Adolescents' Competence and the Mutuality of Their Self-Descriptions and Descriptions of Them Provided by Others

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The relation between adolescents' personality, various competence indices, and the mutuality of their self-descriptions and descriptions of them provided by important interaction partners was studied in two samples of adolescents (12- and 14-years-old). Mutuality (a Q-correlation, reflecting self–other agreement between a self-description and a description provided by an important other) increased with age and was higher for girls. Extraversion and Emotional Stability were not related to mutuality, Agreeableness and Conscientiousness were related to mutuality at age 12, and Openness was related to mutuality at both ages. Mutuality was further related to competence indices at both ages. Mutuality with the main interaction partner in a setting was the most important for competence in that specific setting. These results illustrate the important role for ʰᵉ development of competence of the communication with significant interaction partners and of the adolescent's embeddedness in a social network.

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INTRODUCTION

One of the central developmental tasks during adolescence is the development of a clear and stable self-concept, or self-theory. Such a theory (see, e.g., Epstein, 1973) consists of ideas that persons have regarding themselves and regarding their functioning in the social environment. In theories of symbolic interactionism (e.g., Mead, 1934), people are expected to form ideas about themselves through social interaction. Interaction partners behave in ways that give persons information about themselves, and thus confirm or disconfirm the self-theory persons have developed thus far. As Funder (1980) noted, a basic premise of these ideas is that persons' perceptions of themselves ought to be fairly congruent with others' perception of them. In this paper, we focused on the agreement between the view adolescents have of themselves, and the view that significant interaction partners (i.e., parents, teachers, peers) have of them.

In a review of a large number of studies on the congruence between self-perceptions and others' actual perceptions of the person, Shrauger and Schoeneman (1979) concluded that approximately half of the studies showed no significant correlations between self-judgments and others' actual judgments, whereas the other half showed either low correlations or ambiguous results. However, this conclusion has been criticized by others. Marsh and Craven (1991) suggested that the distinctiveness of different components of the self-concept should be considered. Funder (1980) argued that instruments should be used that provide valid information on multiple dimensions of the personality. One way of doing justice to the complexity of self-descriptions is by studying self–other agreement on a wide range of affective, cognitive, and social attributes that manifest themselves in the personality. According to Pelham (1993), agreement on personality dimensions should be studied using an idiographic instead of a nomothetic approach, and he indeed found larger idiographic self–other agreement than nomothetic self–other agreement. In his view "idiographic correlations capture the phenomenological structure and meaning of people's self-view in ways that nomothetic correlations cannot" (p. 673). In such an idiographic approach, the emphasis is on within-person comparisons on a comprehensive set of person characteristics, instead of comparisons between persons on single variables. It is studied, for example, whether judges agree on the personality profile of Person A, instead of whether Person A is more intelligent than Person B.

The California Q-sort (Block, 1961/1978) is highly suited for the computation of the idiographic agreement of such self- and other-descriptions because of the comprehensiveness of the set of 100 items and the idiographic character of the forced-choice procedure. In our study, we used

the child version of this instrument (California Child Q-sort, Block and Block, 1980) to gather descriptions by adolescents themselves and by others such as their parents, teachers, and peers. We computed Q-correlations between the self-description of adolescents and the descriptions of them by an interaction partner, and labeled that correlation the *mutuality* of these two descriptions (van Aken and van Lieshout, 1991). We considered the mutuality with three interaction partners: self–parent mutuality, self–teacher mutuality, and self–peer mutuality. These mutualities were studied in two cohorts of (pre-)adolescents, 12 and 14 years old, respectively.

Individual differences in the mutuality of self-descriptions and descriptions provided by others were related to differences in the adolescent's personality. Adolescents' personality dimensions may reflect, for example, their ability to think about their own personality and others' view on their personality, their commitments to match their behavior with the standards of important others, or simply the ease with which their behavior can be observed and inferred by others. Recent studies on the structure of personality in childhood and adolescence (see Halverson *et al.*, 1994) have demonstrated the validity of the Five Factor Model (see a.o., John, 1990) for this phase of the life span. In the Five Factor Model, five major factors have been identified that arise repeatedly in factor-analytic research on personality inventories. These five factors are Extraversion, the preferences for social interaction and lively activity; Agreeableness, the selfless concern for others and trusting, generous sentiments; Conscientiousness, the individual differences in organization and achievement; Emotional Stability (also known by its opposite, Neuroticism: the proneness to experience unpleasant and disturbing emotions); and Openness to Experience, the receptiveness to new ideas, approaches, and experiences.

Considering the possible effects of the adolescent's personality, as a relatively stable and situation-consistent characteristic, on the agreement between a self-description and descriptions provided by important others, one focus of the present paper concerned the relation between an adolescent's personality, in terms of the Five Factor Model, and the mutuality scores with parent, teacher, and peer. The sparse literature on this topic is not completely consistent. John and Robins (1993) found that interjudge agreement was highest for traits related to Extraversion and lowest for traits related to Agreeableness. This finding concurs with suggestions (Funder and Dobroth, 1987; Marsh and Craven, 1991; Shavelson *et al.*, 1976) that self–other agreement on personality is higher for traits that are more visible in an individual's behavior. For Extraversion, John and Robins (1993) found that the positive relation could indeed be explained by the high observability and low evaluativeness of the trait. For Agreeableness, these two factors could not explain the relation with agreement. However, John and Robins

studied agreement on these personality dimensions, not the relation between personality dimensions and agreement on the personality profile. This last issue is studied more directly by Colvin (1993a), who found that Extraversion at age 14 did not predict interjudge agreement at age 18–23 (using a composite score of which subject–examiner agreement was one element), whereas Agreeableness was related positively to later agreement, as was Conscientiousness. Neuroticism showed a negative relation with interjudge agreement. In addition to these findings, we expect adolescents high on Openness to have higher intellectual curiosity and capacity, and thus to have higher mutuality scores, because they are more aware of others' opinion about them and better able to live up to these expectations and/or describe themselves accordingly. Adolescents high on Conscientiousness may also provide more accurate self-descriptions and thus have higher mutuality scores. Although all five dimensions concern fairly visible aspects of the personality, John and Robins' (1993) findings suggest especially strong relations to be expected with the dimension Extraversion.

A further focus on the present study concerned the relation between mutuality and the adolescent's competence in various domains. We assume that the mutuality of self-descriptions and descriptions by others reflects more than simple agreement, and can be regarded as a condition that facilitates the development of competence in the adolescent. High mutuality indicates similarity in ideas and expectations between an interaction partner and the adolescent. This means that the partner's behavior toward the adolescent is guided by a view of the adolescent that is shared by him- or herself. Thus, in case of high mutuality, the interaction partner's behavior will strengthen the ideas the adolescent has about his or her personal functioning, and will make it easier to adapt to the expectations and requirements of the environment. Low mutuality, on the other hand, indicates low agreement, or even disagreement between the adolescent and an interaction partner about the adolescent's personality, and may thus lead to unpredictability of the behavior of the interaction partner. This unpredictability will lead to uncertainty in the adolescent about what to expect and how to behave. Similar hypotheses have been studied with self–other agreement as part of larger composite measures of interjudge agreement. van Aken and van Lieshout (1991), for example, found that self–other agreement formed a latent variable together with other indices of interjudge agreement (including consensus among other observers and stability of personality profiles over time). This latent variable was related to various indices of children' competence. van Aken and van Lieshout also found that high interjudge agreement on low competent children was only found in one extreme case. For 18–23-year-olds, Colvin (1993a,b) reported self–other agreement to be related to agreement among other ob-

servers, and this composite score to be related to indices of psychological adjustment.

The importance of the ideas people have about their own personal functioning have been fairly well documented. Expectancies regarding personal efficacy as well as expectancies regarding the availability of environmental support are regarded as important elements in the competence of a child ("personal agency beliefs," Ford and Thompson, 1985). Competent children are assumed to have both positive expectancies regarding the efficacy of their own behavior and positive expectancies regarding the extent to which they can expect their environment to be able or willing to provide adequate support to them. The two expectancies can therefore be seen as the cognitive-motivational basis for competent behavior. Similar ideas have been formulated under the labels of "self-efficacy expectations" (Bandura, 1982), "locus-of-control" (Rotter, 1966), or in the notion of "internal working models" (Bretherton, 1991). The common issue in these theories is that expectations about agency or control are assumed to form the motivational base for competent behavior. Our assumption was that the mutuality of self-descriptions and descriptions by others facilitates such expectancies and thus will be related to the adolescent's competence. We studied the relation between mutuality and competence on various domains: the domain of scholastic competence (using school achievement tests and grade points); of social competence (using sociometric data); and of self-perceived adjustment in the psychological, social, familial, and coping domain (using a self-image questionnaire).

In a study to compare mothers' accuracy in judgments of their children with the accuracy of teachers and peers, Miller and Davis (1992) studied the predictions of children's cognitive performance, preferences (hobbies, activities, school subjects), and personality traits. In accordance with our assumptions, Miller and Davis reported positive correlations between judges' accuracy in judgment and children's competence (achievement tests, grade points, and cognitive tasks), but only for mothers and peers. Miller and Davis explain these findings by referring to Hunt's match hypothesis (Hunt and Paraskovopoulos, 1980) that states that "knowledgeable parents can teach things to the child and structure the child's environment in optimal ways, thus promoting good cognitive development" (Miller and Davis, 1992, p. 1252). Our study extended this explanation by studying competence in several domains, in which the emphasis of a specific interaction partner is expected to be different.

The third issue in the present study therefore concerned the unique contributions of mutuality with each of three interaction partners (parent, teacher, peer) to the adolescent's competence. Our hypothesis was that the relation between mutuality with a specific interaction partner and compe-

tence should be highest if that interaction partner is important in the setting where that specific competence is central. That is, self–teacher mutuality was supposed to be important for scholastic competence, self–peer mutuality for social competence, and for the child's self-reported adjustment in the social domain. And, accordingly, self–parent mutuality was expected to show the highest relation with the child's self-reported adjustment in the familial domain.

Summarizing, our hypotheses were (1) that personality characteristics of the adolescent, as measured in terms of the Five Factor Model, were related to the mutuality of the adolescent's self-description and descriptions of him or her provided by important others; (2) that mutuality of self-descriptions and descriptions by others was related to the adolescent's competence in various domains; and (3) that the relation between mutuality and competence was highest for mutuality with the interaction partner who is more important in the setting where that specific competence is central.

METHOD

Subjects and Procedure

Two samples of (pre-)adolescents participated in this study. The first sample consisted of 89 12-year-olds (47 girls, 42 boys, mean age 11:11 years, range 11:05 to 12:06 years). For the large part, these subjects attended the final year of elementary school. The second sample consisted of 55 14-year-olds (29 girls, 26 boys, mean age 14:0 years, range 13:10 to 14:03 years). They attended schools for secondary education. Both samples participated in longitudinal studies conducted at the Department of Developmental Psychology in Nijmegen, which started when the subjects were 9 months old (for the subjects who are now 12 years old), and 18 and 24 months old (for the subjects who are now 14 years old). However, only cross-sectional data were reported in this paper. Subjects in the 12-year-old group were from originally 100 first borns from a slightly low socioeconomic background, subjects in the 14-year-old group were from originally 64 children from lower and middle-class socioeconomic background (half first borns, half later borns). The original sample selection is described in more detail elsewhere (for the 12-year-olds, Riksen-Walraven, 1978; for the 14-year-olds, van Lieshout, 1975).

For the 12-year-olds, a Q-sort description was given by the parent during a visit of parent and adolescent at our institute. During a visit to the school, sociometric data and Q-sort descriptions by the adolescents themselves and a peer were gathered. The peer was chosen by the adolescents

themselves, and was described as "a friend in your class." Q-sort descriptions of the adolescents were gathered under individual guidance by an experimenter, to solve difficulties with the sorting procedure or the wording of the items. The Q-sort procedure was also explained to the teacher (tied to this specific class), who completed the procedure at home and mailed the material to the institute. School achievement tests were gathered on a separate occasion, in small groups of subjects.

For the 14-year-olds, the Q-sort descriptions by the parent, the adolescents themselves, and a peer were mostly gathered during a visit of an experimenter at home, in some cases during a visit of parents, adolescents, and peers at our institute. The peer was chosen by the adolescents themselves, and was described as "a friend." Again, Q-sort descriptions of the adolescents were gathered under individual guidance by an experimenter. During a visit to the school, sociometric data and grade points were gathered. Because in secondary school teachers are no longer tied to a specific class but to a subject matter, and therefore have less contact with a class, three teachers who knew the adolescent were instructed on the Q-sort procedure. They independently completed the procedure at home and mailed the material to the institute. The scales for the self-perception of competence were gathered either during a visit of the adolescent to our institute or during a visit of an experimenter at home.

Instruments

Self- and Child-Descriptions

The CCQ (Block and Block, 1980) was used to acquire a description of the adolescent. van Lieshout *et al.* (1985) translated the CCQ into Dutch, and adapted it for the use by nonprofessionals. The CCQ is a Q-sort procedure containing 100 statements about a child's behavior and personal characteristics. Judges were asked to sort these statements into 9 categories, ranging from (1) *least characteristic* to (9) *most characteristic*. Statements have to be sorted in a forced distribution. For the 12-year-olds, descriptions of the target adolescent were provided by the adolescents themselves, by a parent (in the instructions to the parents it was asked for the one who "knew the child best," descriptions were provided by 85 mothers and 4 fathers), by the adolescent's main school teacher, and by a friend. For the 14-year-olds, descriptions were again provided by the adolescents themselves, by a parent (descriptions by both mother and father were available; descriptions by the mother were used for reasons of comparability with the 12-year-old sample), and by a friend. For the teacher description, the items

of the Q-sorts provided by the three teachers were averaged to form one composite teacher Q-sort.

Mutuality Scores

The mutuality scores between a pair of descriptions were gathered by computing the Pearson product-moment correlations (Tate, 1968) of the scores on the 100 items provided by the adolescents themselves with the scores on the 100 items provided by one of the three interaction partners (parent, teacher, friend). This procedure has been described by Block (1961/1978) as a Q-correlation. This Q-correlation represents the degree of mutuality with which the adolescent and the interaction partner pattern the adolescent's personality profile. If the Q-correlation is high, both descriptions agree on what are the characteristic and uncharacteristic statements for that adolescent. If the Q-correlation is low, both descriptions are not in agreement. For each adolescent there were three mutuality coefficients available: between adolescent and parent (self–parent mutuality), between adolescent and peer (self–peer mutuality), and between adolescent and teacher (self–teacher mutuality). To estimate the reliability of the three mutuality scores, a split-half method was used in which mutuality scores were constructed by correlating the even items, and the uneven items. Combining the scores for the two test halves with the Spearman–Brown formula yielded reliabilities of .84, .85, and .75 for self–parent, self–teacher, and self–peer mutuality at age 12, and .74, .83, and .71 for self–parent, self–teacher, and self–peer mutuality at age 14.

In addition to the mutuality scores, the CCQ descriptions were used to gain scores on equivalents of the Five Factor Model personality dimensions. van Lieshout and Haselager (1994) found that factor analyses of a set of 1836 Q-sorts supported the five factor personality model. The first five factors closely resembled the five factors assessed in adult studies. Support was found for the factors Agreeableness (14 items, sample item "is helpful and cooperative"), Emotional Stability (11 items, "is self-reliant, confident," "is fearful, anxious [-]"), Extraversion (9 items, "keeps thoughts and feelings to self [-]"), Conscientiousness (8 items, "is attentive, able to concentrate"), and Openness (7 items, "is interesting and arresting," "is creative"). Scale scores were formed by averaging the scores on the items comprising that scale. Because the CCQ measure is used to construct the mutuality variables and to calculate the scores on the five personality dimensions, there is a risk of confounding dependent and independent variables. To ensure independence in the correlational analyses of the mutuality scores and the scale scores, combined scale scores were formed by aver-

aging the scores of the two judges that were not involved in the mutuality score (e.g., self–parent mutuality was correlated with the average scale scores of teacher and peer). Mean Cronbach alpha over the 15 scale scores (3 combinations of judges × 5 scales) was .81. All alphas were higher than .64. Similar internal consistencies were reported by John *et al.* (1994) in their study of the Five Factor Model in mothers' CCQ descriptions of boys between 12- and 13-years-old.

School Achievement

At age 12, school achievement was measured using a standardized Dutch school achievement test, consisting of subtests for arithmetic, spelling, and reading skills (ISI; van Boxtel *et al.*, 1982). No standardized Dutch school achievement tests were available for the age of 14. Therefore, at that age school achievement was measured using grade points for three main domains: mathematics, language skills (Dutch and English), and science (geography, history, and biology). Grade points were first standardized within the classroom to make different types of schools comparable. In a second step, within each domain these scores were standardized over the sample, and than averaged to form a composite index of school achievement.

Peer Acceptance and Rejection

At age 12, a sociometric interview was conducted in the school classes of the adolescents. All children in a class were asked to nominate the three children that they liked most, and the three children they liked least. To correct for unequal class sizes, scores were converted to probability scores (Newcomb and Bukowski, 1983). Two scores were available, for acceptance (*liked most*) and for rejection (*liked least*). At age 14, all children in the school class rated each other child on a 6-point rating scale to the extent in which they were inclined to seek help from that child if they were troubled, feeling lonely or sad, of if things didn't work out. For each adolescent, the scores received from all his or her classmates were averaged. Social acceptance was thus indicated by the number of times the adolescent is mentioned as someone to seek comfort from. Again, this variable was standardized within classrooms. No measure for rejection was available at age 14.

Self-Perceptions of Adjustment on Various Domains

At age 14, the 130 items of a Dutch version of the Offer Self-Image Questionnaire (Offer *et al.*, 1977; 1981) were rated by the subjects on a 6-point format, ranging from (1) *describes me very well* to (6) *does not describe me at all*. Because the internal consistencies of the 11 subscales originally proposed by Offer *et al.* were insufficient, the following higher order scales were formed, also according to the suggestions of these authors: Psychological Self, containing items for impulse control (sample item with the highest item-total correlation: "I carry many grudges" [-]), emotional tone ("I feel inferior to most people I know" [-]), and body- and self-image ("I feel strong and healthy"), 28 items, Cronbach alpha = .82; Social Self, containing items for social relationships ("I find it extremely hard to make friends" [-]), morals ("I blame others even when I know that I am at fault" [-]), and vocational–educational goals (School and studying mean very little to me" [-]), 29 items, Cronbach alpha = .69; Familial Self, containing items on family relationships ("I can count on my parents most of the time"), 19 items, Cronbach alpha = .70; and Coping Self, containing items on mastery of the external world ("My work, in general, is at least as good as the work of the guy next to me"), psychopathology ("When I am with people I am bothered by hearing strange noises" [-]), and superior adjustment ("Our society is a competitive one, and I am not afraid of it"), 38 items, Cronbach alpha = .72). The scale for sexual self (10 items) had insufficient internal consistency (Cronbach alpha = .44) and was dropped from the analyses. Correlations among the four remaining subscales ranged from .57 to .75 (N = 49).

Data Analyses

In a first step, descriptive data on the mutuality scores were analyzed. These data showed whether it is justified to regard the mutuality scores as reliable individual difference variables, showed whether mutuality scores increase with age, and whether differences between mutuality scores with the three interaction partners were present. In a second step, correlational analyses were used to study the relation between mutuality scores with the three interaction partners and scores on the personality dimensions of the Five Factor Model. In addition, correlational analyses were used to study the relation between mutuality scores on the one hand and the indices on social and academic competence, and on the Self-Image scales on the other. In a final set of regression analyses, the unique contribution of mutuality with each of the three interaction partners to competence indicators and

Self-Image scales was studied. These analyses answered the question to the relative importance of mutuality with a specific interaction partner. Commonality analyses (Pedhazur, 1982) were used to determine the significant unique contribution of a specific interaction partner, beyond the shared contribution of mutuality with interaction partners in general.

RESULTS

Mutuality of Self- and Child-Descriptions

Descriptive data on the mutuality scores, across both cohorts and the three interaction partners, are presented in Table I.

Table I shows substantial positive mean Q-correlations between the self-descriptions and the descriptions of an adolescent provided by a parent, a teacher, or a peer. On the other hand, a substantial variation in Q-correlations was found also, indicating large individual differences in the degree to which the ideas that adolescents have about themselves are in agreement with the ideas that other people have about them. Mutuality with all three interaction partners showed a large individual variation, ranging from no agreement at all (or even a slight negative agreement), to a substantially high agreement. However, note that even the highest mutuality coefficient (.81) still explained only 61% of the common variance between the two descriptions, leaving ample room for differences between them. Also note that almost no differences were found between the mean and the median of the frequency distribution, indicating that outliers do not affect this distribution.

As Cronbach (1955) pointed out, idiographic assessments of self–other agreement can be artificially high because of stereotyped accuracy: caused by knowledge of both the self and the other of what a typical child is like. We tested this possibility by randomly assigning a parent, a peer, and a teacher to the adolescents, and computing Q-correlations between these random couples in the same way as in the original procedure. Paired sample t tests showed that in each of 100 trials of randomly assigning partners to the adolescents actual mutuality scores were significantly higher than mutuality scores of the randomly assigned couples.

To study gender, cohort, and partner differences on mutuality scores, a multivariate analysis of variance was conducted with Partner (3 levels: parent, peer, teacher) as within-subject factor and Gender (2 levels) and Cohort (2 levels) as between-subject factors. Significant main effects were found for Cohort ($F[1,118] = 20,27, p < .001$), indicating an overall increase of mutuality from age 12 ($M = .32$) to age 14 ($M = .44$), for Gender

Table I. Distributions of Mutuality Scores[a]

Mutuality	N	Mean	SD	MIN	Q1	Median	Q3	MAX
Self–parent								
Age 12	85	.33	.20	-.15	.20	.33	.49	.78
Age 14	50	.45	.16	.03	.36	.46	.56	.76
Self–teacher								
Age 12	80	.28	.22	-.23	.13	.30	.44	.72
Age 14	49	.39	.17	-.05	.29	.41	.53	.70
Self–peer								
Age 12	87	.33	.17	-.03	.20	.33	.46	.81
Age 14	46	.46	.16	.06	.34	.46	.58	.81

[a]MIN = minimum, MAX = maximum, Q1 = first quartile, Q3 = third quartile.

Table II. Correlations Between Mutuality Scores and Personality Dimensions

	Mutuality					
	Self–Parent		Self–Teacher		Self–Peer	
Personality Dimensions[a]	12	14	12	14	12	14
Extraversion	.01	.05	−.06	−.02	−.24[b]	.24
Agreeableness	.34[c]	.21	.38[c]	.08	.41[d]	.01
Conscientiousness	.31[c]	.22	.36[c]	.22	.40[d]	.13
Emotional stability	.17	.15	.10	.10	.10	.20
Openness	.30[c]	.46[c]	.24[b]	.33[b]	.26[b]	.20

[a]Aggregate of judgments not involved in mutuality score.
[b]$p < .05$.
[c]$p < .01$.
[d]$p < .001$.

$(F[1,118] = 5.61, p < .05)$, indicating an overall higher level of mutuality in girls $(M = .40)$ than in boys $(M = .32)$, and for Partner $(F[2,117] = 6.01, p < .01)$, indicating a lower level of self–teacher mutuality $(M = .34)$ than self–parent and self–peer mutuality (both M's $= .38$). No significant interaction effects were found. Because of the gender difference, interactions with gender will be studied in all subsequent analyses. However, because no hypotheses regarding gender effects were formulated, and to protect against chance findings because of the large number of tests, gender differences or interactions will only be reported when they are significant at the 1% level.

Relation Between Mutuality Scores and Personality Dimensions

Table II presents the correlations between the three mutuality scores and the five personality dimensions.

Table II shows that, at both ages and for all three partners, Extraversion and Emotional Stability were not related to mutuality, with the exception of a small negative relation between Extraversion and self–peer mutuality. Apparently, neither the degree to which adolescents are described as extraverted or introverted, nor the degree to which they are described as emotionally stable vs. neurotic, had any effect on the amount of agreement between an adolescent's self-description and descriptions provided by others. Agreeableness and Conscientiousness at age 12 were related to mutuality scores with all three interaction partners. The self-descriptions of adolescents who were described as showing concern for others and as being oriented toward organization and achievement were more in agreement with the descriptions provided by their parents, teach-

Table III. Correlations Between Mutuality Scores and Scores on Social, Academic, and Self-Perceived Competence

	Mutuality					
	Self–Parent		Self–Teacher		Self–Peer	
	12	14	12	14	12	14
School achievement	$.38^d$	−.02	$.45^e$	.28	$.34^d$	.04
Peer acceptance	.09	$.31^c$	.19	$.44^c$	$.31^d$	$.30^c$
Peer rejection[a]	$-.22^c$		$-.45^e$		$-.38^e$	
Offer scales[b]						
Psychological self		$.52^e$		$.47^d$		$.44^d$
Social self		$.39^d$		.27		$.41^d$
Familial self		$.56^e$		$.42^d$		$.40^d$
Coping self		$.43^d$		$.34^c$		$.50^d$

[a]Only at age 12.
[b]Only at age 14.
[c]$p < .05$.
[d]$p < .01$.
[e]$p < .001$.

ers, and peers. At age 14, however, these correlations were not significant. Openness related to all three mutuality scores, at both ages, although the relation with self–peer mutuality at age 14 only approached significance. The self-descriptions of children who were described as creative and receptive to new ideas were more in agreement with the descriptions provided by their parents, teachers, and peers. The only significant gender difference was found at age 14 for the relation between Conscientiousness and self–peer mutuality, which was higher (and reached significance) for girls than for boys.

Relation Between Mutuality Scores and Competence

Table III shows the correlations between the mutuality scores with the three interaction partners and indices of competence.

Table III shows that for school achievement, a different pattern was found at age 12 and age 14. At age 12 higher mutuality with all three interaction partners was related to higher school achievement, whereas at age 14 this was not the case for any of the mutuality scores. For social competence, when peer acceptance was the indicator, at age 12 self–peer mutuality was important, but at age 14 mutuality with all three interaction partners was. When peer rejection was the indicator (only available at age 12), all three mutuality scores were important also. For the Offer Self-Image Questionnaire, self–parent and self–peer mutuality were strongly re-

Table IV. Commonality Analyses Predicting Competence at Age 12 from
Self-Parent, Self-Teacher, and Self-Peer Mutuality

Predictor	R^2 Change to Remove	F Change	Standardized Beta
	School achievement		
Self-parent mutuality	-.01	<1	.14
Self-teacher mutuality	-.04	3.65[a]	.29
Self-peer mutuality	-.02	1.71	.16
	Total R^2 = .24, $F(3,67)$ = 7.00[d]		
	Peer acceptance		
Self-parent mutuality	-.01	<1	-.12
Self-teacher mutuality	-.01	1.15	.16
Self-peer mutuality	-.06	5.15[b]	.27
	Total R^2 = .11, $F(3,74)$ = 2.93[b]		
	Peer rejection		
Self-parent mutuality	-.01	1.44	.15
Self-teacher mutuality	-.12	12.12[c]	-.47
Self-peer mutuality	-.04	4.17[b]	-.22
	Total R^2 = .27, $F(3,74)$ = 8.91[d]		

[a]$p < .10$.
[b]$p < .05$.
[c]$p < .001$.

lated to all four scales, whereas self-teacher mutuality was related to scales for the Psychological Self, Familial Self, and Coping Self. No gender differences in correlations were found.

Unique Contributions of Specific Interaction Partners

Correlations between self-parent mutuality and self-teacher mutuality at age 12 and 14, respectively, were $r(78) = .63$ ($p < .001$) and $r(49) = .40$ ($p < .01$), between self-parent mutuality and self-peer mutuality $r(85) = .32$ ($p < .01$) and $r(46) = .51$ ($p < .001$), and between self-teacher mutuality and self-peer mutuality $r(80) = .42$ ($p < .001$) and $r(46) = .23$ (ns). To a reasonable extent, mutuality with interaction partners thus can be seen as a property of the relation of an adolescent and his or her environment. That is, a high mutuality with one interaction partner shows significant covariation with high mutualities with the other interaction partners, with the exception of self-peer and self-teacher mutuality at age 14.

Table V. Commonality Analyses Predicting Competence at Age 14 from Self–Parent, Self–Teacher, and Self–Peer Mutuality

Predictor	R^2 Change to Remove	F Change	Standardized beta
School achievement			
Self–parent mutuality	−.02	<1	−.18
Self–teacher mutuality	−.09	4.09[b]	.33
Self–peer mutuality	−.00	<1	.07
Total R^2 = .10, $F(3,40)$ = 1.44			
Peer acceptance			
Self–parent mutuality	−.01	<1	.12
Self–teacher mutuality	−.12	6.49[b]	.37
Self–peer mutuality	−.02	<1	.15
Total R^2 = .25, $F(3,42)$ = 4.65[c]			
Psychological self			
Self–parent mutuality	−.05	3.49[a]	.28
Self–teacher mutuality	−.09	5.60[b]	.32
Self–peer mutuality	−.03	1.78	.20
Total R^2 = .38, $F(3,40)$ = 8.19[d]			
Social self			
Self–parent mutuality	−.02	<1	.16
Self–teacher mutuality	−.01	<1	.10
Self–peer mutuality	−.06	3.17[a]	.30
Total R^2 = .20, $F(3,40)$ = 3.43[b]			
Familial self			
Self–parent mutuality	−.11	7.17[b]	.41
Self–teacher mutuality	−.04	2.65	.22
Self–peer mutuality	−.01	<1	.11
Total R^2 = .36, $F(3,40)$ = 7.60[d]			
Coping self			
Self–parent mutuality	−.04	2.24	.24
Self–teacher mutuality	−.03	1.62	.18
Self–peer mutuality	−.07	4.41[b]	.32
Total R^2 = .34, $F(3,40)$ = 6.72[d]			

[a]p < .10.
[b]p < .05.
[c]p < .01.
[d]p < .001.

To test the unique contribution of the three interaction partners, we conducted commonality analyses, a special application of regression analy-

ses (Pedhazur, 1982). In these analyses, the extent to which the explained variance in the competence indicators would decrease after removal of each mutuality score from the regression equation was tested. This reduction in R^2 reflects the unique contribution of mutuality with that specific interaction partner to the dependent measure. The results of these commonality analyses are shown in Table IV and V.

At age 12, for all three indices of competence a significant proportion of the variance was explained by the mutuality scores. For school achievement, only self–teacher mutuality accounted for a (marginality significant) unique portion of the explained variance: 17% of the total amount of variance explained (proportion of R^2 to remove to R^2 total). An amount of 71% of the explained variance (total minus unique contribution of self–teacher, self–parent, self–per mutuality) can be attributed to shared variance in the prediction of school achievement. Self–peer mutuality uniquely accounted for 55% of the explained variance in peer acceptance and 15% of the explained variance in peer rejection. Self–teacher mutuality accounted for 44% of the explained variance in peer rejection. The unique contribution of self–parent mutuality was never significant.

At age 14, for school achievement again only self–teacher mutuality accounted for a unique portion (91%) of the explained variance (note, however, that the explained variance was small, and not significant). For peer acceptance, self–teacher mutuality accounted for 48% of the explained variance. For the Offer Self-Image Scales, self–parent mutuality uniquely accounted for 13% of the explained variance in Psychological Self, and for 31% of the explained variance in Familial Self. Self–teacher mutuality uniquely accounted for 24% of the explained variance in Psychological Self, and self–peer mutuality for 30% of the explained variance in Social Self and for 21% of the explained variance in Coping Self. Note that for all four self-image scales, 55–56% of the explained variance can be accounted for by the shared effects of the three mutuality scores.

DISCUSSION

The results of this study show that mutuality of self-descriptions and descriptions by others can be regarded as a variable that shows meaningful individual variation and is related to various indices of adolescent's personality and competence. The amount of agreement between the self-description of an adolescent and a description provided by an important interaction partner ranged from no agreement at all to substantially high agreement, and differed for all three partners from what could be expected by chance. It is important to note again that agreement in this study con-

cerns agreement on the personality pattern, and is independent from the level and from the positive or negative evaluation of personality attributes.

Another cautionary note should be made. High mutuality does not mean that descriptions are in perfect agreement, and that no further development can be expected. First, as noted in the results, agreement is never perfect, but it accounts for an average of between 8 and 21% of common variance, and even at its maximum, only for roughly two-thirds of the common variance between two descriptions. Second, mutuality should be regarded as a dynamic system: self-descriptions and descriptions by others necessarily have to change, because of the growing cognitive capacity of the adolescent, but also because of changing opportunities and requirements of the settings in which the adolescent functions. Petersen *et al.* (1984), for example, described changes in school type, family interactions, and peer relationships as causes of changes in self-descriptions.

The increase in mutuality from age 12 to age 14 is in agreement with suggestions by Marsh *et al.* (1985) and by Petersen *et al.* (1984) that older subjects know themselves better and are more likely to use similar criteria a significant others do in providing a self-description. This would cause a growing insight of adolescents in their functioning, as well as convergence between the adolescents' view of themselves and the view others have.

The gender differences found in this study could be a reflection of this process: in adolescence, girls may developmentally be somewhat ahead of boys, especially in gaining insight in their own ego development (Cohn, 1991). Apparently, however, this gender difference is only found in the level of mutuality between self-descriptions and descriptions provided by others: the patterns of correlations with personality and competence measures were largely similar for boys and girls.

Not all our hypotheses on the relation between personality dimensions and mutuality of self-descriptions and descriptions provided by others were confirmed. The visibility hypothesis, stating that agreement is higher on more visible aspects of a person's behavior, was not confirmed. No relation was found between mutuality scores and extraversion. However, hypotheses concerning the assumption that personality dimensions might be related to the quality of children's self-descriptions and through that with higher mutuality were supported: openness (the adolescent's intellectual curiosity and capacity) and conscientiousness (the adolescent's attitude toward work and achievement) were positively related to the mutuality scores. The results for conscientiousness showed an age difference: these results were only found at age 12. One ad hoc explanation for this finding might be that at age 12, the adolescents were in the final class of elementary school, and in the middle of a selection process for admission to different levels of secondary education. In this grade in the Netherlands, the focus is very

much on school achievement, intelligence, achievement motivation, etc. Therefore, at age 12, the evaluation of the adolescent's conscientiousness may have been a more valid indicator of true individual differences in concentration and attitude toward competent schoolwork than it was at age 14, thus explaining the fact that correlations were significant only at age 12.

The same explanation could account for the significant correlations at age 12, and not at age 14, between the mutuality of self- and all three other-descriptions on the one hand, and scholastic competence on the other. That the self–teacher mutuality had unique contributions to scholastic competence, whereas the correlations between scholastic competence on the one hand and self–parent and self–peer mutuality on the other could be attributed to shared effects, fits in. Apparently, the importance of scholastic competence at age 12 may cause some "spin-off" on its relation with mutuality with several interaction partners. At age 14, then, scholastic competence receives less emphasis, and only the mutuality with the teachers, the main interaction partners in that domain, is important.

For social competence, measured by acceptance by peers, the setting specificity of the effect of mutuality is found again at age 12. Higher self–peer mutuality is related to higher acceptance by classmates. Self–peer and self–teacher mutuality are important for peer rejection, reflecting that a large and important part of adolescents' peer relations take place in and directly around school. The results for peer acceptance at age 14 are less clear, in that self–peer mutuality did not have a unique contribution. However, a clear interpretation of these differential findings cannot be made because of the fact that the constructs chosen to represent social competence were not equivalent for both age groups.

Setting specificity is also found in the results for the Offer Self-Image Scales, most clearly for the self-perceived adjustment in the social domain, where self–peer mutuality has a unique contribution, and in the familial domain, where self–parent mutuality has a unique contribution. Results for the psychological domain show important contributions of mutuality with the adult interaction partners. For all four self-image domains, however, it should be noted that the shared explained variance is quite large, indicating that the contributions of mutuality with the three interaction partners to self-perceived adjustment largely overlap, and that the domain-specific function of a specific interaction partner, found for social and scholastic competence, is less clear for these self-reported indices of competence.

Summarizing, our results indicate that mutuality of self-descriptions and descriptions provided by others is an important variable in the development of competence in adolescents. Similarity in the ideas adolescents themselves have on their behavior and personality and the ideas of impor-

tant others about them apparently facilitates the development of competence in various domains.

One important caveat has to be made on the implied causal directions in this paper. Because our data were cross-sectional, our results can only be used to confirm the hypothesized mechanisms, not to disconfirm alternative ones. We assumed the personality dimensions of the Five Factor Model to be more or less enduring stylistic features of behavior (cf. Loehlin, 1992), and competence to be more dependent on characteristics of settings, and on social interactions in these settings. Our data cannot rule out the possibility that mutuality of self-descriptions and descriptions provided by others is not only a result of personality factors, but also of competence in various domains. Similar to Funder and Dobroth's (1987) visibility hypothesis, highly competent children might be easier to judge. Colvin (1993a), for example, concludes that "well-adjusted individuals who are believed to manifest planful and goal-directed behavior might be fairly predictable and relatively judgable" (p. 614). Although it was not the most visible personality dimensions that were related to mutuality, and although relations were also found between mutuality scores and self-perceived adjustment, facts that point against this rival hypothesis, only a longitudinal design can shed light on the issue of causal predominance of one construct over the other.

To emphasize the broader implications of the findings in this study, we would like to interpret our results in the light of theories on the supportive functions of personal relationships. In our opinion, the mutuality of self-descriptions and descriptions provided by others reflects the embeddedness of persons in a relational setting. Social support theories have often indicated the importance of feelings of embeddedness for the psychological adjustment of a person (Barrera, 1986). Sarason *et al.* (1993), for example, found that parents' view of their children predicted the child's self-view, but also the child's perception of acceptance and support in the parental relationship, and the child's general perception of social support. Offer *et al.* (1982) found that agreement between parents and children on the child's self-image was related to the child's adjustment in several domains. They interpreted these results as indicative of the importance of a "smoothly functioning family system," where members communicate with each other about aspects of their personality and functioning. In line with these findings, it is our opinion that the mutuality between an adolescent's self-description and descriptions provided by important others is one of the mechanisms by which an adolescent's embeddedness in relational settings operates on the psychological adjustment of that adolescent.

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