opinion about who is supportive. Generalizability and Social Relations Model studies have revealed that the personality of perceivers, the objective qualities of targets, and the relationships between perceivers and targets each influence support judgments, with relationships having the strongest influence (Branje, van Aken, & van Lieshout, 2002; Lakey, McCabe et al., 1996; Lakey, Drew & Sirl, 1999).

In summary, one line of research indicates that perceivers base support judgments on enacted support, perceived target similarity, and target personality. This research typically uses correlational methods in which perceivers' judgments of targets' supportiveness are correlated with perceivers' judgments of targets' other characteristics. A second line of research indicates that support judgments reflect a blend of the personality of perceivers, the objectively supportive properties of targets, and the unique relationships between perceivers and targets. This research typically uses the methods of generalizability theory in which all perceivers rate the same targets on supportiveness. The research described in this article combines both approaches to investigate the extent to which people use target information differently, depending upon whether the support judgments reflect the personality of perceivers, the objectively supportive properties of targets, or the unique relationships between perceivers and targets.

The methods of generalizability theory can correct a serious limitation in the methods typically used to identify the information people use to judge supportiveness. The typical method relies on participants' judgments of both targets' supportiveness and other characteristics (e.g., similarity or enacted support). Investigators typically interpret correlations between supportiveness and target characteristics to mean that support judgments are based on the actual characteristics of targets. For example, the correlation between supportiveness and enacted support typically has been interpreted as reflecting the extent to which targets' supportiveness is based on the enacted support actually provided (Barrera, 1986; Dunkel–Schetter & Bennett, 1990). Unfortunately, this interpretation cannot be drawn unambiguously from the method just described. There are at least two other interpretations.

One alternative interpretation of a correlation between target supportiveness and target characteristics is that the correlation reflects the per-

sonality of the people making the judgments (i.e., perceivers). For example, the correlation between supportiveness and agreeableness may reflect the extent to which perceivers see targets as both supportive and agreeable, or as unsupportive and disagreeable, regardless of the actual characteristics of the targets. A second alternative interpretation is that the correlation reflects the unique relationships between perceivers and targets. For example, the extent to which a target matches a perceiver's taste in supportiveness may covary with the extent to which a target matches a perceiver's concept of agreeableness. For example, Bob sees Jill's friendly behavior as reflecting insincerity and he therefore views her as disagreeable and unsupportive. Yet Jack sees Jill's friendly behavior as reflecting true agreeableness and he therefore sees her as supportive.

Existing studies on the information used to judge support confound influences that reflect perceivers, targets, and relationships. Fortunately, multivariate generalizability theory (Brennan, 2001a; Cronbach et al., 1972; Strube, 2000) provides a means to distinguish among these different types of influence. In the present study, we used multivariate generalizability theory to estimate correlations between supportiveness and other target characteristics when these correlations reflected the personality of perceivers, the objective characteristics of targets, and the unique relationships between perceivers and targets. We refer to these as correlations at the perceiver, target, and relationship *levels of analysis.*

Distinguishing among correlations at different levels of analysis is important because it allows hypotheses about the determinants of supportiveness to be stated and tested with greater precision. Consider the strong correlation between perceived similarity and supportiveness (Lakey, Ross, et al., 1996; Lakey et al., 2002). Lakey, Ross, et al. (1996) assumed that the correlation between perceived similarity and supportiveness occurred at the relationship level of analysis. By definition, similarity describes a relationship between two or more people, rather than a property of a single person in isolation. It makes sense to think about Jack as being more similar to Jill than he is to Mary, but not to think about Jack as similar in an absolute sense, in the absence of a comparison to another person. Only the relationship level of analysis reflects similarity in this sense (referred to hereafter as "true similarity"). Therefore, hypotheses about the correlation between perceived supportiveness and perceived similarity would be more precisely stated as occurring specifically at the relationship level of analysis. Previous studies of similarity and supportiveness have not used methods that could distinguish among correlations at different levels of analysis. Therefore, previously observed correlations between similarity and

supportiveness could reflect the perceiver or target levels, and correlations at these levels are inconsistent with explanations based on true similarity.

Distinguishing among correlations at different levels of analysis also provides greater precision in stating and testing hypotheses about the objective determinants of supportiveness. Correlations between objectively determined supportiveness and objectively determined target characteristics are reflected at the target level of analysis, assuming that interobserver agreement reflects objectivity. For example, the hypothesis that perceivers base support judgments on targets' actual personality characteristics could be more precisely tested by correlations at the target level of analysis. Correlations between supportiveness and personality at the perceiver or relationship levels would not support the hypothesis that objective supportiveness is based on targets' objective personality.

In the present study, we reexamined the previously identified links among perceivers' judgments of targets' supportiveness, personality, and similarity using techniques from multivariate generalizability theory (Brennan, 2001a; Cronbach et al., 1972; Strube, 2000). These techniques permitted us to estimate the correlations between supportiveness and personality and between supportiveness and similarity for each of the perceiver, target, and relationship levels of analysis. Because Perceiver, Target, and Relationship components are statistically independent, we expected that the correlations between support and similarity and between support and personality would differ substantially depending upon the level of analysis. We also expected that analyses that distinguished among the three levels of analysis would differ substantially from conventional analyses that confounded the three. We also made hypotheses about correlations between specific constructs at specific levels of analysis. Consistent with the definition of similarity that involves a relationship among people rather than a property of people in isolation, we hypothesized a significant correlation between perceived similarity and supportiveness at the relationship level of analysis. The hypothesis that perceivers judge support on the basis of target personality implies that the correlation between support and personality reflects the objective properties of targets. Therefore, we hypothesized a significant correlation between agreeableness and supportiveness at the target level of analysis. We made hypotheses only for agreeableness because, of the personality traits that have been studied so far, agreeableness has been the most consistent predictor of support judgments.

METHOD

PARTICIPANTS

Eighty undergraduate students at a large midwestern state university participated in exchange for extra course credit. Seventy–four percent were women, 25% were men, and 1% did not specify. Ages of participants ranged from 18 to 47 (M = 22.7). Sixty–one percent of participants were European American, 18% were African American, 14% were of Asian or Arabic descent, and 7% did not specify.

SELECTION OF TARGETS

Isolating Perceiver, Target, and Relationship components requires that all participants rate the same targets. This creates a practical problem of finding a sufficient number of targets that are well known to all participants. In our previous research, we chose small, naturally occurring groups such as sororities or students in a specific PhD program (Lakey, McCabe, et al., 1996). However, the small size of these groups limits the number of participants substantially. One alternative is to present videotaped targets to all participants. In previous studies using videotaped targets (Lakey, McCabe et al., 1996; Lakey et al., 1999), participants viewed staged 5–minute social support interactions. Although videotaped targets made it possible to include many participants in a study, the amount of information presented about targets was greatly constrained. For the present study we took a new approach. Targets were characters from the popular situation comedy, *Friends*. Because the show was popular, it was easy to find many participants who all had information about the targets. In addition, using TV characters as targets had many properties similar to non–TV life: Participants viewed targets behaving in a wide range of different situations, and participants had observed slightly different samples of behavior (i.e., not all participants had seen all episodes). We chose the four characters who we believed had the most distinctive personalities to increase the range in the target variables.

Although the TV characters did not provide specific supportive actions to viewers, we believed that this method was appropriate for studying how participants used information about similarity and personality to judge support. People appear to use similarity and personality information to judge a wide range of different targets, including written descriptions of hypothetical targets (Lakey, Ross, et al., 1996; Lutz & Lakey, 2001), strangers after short conversations (Lakey, Ross, et al., 1996), and close friends and family (Lakey et al., 2002; Lakey, Ross, et al., 1996). Regular viewers of this particular TV program would have exten-

sive information about their similarity to and the personality characteristics of the TV characters. Finally, as described in the Results section, the information that participants used to judge support for the TV characters was the same information that participants have used to judge important network members in previous studies.

The first page of the questionnaire packet contained pictures of the four characters and a series of questions assessing the frequency by which participants viewed the show. Participants then made ratings of the personality, supportiveness, and perceived similarity of the four characters. In order to ensure that participants had enough information to rate the characters, participants' data were excluded if participants had not viewed the show at least five times.

MEASURES

Target Supportiveness. To assess target supportiveness, we used the same items used in Lutz and Lakey (2001). Six items reflected tangible support and six items reflected interpersonal warmth and responsiveness. Items were drawn from widely used measures of perceived support and were modified to refer to the target being rated. The instructions were modified to account for the fact that participants did not interact with these characters. Participants were asked to rate how supportive each character would be to the participant if the participant actually knew the character. Cronbach's alphas for this measure ranged from .66 (Monica) to .94 (Ross).

Target Personality Traits. The Interpersonal Adjective Scale–Revised (Trapnell & Wiggins, 1990) was used to assess the Big–5 personality dimensions. With instructions to rate the personality of the four TV characters, participants completed four separate forms of this measure. The four forms of the questionnaire were shortened to 12 items per dimension of personality. Items were chosen on the basis of high factor loadings on their primary factor and low factor loadings on all other factors, as reported by Trapnell and Wiggins (1990). Cronbach's alphas for participants' ratings of the TV characters ranged from .62 (Monica's openness) to .91 (Ross's conscientiousness).

Perceived Similarity. Participants rated the perceived similarity of targets using a 12–item scale that covered a wide range of domains such as similarity in attitudes, interests and life experiences. This was an expanded version of the measure of perceived similarity used by Lakey et al. (2002) and Lakey, Ross, et al. (1996). In their studies, perceived target similarity was a strong predictor of target supportiveness. Cronbach's alpha for this measure ranged from .80 (Ross) to .91 (Joey).

STATISTICAL ANALYSES

Univariate generalizability analyses were conducted to determine the extent to which each construct reflected the personality of perceivers, the objective properties of targets, and the unique relationships between perceivers and targets. Variance components were computed according to formulas presented by Cronbach et al. (1972) and Shavelson and Webb (1991). Data were analyzed as fully crossed, mixed ANOVAs with random factors. Test items and targets were within–subjects factors, and participants (perceivers) composed the between–subjects factor. Each participant was a level of the Perceivers factor, each target was a level of the Targets factor, and each item was a level of the Items factor. To reduce measurement error, items were aggregated to compose two indicators for each construct. For example, the design for perceived supportiveness was a Perceivers (80) × Targets (4) × Items (2) fully crossed design.

Significance tests for perceiver effects were based on quasi–Fs because the *MS*s for perceiver effects included variance due to Perceiver × Target and Perceiver × Item interactions (Shavelson & Webb, 1991). Following Lindman (1974), the numerator *MS*s for perceiver effects were *MS*p – *MS*pi – *MS*pt + *MS*pti + *MS*pti, which removed variance due to P × T and P×I interactions, while retaining the appropriate variance due to P × T × I interactions. Similarly, the *MS*s for Target effects included variance due to Perceiver × Target and Target × Item interactions. Therefore, Target effects were tested by quasi–*F*s, for which numerator *MS*s were *MS*t – *MS*ti – *MS*pt + *MS*pti + *MS*pti. Numerator degrees of freedom for Perceiver and Target effects were calculated according to formulas presented by Lindman (1974). Significance tests for Relationship effects were based on conventional *F* tests because the *MS*s for Perceiver × Target interactions did not include extraneous variance from other terms. For all effects, the highest order interaction (P × T × I) was used as the error term because, like most generalizability designs, the current study had only one observation per cell, precluding a within–subject error term (Lindman, 1974; McGraw & Wong, 1996).

Multivariate generalizability analyses were conducted to estimate correlations among the study variables at the Perceiver, Target, and Relationship levels of analysis. We analyzed the data as a $p^{\bullet} \times i^{\bullet}$ multivariate generalizability design as described by Brennan (2001a), using the computer program mGENOVA (Brennan, 2001b). In this design, targets were treated as different levels of *i*, and the variables were perceived support, similarity, and each of the Big–5 personality dimensions.

Significance tests for multivariate generalizability correlations (ρ) were based on the normal approximation bootstrap method (Mooney &

Duval, 1993) because there are no traditional parametric significance tests available for these correlations. Bootstrapping involves estimating characteristics of the sampling distribution (e.g., the standard error) by taking multiple, random resamples with replacement from a given study's data. The normal approximation method uses bootstrapping to estimate the standard error of the sampling distribution and then identifies the points on the z distribution marking conventional probability values. We used the normal approximation method to minimize the number of resamples required because this method yields acceptably accurate results with as few as 50 resamples (Mooney & Duval, 1993). Comparatively few resamples were a practical necessity because the only program available for calculating multivariate generalizability correlations (mGENOVA) had to be run separately for each resample and required hand calculations for correlations at the target and relationship levels of analysis. We calculated ρ rather than the residual for each resample because all factors in the design were random (Mooney & Duval, 1993). Fifty random resamples with replacement were drawn from the original data using the *bsample* procedure from the statistical program STATA (StataCorp, 2003). The standard deviation of the distribution of the 50 correlations for a given pair of variables was used as the estimate of the standard error of the sampling distribution for correlations between the given pair of variables. Multivariate g correlations were significant when the correlation was larger than $1.96 \times$ the standard error for a given correlation.

RESULTS

Preliminary analyses focused on Pearson correlations relating targets' supportiveness to targets' personality traits and perceived similarity. These analyses were conducted for two reasons. First, we wanted to compare the results obtained from the conventional correlational analysis with the results from the generalizability analyses. We expected that the two methods would produce very different results. Second, we wanted to examine the extent to which the findings based on rating TV characters corresponded to previous findings based on ratings of participants' friends and family.

For each of the four targets, participants rated targets as supportive when participants saw targets as highly agreeable and as similar to participants (Table 1). These findings are consistent with studies in which participants rated their own friends and family (Lakey, Ros,s et al., 1996; Lakey et al., 2002). In contrast, target conscientiousness, extroversion, and openness were correlated significantly with target supportiveness for some targets but not others. Target neuroticism displayed a complex

TABLE 1. Pearson Correlations Between Target Characteristics and Target Supportiveness for Each of the TV Characters

Character	Similarity	N	E	O	A	C
Phoebe	.42*	–.27*	.01	.18	.34*	.09
Ross	.40*	.49*	.33*	–.02	.47*	.10
Monica	.22*	–.14	–.20	.24*	.56*	.25*
Joey	.47*	.03	–.21	.22*	.35*	.14

Note. *$p < .05$. N = targets' neuroticism, E = targets' extroversion, O = targets' openness, A = targets' agreeableness, C = targets' conscientiousness.

pattern of relation to supportiveness. Neuroticism was related to supportiveness in opposite directions for some targets, and unrelated to supportiveness for other targets.

Next, we conducted generalizability analyses on all study variables. One purpose was to determine the extent to which rating TV characters produced results consistent with those of previous studies that had used ratings of real people. Consistent with previous studies (Lakey, McCabe, et al., 1996), support judgments were significantly influenced by the personality of perceivers, the objective characteristics of targets, and the relationships between perceivers and targets (Table 2), with relationships having the strongest influence. Consistent with research using the Social Relations Model (Kenny, 1994), ratings of target personality also were significantly influenced by perceivers, targets, and relationships. The greatest consensus among perceivers (i.e., target effects) was observed for conscientiousness and extroversion, a finding consistent with Lakey et al.'s (2002) study of daughter caregivers and their most important support providers. Thus, ratings of TV characters on similarity, personality, and support in the current study behaved very similarly to ratings of the same constructs made regarding real people in previous studies.

We also conducted generalizability analyses for perceived similarity. Previous research has not examined this construct using methods that can distinguish among perceiver, target, and relationship influences. Although perceived similarity has been conceptualized as reflecting relationships, in the current study, similarity was influenced as much by the personality of perceivers as it was by relationships (Table 2). There were also significant target effects for similarity.

The correlations among constructs at each level of analysis are presented in Table 3. We begin with a description of the correlation between perceived similarity and perceived support at the Perceiver, Target, and

TABLE 2. Proportion of Variance Accounted For, *F* Values, and Degrees of Freedom for Perceiver, Target, and Relationship Components

Component	PSS	Sim	N	E	O	A	C
Perceiver	.15*	.31*	.06*	.03*	.14*	.15*	.02*
	F′ = 5.88	F′ = 10.54	F′ = 3.50	F′ = 2.35	F′ = 3.28	F′ = 7.00	F′ = 2.68
	(27.6, 237)	(47.8, 237)	(9.6, 237)	(5.9, 237)	(45.6, 237)	(28.6, 237)	(3.7, 237)
Target	.15*	.10*	.18*	.32*	.09*	.16*	.56*
	F′ = 99.00	F′ = 65.66	F′ = 146.32	F′ = 285.53	F′ = 29.07	F′ = 131.5	F′ = 1,110.60
	(2.6, 237)	(2.8, 237)	(2.4, 237)	(2.7, 237)	(1.5, 237)	(2.8, 237)	(2.9, 237)
Relationship	.43*	.29*	.50*	.41*	.20*	.34*	.34*
	F = 4.50	F = 3.23	F = 6.00	F = 5.59	F = 1.80	F = 4.44	F = 9.47
	(237, 237)	(237, 237)	(237, 237)	(237, 237)	(237, 237)	(237, 237)	(237, 237)

Note. *$p < .05$. F′ indicates quasi *F*s. PSS = targets' supportiveness, Sim = targets' similarity to perceivers, N = targets' neuroticism, E = targets' extroversion, O = targets' openness, A = targets' agreeableness, C = targets' conscientiousness.

Relationship levels of analysis. As hypothesized, participants saw more similar targets as more supportive than less similar targets at the relationship level of analysis. That is, the aspect of supportiveness that reflected the unique relationships between perceivers and targets was correlated with the aspect of similarity that reflected relationships. Yet the correlation between perceived supportiveness and perceived similarity was much stronger at the target level of analysis than at the relationship level. That is, the consensus among participants that some targets were more supportive than other targets was correlated almost perfectly with the consensus that some targets were more similar than other targets. In addition, similarity and supportiveness were also correlated at the perceiver level of analysis. That is, the participants who saw the targets (on average) as more supportive than did other participants also saw the targets (on average) as more similar than did other participants.

Next, we focused on the correlations between target supportiveness and personality. If the objectively determined personality characteristics of targets determine their objectively determined supportiveness, then we would observe correlations between personality and supportiveness at the target level of analysis. As hypothesized, participants saw more agreeable targets as more supportive at the target level of analysis. The link between agreeableness and supportiveness was also found at the relationship level of analysis, although the link was much stronger at the target level.

Although not specifically hypothesized, there were uniformly strong correlations between all target personality characteristics and target supportiveness at the target level of analysis, indicating that the consensus about targets' personality traits was strongly related to the consensus about targets' supportiveness. The consensus among the participants in this study was that the more supportive targets were more neurotic, agreeable, introverted, conscientious, and open to experience than were the less supportive targets. Yet, although each of these traits was correlated substantially with target supportiveness, many of these traits were also highly intercorrelated at the target level of analysis. At the target level, similarity and personality appeared to form two dimensions: (a) similarity, neuroticism, and conscientiousness were very highly intercorrelated, and (b) agreeableness, introversion, and openness were very highly intercorrelated. Variables within each cluster were much more highly correlated with each other than were variables in different clusters. This pattern was unlike the correlations at the relationship level of analysis, at which the Big–5 traits were mostly independent.

At the perceiver level of analysis, the only significant correlation involving target personality was between target supportiveness and tar-

TABLE 3. Multivariate Generalizability Correlations, and Standard Errors at the Perceiver, Target, and Relationship Levels of Analysis

	PSS	Sim		N		E		O		A		C	
PSS													
Perceiver	—	.42*	(.16)	.46	(.38)	.18	(.27)	.26	(.18)	.30	(.22)	1.00*	(.19)
Target	—	.90*	(.12)	.79*	(.17)	–.43*	(.16)	.50*	(.16)	.79*	(.09)	.67*	(.14)
Relationship	—	.37*	(.06)	–.16*	(.08)	–.15*	(.07)	.24*	(.05)	.48*	(.05)	.18*	(.06)
Sim													
Perceiver	—		—	.13	(.23)	.37	(.26)	.37*	(.18)	.00	(.15)	.65*	(.25)
Target	—		—	1.00*	(.05)	–.02	(.17)	.01	(.18)	.38*	(.17)	.94*	(.05)
Relationship	—		—	.04	(.07)	.03	(.07)	.17*	(.07)	.17*	(.06)	.28*	(.09)
N													
Perceiver	—		—		—	.65	(.41)	.95*	(.27)	.55	(.38)	–.19	(.64)
Target	—		—		—	.18	(.12)	–.21	(.15)	.15	(.16)	.99*	(.03)
Relationship	—		—		—	–.22*	(.08)	–.13	(.07)	–.20*	(.06)	.21*	(.06)
E													
Perceiver	—		—		—		—	.26	(.37)	–.13	(.25)	.84	(.47)
Target	—		—		—		—	–.63*	(.12)	–.82*	(.06)	.38*	(.08)
Relationship	—		—		—		—	.19*	(.06)	–.30*	(.07)	.24*	(.09)
O													
Perceiver	—		—		—		—		—	.46*	(.22)	1.00*	(.08)
Target	—		—		—		—		—	.89*	(.07)	–.22*	(.11)
Relationship	—		—		—		—		—	.24*	(.05)	.07	(.08)
A													
Perceiver	—		—		—		—		—		—	.90*	(.24)
Target	—		—		—		—		—		—	.02	(.10)
Relationship	—		—		—		—		—		—	.04	(.11)

Note. *$p < .05$. PSS = targets' supportiveness, Sim = targets' similarity to perceivers, N = targets' neuroticism, E = targets' extroversion, O = targets' openness, A = targets' agreeableness, C = targets' conscientiousness.

get conscientiousness. Correlations at the perceiver level reflected the implicit personality theories of perceivers, in that the correlations indicated the extent to which perceivers saw target characteristics as covarying, regardless of the characteristics of targets.

There were also significant correlations between each trait and supportiveness at the relationship level of analysis. Correlations at this level reflected the extent to which disagreements among participants on targets' personality correlated with disagreements about targets' supportiveness. At the relationship level, more supportive targets were seen as having higher levels of emotional stability, introversion, openness, agreeableness, and conscientiousness than were less supportive targets.

Finally, we note that the correlation between a given target characteristic and supportiveness varied dramatically depending upon the level of analysis. Correlations at the target level were much stronger than were correlations at either the perceiver or relationship level. Even the direction of the correlation could vary depending upon the level of analysis. For example, the correlation between neuroticism and supportiveness was strong and positive at the target level, but weak and negative at the relationship level. When the correlation reflected the consensus among participants, neuroticism was associated with supportiveness. However, when the correlation reflected relationships, emotional stability indicated supportiveness.

DISCUSSION

The current findings demonstrated how multiple levels of analysis enabled more precise statements and tests of hypotheses about the information that people use to judge support. For example, previous research had shown that the perceived similarity of targets to perceivers was related strongly to support judgments (Lakey, Ross, et al., 1996; Lakey et al., 2002). Yet a correlation between perceived similarity and supportiveness reflects true similarity only when the correlation occurs at the relationship level of analysis. Likewise, previous research had shown that people use target personality to judge supportiveness (Lutz & Lakey, 2001). Yet only a correlation between target personality and support at the target level of analysis reflects objectively determined personality.

As hypothesized, participants in the current study appeared to use true similarity to judge support, as reflected in the significant correlation between perceived similarity and supportiveness at the relationship level of analysis. Yet participants also appeared to use similarity to judge supportiveness at the target level, and this correlation was stronger than the correlation at the relationship level. Rather than reflecting true simi-

larity, correlations at the target level reflected the social consensus that some targets were more similar and supportive than other targets in an absolute sense. The correlation at the target level may have reflected the social consensus that the more attractive targets were also the more supportive, especially considering that similarity is an important determinant of interpersonal attraction (Byrne, 1971).

As hypothesized, participants' use of agreeableness to judge support reflected the objectively determined personality characteristics of targets, as revealed by significant correlations between support and agreeableness at the target level of analysis. In fact, the strongest correlations between personality and supportiveness occurred at the target level of analysis. These correlations reflected the consensus among participants that the more supportive targets were more neurotic, introverted, agreeable, open, and conscientiousness than were the less supportive targets.

Participants also appeared to rely upon target personality to judge support at the relationship level of analysis. At the relationship level, more supportive targets were seen as having higher levels of emotional stability, introversion, openness, agreeableness, and conscientiousness than were less supportive targets. Rather than reflecting objectively determined personality, correlations at the relationship level reflected idiosyncratic perceptions of targets' personality traits. For example, one participant may have seen Monica's friendly behavior as reflecting insincerity and false agreeableness and therefore judged her as unsupportive, whereas another participant may have seen Monica's friendly behavior as reflecting true agreeableness and therefore judged her as very supportive.

Participants appeared to use similarity and conscientiousness to judge support when support judgments reflected the personality of participants. These effects were indicated by the significant correlations between support and similarity and between support and conscientiousness at the perceiver level of analysis. In contrast to correlations at the relationship and target levels, correlations at the perceiver level reflected the implicit personality theories of perceivers (Schneider, 1973). The present study's participants used an implicit theory about supportiveness, which stated that supportive targets are conscientious and similar to perceivers. That is, perceivers' dispositions to see targets as more or less supportive were correlated with their tendency to see targets as more or less similar and conscientious, regardless of targets' actual characteristics. Thus, when previous investigators have calculated correlations using conventional methods between participants' ratings of targets' supportiveness and other characteristics, part of these correlations may have reflected the implicit personality theories of perceivers.

Conventional correlational analyses that failed to distinguish among different levels of analyses appeared to produce misleading results in some instances. For example, conventional analyses indicated weak and inconsistent correlations between supportiveness and introversion and between supportiveness and conscientiousness. However, distinguishing among levels of analysis revealed strong links between supportiveness and these constructs at the target level, but much weaker correlations at the perceiver and relationship levels. Conventional analyses appeared to combine strong and weak correlations to yield weak and inconsistent findings.

Because the current study relied upon TV characters as targets, it is important to consider the generalizability of the current results. Certainly, because only four targets were sampled, it would be premature to presume that the obtained effects would generalize to other samples of targets, especially given that there was evidence that the link between personality and support may depend upon the particular target (Table 1). Nonetheless, there is reason to be optimistic about the potential generalizability of the effects. Like previous research that studied dyads in long–term relationships (Lakey, Ross, et al., 1996; Lakey et al., 2002), the present study found that perceived similarity and agreeableness were strong predictors of supportiveness. In addition, like our previous studies of preexisting social groups (Lakey, McCabe, et al., 1996), support judgments in the present study were much more strongly influenced by relationship effects than by target or perceiver effects. Likewise, extroversion and conscientiousness displayed higher levels of agreement among participants than did the other Big–5 traits (Lakey et al., 2002). Thus, the results from the present study concurred with several findings from other studies using real people as targets. Thus, using TV characters as targets appeared to be a useful method for studying social judgments.

The findings of the current study and previous research suggest that the role of target neuroticism in judging supportiveness is highly contextualized. Lutz and Lakey (2001) found significant differences among participants in the extent to which they weighed neuroticism positively or negatively in judging supportiveness. Participants who were high in neuroticism saw more neurotic targets as more supportive, whereas participants who were low in neuroticism saw less neurotic targets as more supportive. The results of the current study were similarly complex, as the extent to which neuroticism was used to judge supportiveness depended upon the level of analysis. Although participants saw neurotic targets as more supportive than emotionally stable targets when judgments reflected the objective qualities of targets, participants saw emotionally stable targets as more supportive than neurotic targets

when support judgments reflected the relationship between perceivers and targets. Consistent with this link between supportiveness and emotional stability at the relationship level, Lakey et al. (2002) found that caregivers of Alzheimer's patients saw emotionally stable support providers as more supportive than neurotic providers. Thus, the results of several studies appear to show that target neuroticism plays a role in support judgments, but this role is highly complex and contextualized.

Conventional correlational analyses also suggested that how a given target's personality trait was weighed in judging supportiveness may have depended upon the target's standing on other personality traits. For example, as pointed out by an anonymous reviewer, neuroticism was strongly and positively associated with supportiveness for Ross, but weakly and negatively associated with supportiveness for Monica. Supplementary analyses revealed that although Ross and Monica were rated as having similar levels of neuroticism (at the target level), Ross was rated as more agreeable than Monica. Thus, Ross's neuroticism may have been perceived as having a warm and sympathetic quality, whereas Monica's neuroticism may have been seen as having a cold and callous quality. Such a finding is consistent with Asch's (1946) observation that some traits (e.g., warm/cold) can change the way in which other personal characteristics are interpreted.

Future research should expand the range of target information beyond similarity and personality. The techniques used in the present study may be useful in resolving the puzzling finding that perceived support is only modestly related to the enacted support received (Barrera, 1986; Dunkel–Schetter & Bennett, 1990). Yet all of the studies that have investigated the link between perceived and enacted support have used conventional research methods that did not isolate Perceiver, Target, and Relationship effects. In the present study, we found that conventional methods could fail to detect strong effects that occurred at a specific level of analysis. Much social support theory assumes that objectively verifiable enacted support leads to perceived support, and therefore stronger correlations between perceived and enacted support should be found at the target level. It may be that weak or negative correlations between the two constructs at the perceiver or relationship levels obscure the correlation between perceived and enacted support when examined with conventional methods.

In conclusion, the current study demonstrated how distinguishing among Perceiver, Target, and Relationship components enabled more precise tests of hypotheses regarding the information used to judge support. As hypothesized, perceived similarity appeared to be used to judge support at the relationship level of analysis, and target personality (especially agreeableness and neuroticism) appeared to be used to judge

support at the target level of analysis. Yet correlations between support and perceived similarity and between support and personality occurred at other levels of analysis as well, and these correlations were inconsistent with previous accounts of the links among support, similarity, and personality. Conventional correlational analyses, which did not distinguish among the different levels of analysis, sometimes produced misleading results. Thus, it appears to be useful to distinguish among these levels of analysis in studies of the determinants of support judgments.

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