

# Similarity in adolescent best friendships: the role of gender

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The purpose of this study was to examine dyadic similarity among mutual adolescent best friends and the moderating role of gender in this similarity. Questionnaire data were gathered from 267 Dutch adolescent same-sex best friends (mean age = 14.58). Results showed that both boys and girls were found to be more similar to their mutual best friend in the Big Five personality traits extraversion and agreeableness. Furthermore, only girls were more similar to their mutual best friend than randomised pairs in problem behaviour and perceived relationship characteristics. In general, similarity seems to play a larger role in mutual best friendships between girls than between boys. (*Netherlands Journal of Psychology* 63, 50-57.)

Do birds of a feather flock together, or do opposites attract? On the whole, more consistent evidence has been found for dyadic similarity in friends' characteristics than for dissimilarity in characteristics. Individuals have relationships with those who resemble them because similarities between individuals may validate perceptions of the world that these individuals have, allow communication with less effort because of predictability, and create pleasurable and enjoyable interactions. However, the extent of similarity between best friends differs across individual and relational domains, and similarity in some domains, such as perception of relationship characteristics and similarity in personality, remain relatively understudied. Furthermore,

more research is needed to clarify gender differences in similarity among friends in these domains. The present study will examine similarity in adolescent mutual best friends, or friends who both select each other as best friend, in problem behaviour, Big Five personality domains, and relationship characteristics, and the moderating role of gender in similarity of these domains.

## Similarity in best friendships

Several studies have examined similarity between best friends in adolescence. Early adolescent boys' perceptions of several characteristics of the relationship, such as support, security, closeness, and conflict, were found to be moderately associated with nominated best friends' perceptions of these characteristics. Adolescent depressive symptoms and attributional styles showed low to moderate associations with mutual best friends' reported levels of depressive symptoms. Adolescent minor delinquency and substance use were found to be moderately to

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highly correlated with minor delinquency and substance use by their best friends. Similarity in substance use and delinquency seems to be higher than similarity in other domains. Mutual best friends were more similar in substance abuse, alcohol use, and minor delinquency than in depression, selected attitudes, perceived relationship with parents, sensation seeking, values, and various activities.

Although it has been suggested that similarity in personality traits, such as the Big Five personality dimensions, may be important in best friendships, evidence for this is ambiguous. During late childhood, mutual best friends have been found to be more similar than randomised dyads on all four dimensions of the Children's Personality Questionnaire, that is, extraversion, anxiety, tough poise, and independence. In contrast, adolescent mutual best friends and acquaintances have been found to be equally similar on all Big Five dimensions, that is, extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. Especially research on similarity in core personality traits, such as the Big Five, is scarce. Thus, further research is needed to clarify whether best friends are similar on Big Five personality characteristics.

Most studies have examined similarity between best friends without comparing this similarity with similarity between adolescents in a random control group. This comparison is important because similarity between friends may be the result of the stereotype effect: individuals may resemble each other because of shared cultural values, social desirability, and response biases. Specifically, similarity found in prior studies may be due to characteristics of the school or class, as adolescent friends in the same dataset often come from the same school or even the same class.

A few studies did use control groups to control for random similarity when examining friendship similarity. In adolescence, similarity in substance use between non-mutual friendship dyads, or dyads in which only one individual selects the other as best friend, was higher than in randomly generated non-friend dyads. Early and middle adolescent mutual friends were found to be more similar on smoking behaviours and misconduct activities than random pairs of adolescents. Finally, mutual and non-mutual best friends' binge drinking and sexual activity predicted changes in the corresponding behaviours of early to middle adolescents over a one-year period over and above effects of randomly chosen peers. Thus, similarity in substance use, delinquency, and sexual activity between best friends does not seem to be due to the stereotype effect and therefore is unique to the best friendship itself. For other domains, that is, personal-

ity characteristics and perception of relationship characteristics, it is not yet clear to what extent similarity found between friends is unique to the friendship itself.

The present study examines similarity in aggression, depression, perception of relationship characteristics, and Big Five personality traits for mutual best friends, by comparing it with similarity found in random dyads. The focus will only be on the first nominated best friend because previous research has shown that this dyadic relationship is much stronger than other types of friendship (i.e. other close friends, such as the second or third nominated friend). Additionally, first nominated friends seem to be the primary locus of influence on adolescent school achievement and drug use. Only mutual best friendships, or friendships in which both adolescents nominate each other as best friend, will be included in the present study, because mutual best friendship nominations seem to indicate stronger ties between friends than non-mutual best friendship nominations. Thus, the findings of the present study can only be generalised to adolescent mutual best friendships.

#### **Gender differences in best friendship similarity**

Previous authors have suggested that since girls have more intimate best friendships than boys, they may influence one another more and become more similar to each other than boys. Furthermore, research has shown that girls may be more apt to conform to close friends than boys which may result in more similarity in girl-girl friendships than between boy-boy friendships. However, differences in similarity between boys' and girls' best friendships may also depend on the specific domain that is examined.

Studies surveying adolescents found that girls, but not boys, selected best friends one year later partly on the basis of similarity in smoking, drinking, and sexual behaviours. Furthermore, adolescent girls were more similar to their best friend on all Big Five characteristics and the personality factors dominance, enthusiasm, and verbal achievement than adolescent boys. However, these studies did not control for random similarity among adolescent girls or adolescent boys. No differences in similarity in misconduct activities between girls' friendships and boys' friendships in adolescence were found while controlling for random similarity. Since prior research has only examined similarity in perception of friendships for boys, the extent to which girls are similar in their perception of the relationship remains unclear. The present study will examine gender differences in friendship similarity in problem behaviour, personality, and

perception of relationship characteristics, while controlling for similarity among random dyads.

To summarise, the present study tries to answer the following research questions:

- 1 Are mutual adolescent best friends more similar to each other than randomly paired adolescent dyads? We expect that mutual best friends will be more similar on problem behaviour than random dyads. We will explore whether mutual friends are more similar in perceptions of relationship characteristics and Big Five personality characteristics than random dyads.
- 2 Are there gender differences in similarity between best friends? We expect no differences between boys and girls in problem behaviours. We will explore gender differences in similarity in personality characteristics and in the perception of friendship characteristics.

## Method

### *Participants*

Participants in this study were 534 adolescents selected from 940 respondents of the early adolescent cohort participating in the CONflict And Management Of Relationships study (CON-AMORE). CONAMORE is an ongoing longitudinal study that examines the relationships of Dutch adolescents with parents and peers as well as their emotional states. At the first measurement, all indigenous early adolescents ( $n = 728$ ) received a letter including an invitation to participate with both parents during annual home visits; 491 families initially agreed to participate. Due to our restriction of including only two-parent families, 90 one-parent families who agreed to participate were not able to take part in this additional research project. Of the remaining 401 families, 323 families were randomly selected to participate from wave 2 onwards. Of these 323 families, best friends who had not already participated in the CONAMORE study from the first wave onwards were contacted and sent a questionnaire at home ( $n = 145$ ). Altogether 94.3% of these best friends returned the questionnaire. Data from the third wave were used in the present study, because it was only in this wave that all measures were obtained from best friends. Adolescents were selected if their best friend had already participated in the study or participated in the family subsample and if the best friendship nomination was reciprocated (50%). This resulted in 534 selected adolescents who formed 267 same-sex friendship dyads, consisting of 47.3% boys and 52.7% girls. Eleven mixed-sex dyads were identified but this number was too small for inclusion in analyses. The mean age of all adolescents was 14.58 ( $SD = 0.65$ ) in wave 3. Multivariate tests showed no significant ( $p > 0.10$ ) differences be-

tween the total group ( $n = 721$ ) and the selected group of adolescents ( $n = 534$ ) on all the measures used in the present study. Missing data on the items of the questionnaires were imputed using the EM algorithm within SPSS 12.0.

The ethnic composition of the present sample was 88.4% Dutch and 11.6% ethnic minorities. Of the adolescents, 40.5% were in high schools preparing for lower level tertiary education or lower level jobs, and 59.5% were in high schools preparing for college or university. The educational levels of the fathers and mothers of the adolescents were as follows: 23.1 and 31.2% had finished only primary or high school, 36.2 and 39.4% low tertiary education, and 40.6 and 29.4% had finished college or university education, respectively.

### *Procedure*

Participants came from twelve high schools in Utrecht and surroundings. Parents and students received a letter in which the aims of the study were described and information was given about the option of not participating. Students were required to provide written informed consent. Less than 1% ( $n = 7$ ) decided not to participate. Participants completed a series of questionnaires in their classroom after school hours. Research assistants, who attended the administration, gave verbal instructions about filling out the questionnaires; written instructions were also included. Confidentiality of their given answers was guaranteed explicitly. For students who were absent on the day of testing a second assessment time was organised. Students who were absent on both days of testing were not assessed. Respondents received € 10 after completing the questionnaires. For the family subsample, best friends were contacted by phone to ask whether they were willing to fill out a questionnaire. None of the friends declined this invitation although not all of them actually returned the questionnaire ( $n = 12$ ). Questionnaires were sent by post and costs for sending the questionnaire back were refunded. These best friends also received € 10 after completing the questionnaire.

### *Measures*

#### *Best friendships*

Friendships were assessed by letting each respondent nominate their best friend who was not a brother or sister and not someone they had an intimate relationship with. Only reciprocated friendships, or friendships in which both adolescents selected each other as a best friend, were selected. This resulted in a total of 267 mutual best friendship dyads, consisting of 126 friendships between boys and 141 friendships between girls.

### Aggression

Adolescent aggression was assessed with the Direct and Indirect Aggression Scales. Subjects were asked to indicate on four-point scales (1 = *never*, 4 = *very often*) how often they display the behaviour described when they are mad at someone in their class. The Direct Aggression Scale consists of five items (e.g., 'I kick them'). The Indirect Aggression Scale consists of 12 items (e.g., 'I try to make them jealous'). A summed, total score was computed from items of both the Indirect and Direct Aggression scale to form a score for aggression. The internal consistency of this aggression measure was 0.91.

### Depression

Adolescent depression was assessed with the Children's Depression Inventory (CDI), which is used as a screen for (subclinical) depressive symptomatology in children and adolescents. The items were scored on a three-point scale, ranging from *false*, through *a bit true*, to *true*. The CDI consists of 27 items (e.g., 'I'm sad all the time'). The internal consistency of this measure was 0.92.

### Personality

The personality dimensions extraversion, agreeableness, conscientiousness, emotional stability and openness to experience were measured using the shortened Dutch version of the Big Five questionnaire. The adolescents judged whether the 30 items applied to themselves on a seven-point scale (1 = *absolutely agree*, 7 = *absolutely disagree*). Extraversion assesses the extent to which the person actively engages the world or avoids intense (social) experience (e.g., 'talkative'). Agreeableness assesses the interpersonal nature of the person and can range from warm and committed to others (e.g., 'friendly') to antagonistic. Conscientiousness assesses the degree of organisation, persistence, and motivation during the fulfilment of goal-directed task behaviours (e.g., 'systematic'). Emotional stability assesses the extent to which the person is emotionally stable or plagued by unpleasant experiences and distressing emotions (e.g., 'nervous'). Openness to experience assesses the depth, complexity, and quality of a person's mental and experiential life along with the flexibility of his or her information processing (e.g., 'versatile'). Internal consistencies of these scales were 0.82, 0.80, 0.84, 0.78, and 0.74, respectively.

### Relationship characteristics

The Network of Relationship Inventory was used to assess support, dominance, and conflict in the best friendship. Participants were asked to answer questions about relationship characteristics on a five-point scale (1 = *never*, 5 = *always*). This questionnaire contained 24 questions, mea-

suring support (e.g., 'How often do you turn to your best friend for support with personal problems?'), dominance ('How often does your best friend get you to do things his/her way?'), and conflict (e.g., 'How often do you and your best friend get upset with or mad at each other?'). Internal consistencies of these scales were 0.95, 0.85, and 0.82. The Balanced Relatedness scale was used to measure the perception of reciprocity in friendships. The adolescents judged whether the six items applied to themselves on a four-point scale (1 = *absolutely agree*, 4 = *absolutely disagree*). This questionnaire contained seven items (e.g., 'My best friend respects my decisions'). The internal consistency of this measure was 0.89.

## Results

To examine similarity in aggression and depression, the Big Five personality dimensions and relationship characteristics, intra-class correlations of each of these domains were computed for mutual best friends. With this technique, a comparison group is not needed because, for that attribute, this measure takes into account any similarity that may exist among adolescents as a whole, or similarity on that attribute among random dyads. The intra-class correlations can be interpreted as the proportion of variation in the outcome measure that is accounted for by the dyad. For example, the intra-class correlation of aggression for mutual friends equalled 0.32 at wave 1 (see table 1, first column), indicating that 32% of the variation in aggression is accounted for by membership of a mutual best friendship at this wave. Finally, differences in intra-class correlations between boys and girls were tested for significance by a procedure suggested by Haggard : intra-class correlations are transformed using Fisher's *z* transformation, and then *z* is computed as the difference between the two intra-class correlations, divided by the standard error of difference.

### Similarity in friendships

Intra-class correlations indicated that mutual best friends are more similar than random dyads on aggression, depression, and all four relationship characteristics (table 1). Only two intra-class correlations of personality characteristics were significant: mutual best friends were significantly more similar on extraversion and agreeableness than random dyads. These results provide consistent evidence for higher similarity in aggression, depression, and all four relationship characteristics between mutual best friends than between random dyads.

**Table 1** Intra-class correlations of problem behaviour, personality, and relationship characteristics for mutual best friends by gender.

	Total (n=267)	Boys (n=126)	Girls (n=141)	Boys vs girls
Problem behaviour				
Aggression	0.32**	0.16	0.41**	p<0.05
Depression	0.18*	-0.08	0.42**	p<0.01
Personality				
Extraversion	0.17*	0.15	0.16	ns
Agreeableness	0.24**	0.28**	0.20*	ns
Conscientiousness	0.06	0.05	-0.02	ns
Neuroticism	0.00	0.11	-0.06	ns
Openness	0.09	0.09	0.09	ns
Relationship characteristics				
Support	0.35**	0.05	0.41**	p<0.05
Dominance	0.21*	0.13	0.25**	ns
Reciprocity	0.27**	0.05	0.36*	p<0.05
Conflicts	0.34**	0.08	0.42**	p<0.01

\* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; ns = not significant.

Differences in similarity by gender were assessed by comparing intra-class correlations of boys' friendships and girls' friendships (table 1). Only girls showed significant, positive intra-class correlations on externalising behaviour and depression and all four relationship characteristics; boys did not have significant intra-class correlations on these domains. Furthermore, intra-class correlations on these domains were significantly higher for girls than for boys, with the exception of perception of dominance in the friendship. Thus, these results suggest that similarity in problem behaviour and perception of relationship characteristics is only unique for friendships between girls, and not for friendships between boys.

### Discussion

The first purpose of the present study was to study similarity between Dutch adolescent mutual best friends in problem behaviour, personality, and relationship characteristics. Results suggest that it is only among adolescent girls that

mutual best friends show medium to high similarity in aggression, depression, and in characteristics of their best friend relationship, namely support, reciprocity, dominance, and conflicts. Through the use of intra-class correlation similarity in these areas within real best friendship dyads was shown not to be due to the stereotype effect, and seems to be unique to the best friendship itself.

Limited evidence was found for similarity in personality in mutual best friendships: mutual best friends show higher similarity in the Big Five personality traits extraversion and agreeableness, but not in the other domains. This similarity was found in friendships between both boys and girls. Although prior studies did find differences in similarity in personality between boys and girls, these did not control for random similarity which may explain the differences in results. Extraversion and agreeableness may be specifically linked to friendships because both traits are strongly associated with sociability and social interest and therefore play an important role in more voluntary relationships, such as

friendships. Extraversion and agreeableness might have higher situational relevance for friendships than the other traits. Furthermore, extraversion and agreeableness seem to be the two most important traits in acquaintance processes because they are more visible than other traits. Therefore, adolescents may select each other as best friend based on these more visible personality traits.

One surprising result of the present study is that similarity was found between mutual friends in the perception of dominance. This result contrasts with the idea of complementarity: more dominant individuals are supposedly attracted to more submissive individuals and vice versa. The present study confirms findings of previous research on childhood friendship: more dominant children are generally friends with other dominant children, and shyness and victimisation is positively associated between friends. Thus, dominance seems to be a shared characteristic rather than an opposite characteristic in mutual best friendships. The magnitude of the similarity found in the present study seems comparable with similarity between adolescent best friends in the United States, Indonesia, and China, providing support for generalisability of the results of this study to other countries.

Strong evidence was found for a moderating role of gender in similarity in mutual best friendships. Similarity in aggression, depression, and the perception of three of the four relationship characteristics, that is, support, reciprocity, and conflict, was only found in friendships between girls after controlling for random similarity, and not in friendships between boys. This suggests that similarity in these domains primarily plays a role in mutual best friendships between girls, and not so much in mutual best friendships between boys. Thus, the more intimate character of girls' best friendships might lead girls to become similar in problem behaviour and perception of the relationship, whereas boys might be less directly influenced in these areas by their best

friend, and might be more influenced by the peer group as a whole. Alternatively, girls select best friends that are similar because they may experience intimacy with a similar best friend, whereas boys may not necessarily want to experience high levels of intimacy with their best friends.

Several limitations of the current study should be noted. First, given the cross-sectional nature of the data, the longitudinal role of similarity in formation, maintenance, and termination processes of best friendships cannot be distinguished on the basis of the present results. That is, adolescents could have selected other similar adolescents as best friends, could have become more similar through influence processes, and could have deselected dissimilar adolescents. Secondly, the present study focuses on mutual best friendships and therefore cannot tell whether similarity exists in other types of friendships. For example, it has been suggested that friendship should be considered as a continuum from occasional or casual friend through good to best friend. Future studies should use more measurements in time to assess the role similarity plays in the formation, maintenance, and termination of friendships, thereby focusing on more types of (non-)friendship than the typology mutual and random dyads used in the present study.

In sum, the present study provides evidence for similarity among adolescent mutual best friendships in problem behaviour, perception of relationship characteristics, and two specific personality traits, namely extraversion and agreeableness, after controlling for random similarity between adolescent non-friends. However, similarity in aggression, depression, and in several relationship characteristics seems to be found only in best friendships between girls, and not in best friendships between boys. Thus, similarity seems to play a greater role in mutual best friendships between girls than between boys in most areas, with the exception of several personality traits.

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