Optional ERIC Coversheet — Only for Use with U.S. Department of Education Grantee Submissions

This coversheet should be completed by grantees and added to the PDF of your submission if the information required in this form **is not included on the PDF to be submitted**.

INSTRUCTIONS

- Before beginning submission process, download this PDF coversheet if you will need to provide information not on the PDF.
- Fill in all fields—information in this form **must match** the information on the submitted PDF and add missing information.
- Attach completed coversheet to the PDF you will upload to ERIC [use Adobe Acrobat or other program to combine PDF files]—do not upload the coversheet as a separate document.
- Begin completing submission form at https://eric.ed.gov/submit/ and upload the full-text PDF with attached coversheet when indicated. Your full-text PDF will display in ERIC after the 12-month embargo period.

GRANTEE SUBMISSION REQUIRED FIELDS

Title of article, paper, or other content

Connecting Feelings of School Belonging to High School Students' Friendship Quality

All author name(s) and affiliations on PDF. If more than 6 names, ERIC will complete the list from the submitted PDF.

Last Name, First Name	Academic/Organizational Affiliation	ORCID ID
Fan, Tingting	University of Wisconsin-Madison	0000-0002-8527-5075
Bellmore, Amy	University of Wisconsin-Madison	

Publication/Completion Date—(if *In Press,* enter year accepted or completed) August 2023

Check type of content being submitted and complete one of the following in the box below:

- ☑ If article: Name of journal, volume, and issue number if available
- ☐ If paper: Name of conference, date of conference, and place of conference
- ☐ If book chapter: Title of book, page range, publisher name and location
- ☐ If book: Publisher name and location
- ☐ If dissertation: Name of institution, type of degree, and department granting degree

Journal of Social and Personal Relationships, 40, 8.

DOI or URL to published work (if available) https://doi.org/10.1177/02654075231151952

Acknowledgement of Funding— Grantees should check with their grant officer for the preferred wording to acknowledge funding. If the grant officer does not have a preference, grantees can use this suggested wording (adjust wording if multiple grants are to be acknowledged). Fill in Department of Education funding office, grant number, and name of grant recipient institution or organization.

"This work was supported by U.S. Department of Education **[Office name]** Institute of Education Scie through **[Grant number]** R305A1705 to **Institution]** University of C. The opinions expressed are those of the authors and do not represent views of the **[Office name]** Institute of Education Scie or the U.S. Department of Education.

Connecting Feelings of School Belonging to High School Students' Friendship Quality Profiles

Tingting Fan & Amy Bellmore

Publication date: August 2023

Abstract

Utilizing a person-centered approach, the present study explored two-hundred and sixty-five adolescents' reports of self-disclosure, help, conflict, and conflict resolution with a close friend to investigate variability in profiles of friendship quality, whether gender and gender homophily and ethnicity homophily of friends are associated with profile membership, and how the profiles relate to feelings of school belonging. A latent profile analysis revealed three profiles of friendship: an *ideal* friendship profile (29.7%), a *realistic* friendship profile (50.8%), and a *somewhat problematic* friendship profile (19.5%). Compared to adolescents in the *somewhat problematic* profile, female adolescents were more likely to have a *realistic* or *ideal* friendship profile than males, and adolescents with friends of different ethnicity were more likely to be in the *realistic* friendship profile. Adolescents with the *ideal* and *realistic* friendship profiles reported the highest feelings of school belonging; those in the *somewhat problematic* profile reported the lowest school belonging. The unique understanding that attending to profiles that incorporate multiple dimensions of friendship quality to understanding the social and academic experiences of adolescents is discussed.

Keywords: latent profile analysis, friendship quality, school-belonging

It is well established that having high-quality friendships is associated with positive individual qualities in adolescents such as higher self-esteem (Hartup & Stevens, 1999), peer-rated sociability, leadership (Berndt et al., 1999), and their sense of school belonging (Hamm, & Faircloth, 2005). Additionally, such friendships can mitigate the adverse outcomes of negative peer experiences like victimization, depression (Kochel et al., 2017), and internalizing distress (You & Bellmore, 2012). On the flip side, low-quality friendships are linked to perceived loneliness (Woods et al., 2009), peer rejection, peer victimization, and social anxiety (La Greca & Harrison, 2005).

For more than two decades, friendship quality has been measured under the multi-dimensional construct of friendship features (Bukowski et al., 1994; Gifford-Smith & Brownell, 2003), which describe both positive (e.g., companionship, intimacy, help) and negative (e.g., conflict) features of friendships (Berndt, 2002). However, while multiple dimensions are measured, in practice, friendship quality in adolescence has been examined by an average score that adds up scores for positive features and subtracts scores for negative features (e.g., Parker & Asher, 1993) or by focusing on only some dimensions (e.g., van Rijsewijk et al., 2020; Wang et al., 2020). What remains unknown is whether the features of friendship quality work together within adolescents and whether that is predictive of adolescents' socially grounded/group-based experiences, such as school belonging. The present study uses a person-centered latent variable approach to investigate whether adolescents report differential friendship quality profiles based on several key dimensions, whether profile membership is associated with gender and/or gender

and ethnicity homophily in the friendship, and whether members of profiles differ in their levels of feelings of school belonging.

Friendship Features

The multidimensional construct of friendship (Bukowski et al., 1994; Thien et al., 2018) entails that an adolescent's friendship quality should be understood from the standpoint of various features of friendship. A popular measure of friendship quality developed by Parker and Asher (1993) is the Friendship Quality Questionnaire (FQQ), which is widely used among adolescence researchers (e.g., Perry et al., 2020; Rubin & Bukowski, 2007). The FQQ identifies six features of friendship, namely: 1. validation and caring (e.g., supporting ideas); 2. conflict resolution (e.g., making up after having a fight); 3. conflict and betrayal (e.g., arguing); 4. help and guidance (e.g., providing help to one another); 5. companionship and recreation (e.g., sitting together at lunch); 6. intimate exchange (e.g., telling one another about their problems). Around the same time the FQQ was developed, Bukowski and his colleagues (1994) identified five similar features of friendship quality in child and adolescent friendships: 1. help (e.g., providing/receiving lunch money); 2. companionship (e.g., spending free time together); 3. conflict (e.g., fighting); 4. security (e.g., feeling secure in confiding). 5. closeness (e.g., wanting to be together). Both scales were originally designed for children and early adolescents. Specifically, Bukowski et al. (1994) developed their scale on third and fourth graders (around 9-11 years old), and the FQQ by Parker and Asher (1993) was developed on fourth-fifth graders (around 10-12 years old). Later, researchers successfully adopted these measures with high schoolers. For example, both quantitative studies (Demir & Urberg, 2004) and mixed-method studies (Weimer et al., 2004) used Bukowski et al.'s friendship quality scale with high schoolers (15-19 years old), and the FQQ was adopted for both middle and high schoolers (Nelson &

DeBacker, 2008). Four features of friendship quality are common across the two scales and are likely to be relevant to older adolescents in particular: 1. intimate exchange; 2. help; 3. conflict, 4. conflict resolution.

Parker and Asher (1993) describe intimate exchange as an individual's self-disclosure by sharing personal information and feelings. As self-disclosure is the more commonly used term currently when developing intimate relationships (e.g., Vijayakumar & Pfeifer, 2020; Valkenburg et al., 2011), and noted as a crucial developmental hallmark for adolescent friendship (Berndt, 2002), we use the term "self-disclosure" instead of intimate exchange for this study. Self-disclosure is a process in which personal thoughts, feelings, and experiences are shared with others (Derlega et al., 1993; Berndt, 2002). With the maturity of language and cognition, there is an increase in self-disclosure within friendships starting at pre-adolescence (around 10 -13 years old) (Buhrmester & Prager, 1995; Bauminger et al., 2008). According to the linear increase hypothesis, this is expected to continue through adolescence, which hypothesizes a continuous increase in self-disclosure from early adolescence to middle adolescence (Valkenburg et al., 2011). Self-disclosing to friends promotes interpersonal processes such as emotional closeness (McNelles & Connonly, 1999; Rose, 2002) and the initiation and maintenance of online relationships (e.g., Liu & Brown, 2014; Valkenburg & Peter, 2007).

Help refers to the efforts that a friend in a dyadic relationship makes to another by offering supports and guidance with challenges and everyday tasks (Parker & Asher, 1993). Help continues to be identified as one of the hallmarks and expectations of friendships in recent scholarship (van Rijsewijk et al., 2020). Helping behavior is associated with the ability to initiate new relationships (Wentzel & Erdley, 1993), promote a long-lasting friendship (Cillessen et al.,

2005; van Rijsewijk et al., 2020), and receive feelings of greater friendship satisfaction (Parker & Asher, 1993).

Conflict describes arguments, disagreements, annoyance, or mistrust between friends (Parker & Asher, 1993). Higher scores on conflict typically co-occur with lower scores on the other features (Spencer et al., 2013). Any type of relationship has ups and downs. It is difficult to completely avoid conflict in close relationships such as parent-child relationships, romantic relationships, and close friendships, but conflict might impact relationships in a negative way. For instance, conflict in parent-adolescent relationships affects the parents' and adolescents' emotions (Hollenstein & Lewis, 2006), negotiation patterns (Granic, 2005), and long-term relationship qualities (Branje, 2018). Conflicts also impact romantic partners, such that failure to recover from conflict effectively undermines romantic partners' present and future relationships (Salvatore et al., 2011). It is reasonable to expect that conflict plays a similar negative role in friendships. In alignment with this expectation is evidence that a higher level of conflict is linked to lower friendship stability (Bukowski et al., 1994).

Parker and Asher (1993) describe conflict resolution as "the degree to which disagreement in the relationship is resolved efficiently and fairly" (p.613). As described above, relationships will experience varying levels of conflict. So too will friendships experience varying levels of resolution of those conflicts that may be independent of the level of conflict in the relationships (Croft & Zimmer-Gembeck, 2014, for a review). As two friends encounter a conflict, their methods to resolve it and how quickly and effectively they can deal with the conflict might be more crucial than the numbers or frequencies of conflicts (Laursen, 1993). Research on conflict resolution consistently indicates that adolescents who maintain positive and effective conflict resolution strategies, such as problem-solving strategies, tend to benefit not

only their friendships (Gao et al., 2017; Wang et al., 2020) but also other interpersonal relationships such as family relationships (Van Doorn et al., 2011) and romantic relationships (Salvatore et al., 2011). According to a study on friendship stability, the management of conflict resolution matters more than the frequency of conflicts (Bowker, 2004).

In summary, different features of adolescents' friendships relate to their social experiences. Most of this work has been conducted by measuring and testing the features independent of one another. A next step is to investigate whether and how the features might work together in predicting social experiences.

Friendship Profiles

Previous research on friendship quality consistently indicates that positive friendship features (e.g., intimacy, help, conflict resolution) are positively correlated with each other (Parker & Asher, 1993; Woods et al., 2009); whereas conflict is negatively correlated with each of those (e.g., Parker & Asher, 1993). All correlations indicate that the friendship features are related but not identical (Bagwell & Schmidt, 2013, for a review). For example, in Bukowski et al.'s (1993) study, the range in the absolute magnitude of correlations between subscales is .13 to .61; and in Parker & Asher's (1993) works, the absolute magnitude of correlations between subscales is .16 to .75. In some studies, researchers have found a two-factor structure for friendship quality in adolescents, reflecting both positive and negative characteristics (Berndt & McCandless, 2009). They have utilized a numerical composite score as an indicator of friendship quality that adds up scores of positive dimensions and then subtracts the score of the negative dimension from that; adolescents with higher composite scores are believed to have better friendship quality, whereas a lower composite score means worse relationship quality (e.g., Berndt, 2002; Brendgen, 1996). Investigating friendship quality using this approach glosses over

the multiple dimensions and, therefore, may not capture the richness of the construct of friendship. A step beyond this is the studies that have used exploratory factor analysis to yield two dimensions (positive and negative) that are then examined individually as indicators of friendship quality (e.g., Normand et al., 2020).

Very few studies have examined how the multiple dimensions of friendships form profiles within adolescents. One mixed-method study explored the friendship profiles among 213 ethnic minority high schoolers from low-income families with their same-sex, closest friends (Way et al., 2001). Using the self-reported Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985) scale from a partner, which is another measure of friendship that includes both positive (e.g., intimacy, affection, reliable alliance, satisfaction) and negative facets (e.g., conflict, and antagonism), four types of friendship profiles were revealed from cluster analysis. The *ideal* profile (32% of the sample) had the highest scores on positive dimensions such as intimacy, and affection, and the lowest scores on negative dimensions such as conflict, compared to all other friendship profiles. The *average* profile (29% of the sample) had slightly lower scores on both positive and negative dimensions compared to the *ideal* profile. The *disengaged* profile (20% of the sample) had the lowest scores on positive dimensions and an intermediate score on negative dimensions compared to all other profiles. The *engaged* profile (19% of the sample) had higher scores on positive dimensions and the highest negative ones compared to all other profiles. The *disengaged* profile had significantly more male participants, while the *ideal* friendship profile had significantly more female participants. Using the same cluster analysis approach with the FQQ (1993), Sakai and his colleague examined friendship profiles among elementary and middle school students in Japan (Sakai et al., 2020). With a self-reported questionnaire from one partner, three profiles of friendships emerged: *conflict superiority*, *good*,

and *thin*. In their study, the friendship profile of *good* is the same as the *ideal* profile found in Way et al. (2001). The *conflict superiority* profile is very similar to the *engaged* profile in Way et al., (2001) 's study. The *thin* profile, which has the lowest scores on both positive and negative dimensions, was unique to this sample (Sakai et al., 2020). Students in elementary and middle schools were significantly more likely to be in the thin profile than females. Like Way et al.'s (2001) study, female students were more likely to report a good friendship (Sakai et al., 2020). Using the NRI (Furman & Buhrmester, 1985) for friendship scale, Hiatt et al. (2015) 's longitudinal study on friendship profiles found similar results as Way et al.'s (2001). Their cluster analysis yielded four friendship profiles labeled *high* (26.7 % of the sample), *low* (23.7 % of the sample), *moderate discrepant* (35.2 % of the sample), and *high discrepant* (14.4 % of the sample) (Hiatt et al., 2015). The *high* quality friendship was the most stable profile for adolescents from 6th to 7th grade (Hiatt et al., 2015).

Latent Class Model Approach to Identifying Friendship Profiles

Latent Class Modeling (LCM) is a person-centered approach that identifies potential groups based mainly on the participants' observable responses (Clogg, 1988; Eshghi et al., 2011). LCM offers specific statistical benefits over cluster analysis. LCM suggests class memberships based on posterior probability with maximum likelihood estimators (Eshghi et al., 2011; Muthén & Muthén, 2000), whereas the classical hierarchical or k-means cluster analyses are based on models with a specific cut-off point (Eshghi et al., 2011). Therefore, a significant benefit of the LCM approach is that the estimated variabilities of group memberships allow the variation in the sample between individuals and even within groups. In the present study, exploring friendship profiles and adolescents' subjective experiences provides critical information regarding the differences between and within friendship groups in adolescents' lives

(Griffin & Bartholomew, 1994). In addition, LCM allows the predictors, covariates, and outcome variables to be entered into the model simultaneously (Nylund et al., 2007). Latent class analysis (LCA) and latent profile analysis (LPA) are the most used methodologies in LCM (Collins & Lanza, 2010). They are a helpful methodology for recovering hidden groups from the observed categorical (LCA) variables or continuous (LPA) variables (Oberski, 2016). The LCM approach has been successfully used in social science research on topics similar to friendship, such as friends' social support types (Bohnert et al., 2010) and friendship network types (Miche et al., 2013).

Aim 1 of the present study is to use LPA to estimate adolescents' friendship profiles with a close friend. Four dimensions from the self-reported measure of the FQQ (Parker & Asher,1993) will be included: self-disclosure, help, conflict, and conflict resolution. Two friendship profiles were anticipated based on previous studies on friendship profiles. One type of profile is the *ideal* profile with high scores on all positive dimensions and a low score on conflict. This was expected to be the biggest proportion of the sample because of the nature of the best closest friendship. The second unique profile that was expected contains more conflict and relatively fewer positive friendship features such that it would be similar to the *conflict superiors* profiles in the Sakai et al. (2020) study.

Moderating Factors of Friendship Profiles

Gender differences have been demonstrated in studies of friendship profiles (i.e., Sakai et al., 2020; Way et al., 2001), with females more commonly being in the friendship profile of *good* or *ideal* than males. Studies on specific friendship features of adolescents' dyadic friendship qualities also support this gender difference. Females report more intimacy (Lansford & Parker, 1999) and self-disclosure (e.g., Kim & Dindia, 2011; Valkenburg et al., 2011) than do males.

Females also are reported by their best friends as providing more help than are males (e.g., Wood et al., 2009). In studies examining gender differences in strategies and goals of conflict resolution, when females reported using a prosocial goal to resolve a conflict with friends, they tended to positively solve the problem more often than did males (Rose & Asher, 1999; De Wied et al., 2007). In general, both with cluster analyses and when friendship features are compared individually, females display more positive features than males. Aim 2 is to examine how gender relates to friendship profiles; based on the evidence today. It is expected that females are more likely to be in the *ideal* profile than are males.

In addition to adolescents' gender, another factor that may impact adolescents' friendship profiles is the extent to which the friends in the dyad are similar to each other. Friendship homophily describes the extent to which adolescents share characteristics with their friends and is one of the most critical determinants of friendship choice (Graham et al., 2014). Adolescents prefer a same-ethnicity friend over a different-ethnicity friend even in conditions where equal opportunity for either exists (Graham et al., 2009). This preference becomes more prominent during adolescence. Moody (2001) found that a same-ethnic friendship was more than twice as likely as a cross-ethnic friendship among adolescents. However, whether this preference is linked to a particular friendship profile is unknown. Studies show that same- versus cross-ethnic friendships benefit adolescents differently. Some studies find that same ethnicity friendship is associated with a more robust sense of ethnic identity (e.g., Chen & Graham, 2017; Syed & Juan, 2012), whereas others find that cross-ethnicity friendships support youth's understanding of other ethnicities' experiences, languages, and cultures (Graham et al., 2014). Same-gender friendships are also more common than cross-gender friendships (e.g., McDougall & Hymel, 2007). However, cross-gender friendship becomes more prevalent in mid-to-late adolescence

(Felmlee et al., 2012, McDougall & Hymel, 2007). Thus, while the patterns of preferences suggest that friendship homophily in gender and ethnicity will be the most typical for these adolescents, it remains unknown whether homophily will be more likely in certain friendship profiles. Aim 3 of the present study was to investigate how friendship homophily of ethnicity and gender are each associated with the friendship profiles.

Friendship Profiles and School-Belonging

School-belonging is defined as "the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment" (Goodenow & Grady, 1993, P. 80). The context-process-outcomes model (Roeser et al., 1996) proposed that adolescents' perceptions of the context (e.g., perceived friendship characteristics) in their school setting relate to their feelings of the school as a motivational process and, in turn, to the outcomes of their psychological and behavioral adjustment at school. Delgado et al. (2016) examined this model with Latino 7^{th} -12^{th} graders and found a positive relationship between friendship and school-belonging. Qualitative (e.g., Hamm & Faircloth, 2005; Parker, 2010) research supports the idea that having a best friend at school facilitates adolescents' sense of school belonging. Uncovering the qualities of the friendship is likely to be even more important to predicting school belonging because a meta-analysis with 51 quantitative studies on school-belonging found that moderate to strong associations were found between school-belonging and measures related to the quality of friendship, such as having caring relationships at school (Allen et al., 2018). Aim 4 of the present study was to examine how friendship profiles predict school-belonging) when school belonging is added as a distal variable in the LPA model. It was expected that adolescents' friendship profiles vary on their perceived school belonging such that

the *ideal* friendship profile will yield the highest level of school belonging compared to any other profiles that may emerge.

Method

Participants

Participants were 265 10th grade adolescents (47.5% females) who were recruited from two public high schools in California and Oregon, which serve ethnically diverse student populations. The self-reported ethnicity of the participants includes 13 African American (4.9% of the sample), 54 Asian (20.5%of the sample), 56 Caucasian (21.2%), 55 Latina/o Mexican American (20.8%), 21 Pacific Islander (8%), 2 Native (.8%), 60 more than one ethnicity (22.7%), and 3 who indicated another ethnicity (1.1%).

Procedure

The data of the present study were collected in Spring 2017 and Spring 2018 as part of a multi-site study on the link between high school students' social experiences and their academic and psychosocial adjustment. Parental consent and written assent were received for each student who participated. Three hundred twenty-nine participants returned signed parental consent and student assent forms. Fifty of the questionnaires were empty on all variables (a result of participants being absent on the date of data collection), and 24 had missing values on key variables such as the outcome variable (school belongingness). Since none of these questionnaires could be used in the analyses, the final sample size is 265 (80.5% of the 329 who consented/assented). Facilitated by school administrators, participants completed the questionnaire at the participant's school. It took participants about 30 mins to complete the survey; participants received $10 for completing any portion of the survey. All procedures were

approved by the IRB at each affiliated university and the school districts in which the data were collected.

Measures

Ethnicity and Gender of the Participants. Participants reported their ethnicity and gender. For ethnicity, participants were asked to choose one of eight options. The options were African/African American/Black, Asian/Asian American, Caucasian/White, Mexican American/Latino(a)/Hispanic, Pacific Islander/Filipino, Native American/Alaskan Native, "More than one" or "Other". For the last two options, they also were asked to indicate their ethnicity in a space provided. Gender was assessed by asking students to choose one of two options: boy and girl.

Friendship Homophily (Same Gender & Ethnicity). Participants were asked to identify their closest friend in their grade at the school by writing down the friend's first name and last initials. They were asked to do this so that all questions about their closest friend were completed with one specific friendship in mind (You & Bellmore, 2012). Students also identified the gender of the friend by marking a box labeled "a boy" or "a girl". This allowed for calculating whether the participant and their friend were of the same or different genders. In this sample, 219 participants (82.6%) reported a same gender closest friend. Participants identified the perceived ethnicity of the friend in relation to their own ethnicity by marking only one box either "the same ethnicity as me", or "a different ethnicity as me". 101 participants (41.4%) reported a same-ethnicity closest friend.

Perceived Closest Friendship Quality. A revised version of the Friendship Qualities Questionnaire (FQQ, Parker & Asher, 1993) was used in the present study. Slight revisions were made in the format of the questions to better encourage adolescents to think about specific

actions and experiences within their friendship. An example of such a change is the switch from the original wording, which had only actions such as “tell each other secrets” to the new format that incorporated the friendship into each item (e.g., “my friend and I tell each other secrets”). The present scale included four dimensions of friendship quality, including self-disclosure (4 items), help (9 items), conflict (6 items), and conflict resolution (2 items). Example items from each scale are “My friend, and I tell each other secrets” (self-disclosure), “My friend would help me if I needed it” (help), “My friend and I argue a lot” (conflict), and “My friend and I talk about how to make ourselves feel better if we are mad at each other” (conflict resolution). Participants rated on a 5-point Likert scale ranging from 1 (“*No way!”*) to 5 (“*For sure yes”*) how true each statement was for their closest friends. The means of each dimension will be used in the latent profile analysis, and higher scores indicate more such behavior (e.g., self-disclosure, help, conflict, and conflict resolution) with the closest friend. In this sample, the alpha coefficient for each subscale was .83(self-disclosure), .88 (help), .80 (conflict), and .69 (conflict resolution).

School Belonging. School belonging was assessed by 12 items that measured feelings of comfort, security, and belonging. The scale was adopted and revised from Goodenow (1993) ’s Psychological Sense of School Membership scale. Example items are “I feel close to people at my school” and “I feel like I am a part of my school”. Items were answered on a 5-point Likert scale ranging from 1 (*No way!*) to 5 (*For sure yes*). A mean of items was calculated, such that a higher score reflects a stronger perception of school belongingness. The alpha coefficient for this sample was .85.

The present study estimated the LPAs using Mplus through the R package MplusAutomation (Hallquist & Wiley, 2018).

Results

Preliminary Results

Before proceeding with the main analyses, descriptive details of the data were explored for each key variable. Three sets of t-tests were used to investigate differences in the means of the four dimensions of friendship and school belongingness for each gender, friendship gender homophily, and friendship ethnicity homophily. The means and t-test results are presented in Table 1, and the instances where there were significant group differences are summarized here. With respect to gender differences, males reported lower scores on all the positive features of friendship quality and higher scores on conflict and school belongingness compared to females. With respect to congruence in friend gender, participants with the closest friend of a different gender than their own reported higher conflict, help, and self-disclosure. With respect to congruence in friend ethnicity, participants with the closest friend of another ethnicity than their own reported higher scores on help within the friendship than participants with a friend of the same ethnicity.

The bivariate correlations between dimensions of friendship quality and school belongingness are presented in Table 2. Help, self-disclosure, and conflict resolution were positively correlated with each other. Conflict between friends was negatively correlated with help and self-disclosure. Help and conflict resolution were positively correlated with school belonging.

Latent Profile Modeling of Friendship Profiles

The results of the LPAs are divided into three parts. First, to address Aim 1, the results of the latent profile analyses for friendship profiles without any covariates or distal outcome (Unconditional Model) are presented. Second, to address Aims 2 and 3, the exploration of how covariates (i.e., gender, friendship gender homophily, friendship ethnicity homophily) link to

friendship profile (Conditional Model with the covariates and distal outcomes added simultaneously) are presented. Lastly, to address Aim 3, results between friendship profile and school belonging in the conditional model are presented. The methodical procedures for each model, including model building and validating procedures and model results guided by Nylund et al.'s (2007) latent class analysis, are reviewed.

Unconditional Model of Friendship Profiles

To explore the friendship profiles among adolescents (Aim 1), the unconditional LPA models (1 through 5 latent profiles enumeration) were estimated using four subscales of friendship quality (mean scores of help, self-disclosure, conflict, and conflict resolution) without covariates or distal outcomes. Missing values were estimated using the maximum likelihood estimation with robust standard errors (MLR) in this unconditional model. The fit indices and the group sizes of the 1- to 5-profile models of friendship profiles are summarized in Table 3. The LPA model fit was evaluated with the following fit indices: Akaike information criterion (AIC), Bayesian inform criteria (BIC), adjusted Bayesian inform criteria (aBIC), Entropy, the *p-value* for Lo-Mendell-Rubin likelihood ratio test (*p*LMR), and *p-value* for Bootstrap likelihood ratio test (*p*BLRT). A lower AIC, BIC, and BIC score indicates a better fit to the data. For LMR and BLRT, a p-value less than 0.05 means that the model with one fewer class should be rejected in favor of the estimated model with more classes (Lo et al. 2001). With the value range from 0 to 1, Entropy is an indicator of the classification accuracy. Higher values of Entropy are considered better accuracy of classification.

For these data, the 4- and 5-profile solutions had the lowest AIC, BIC, and aBIC values across all the other solutions, and the four-profile solution had significant LMR and BLRT values than the other solutions. However, the 4-profile and 5-profile solutions included a profile

that was deemed too small to understand as a meaningful group (i.e., n = 5, 1.9%) (Yang, 2006). Therefore, the 3-profile solution was selected as the optimal solution for the data, as it presented better overall fit indices than 1- and 2-profile solutions. The probabilities for the three latent profiles were 0.923, 0.927, 0.922. The 3-profile solution's entropy value (0.824) indicates a precise classification.

Naming Latent Profiles

In Figure 1, the three-profile result is presented with the four friendship features on the x-axis, while the y-axis presents the mean score of each indicator. As expected, both *ideal* and *conflict superiors* friendship profiles were observed. Looking at the line connected with round circles, it shows that this profile is characterized by high scores on the positive features of friendship, e.g., help, self-disclosure, and conflict resolution, and the lowest score on conflict. This is thought to be the *ideal* friendship profile with a close friend. Therefore, we labeled this profile the *"ideal"* profile; it was estimated to be 29.7% of the sample. The second profile is very similar to the *conflict superiors* profile. Looking at the line connected with squares, it shows that this profile is characterized by the lowest scores in the positive features of friendship but the highest score in conflict. Thus, with relatively high conflict and less positive friendship features, we labeled this profile the *"somewhat problematic"* profile; it was estimated to be 19.5% of the sample. The third profile, which is depicted with the line connected with triangles, was characterized by middle scores of both positive and negative features of a friendship. It was estimated to describe 50.8% of the sample. We labeled this, the profile that reflected the largest proportion of the sample, as the *"realistic"* profile.

Conditional Model

Table 4 shows the characteristics of the three profiles based on adolescents' gender, friends' homophily of gender (gender congruence), and friends' homophily of ethnicity (ethnicity congruence). The covariates and the distal variable were added in this conditional model simultaneously. Because the model fit can change when adding covariates and distal variables, we explored the 2- to 5-class LPA model to estimate the optimal profile. The fit indices of the conditional models of LPA consistently pointed to the three-profile solution.

Moderating Factors of Friendship Profile

To explore how gender (Aim 2) and friendship homophily (Aim 3) associated with friendship profiles, we conducted a multinomial logistic regression using the R3STEP approach simultaneously, in which the given latent three-profile variable was regressed on the binary gender variable (1 = male, 0 = female), ethnicity congruence (1= same, 0 = different), and gender congruence (1= same, 0 = different). As the results presented in Table 5 show, there is a gender difference in the *realistic* and *ideal* profiles compared to the *somewhat problematic* profile. The gender logistic regression coefficient (β) (-1.510, $p<0.001$) for the *realistic* profile indicates that compared to the *somewhat problematic* profile, female adolescents are more likely to have the *realistic* friendship profile than their male counterparts. Similarly, the gender logistic regression coefficient (β) (-2.131, $p<0.001$) for the *ideal* profile indicates that compared to the adolescents in *somewhat problematic* profile, female adolescents are more likely to have an *ideal* friendship than their male counterparts. This difference was not observed when comparing the *realistic* profile and the *ideal* profile. For the covariates of friends' homophily features, ethnicity congruence was found to be related to the friendship profile when comparing the *realistic* profile with the *somewhat problematic* profile. The logistic regression (β) (-.944, $p<0.05$) of the realistic profile indicates that compared to adolescents in the *somewhat problematic* profile, adolescents

with different ethnicity close friends are more likely to have the *realistic* friendship profile than their counterparts who have the same ethnicity close friends. The same pattern was not observed when comparing the adolescents in the *ideal* profile with the *somewhat problematic* profile or when comparing the *realistic* and ideal profiles. No profile differences were found for gender congruence.

Friendship Profile Differences in Perceived School-Belonging

To assess whether school-belonging varies by friendship profile (Aim 4), LPA with the covariates mentioned above was estimated using the BCH method, a suggested method for estimating a continuous outcome variable (Nylund-Gibson et al., 2019).

The results show that the mean school belonging scores differed for each of the three profiles. The overall Wald tests X^2 (2) = 10.898, $p < .01$ indicates a significant relationship between the friendship profiles and school-belonging. As expected, the *ideal* friendship profile is associated with the highest school belonging, whereas the *somewhat problematic* friendship profile is associated with the lowest school belongingness (See Figure 2). To test whether friendship profiles would differ in their mean school-belonging score, a between group comparison test was conducted. The between profiles Wald test indicates that such effect was significant when comparing between the *somewhat problematic* and *realistic* profile, X^2 (2) = 8.443, $p < .01$, and between *somewhat problematic* and *ideal* profile X^2 (2) = 7.460, $p < .01$, but not between *realistic* and *ideal* profile X^2 (2) = .190, p =.663. Thus, adolescents with *realistic* or *ideal* friendship profiles rated higher in perceived school belonging than adolescents with *somewhat problematic* friendships.

Discussion

Previous studies on adolescent friendship quality have largely used a variable-centered approach to investigate different features of friendship and their relation to well-being (e.g., Berndt, 2002; Wang et al., 2020). The present study expanded on this work by adopting a person-centered LPA approach to identify three profiles of friendship among middle adolescents and, distinguishing these three friendship profiles on the basis of adolescents' gender, and their friend's homophily of ethnicity and gender, and examining whether school-belonging differed by friendship profile. A strength of this approach is that it represents adolescent friendship quality as it is conceptualized (i.e., multidimensional) and reveals differences in patterns of the dimensions between students that are related to other social experiences. Findings from the present study reveal meaningful insights into the nature of adolescents' friendship quality by identifying how friendship profiles relate to gender and perceived school belonging.

With the LPA approach, three profiles of friendship were identified. Two distinguishable profiles that were also found in earlier research were also found in the present study: the *ideal* and *somewhat problematic* friendship profiles. The *ideal* profile depicts a best friendship profile between closest friends, which is characterized by the highest scores on all positive features of friendship and the lowest score on the negative feature. By contrast, the *somewhat problematic* profile depicted a profile with the highest score on conflict and the lowest scores on all the positive features of a friendship. The finding of these two profiles is consistent with friendship profiles found in empirical studies on friendship profiles with same-gender friendships (i.e., Hiatt et al., 2015; Sakai et al., 2020 Way et al., 2001). A third friendship profile, the realistic profile, was also found. This profile showed moderate scores on all indicators of friendship quality, with moderately high scores on all positive features, and lower scores on conflict. This profile is similar to the average profile found by Way et al., (2001). The *realistic* profile was the most

prevalent friendship profile in the present study; it included 50.8% of the sample. A similar finding was observed in the longitudinal study of friendship profiles by Hiatt et al. (2015), but not the other cross-sectional studies by Sakai et al. (2020) and Way et al. (2001). In their studies, the *ideal* friendship profile was the most prevalent. The present study adds to this small existing literature on friendship profiles by showing the existence of similar patterns in a new sample.

The present study also found gender differences between the friendship profiles that are consistent with prior studies that examined the independent features of friendship (e.g., Gao et al., 2017; van Rijsewijk et al., 2020) and those that focused on friendship profiles (Sakai et al., 2020; Way et al., 2001). Female adolescents are more likely to have a *realistic* or *ideal* friendship profile (versus the *somewhat problematic* profile) than their male counterparts. It suggests that female adolescents exhibit higher quality friendship profile in general than male adolescents, confirming previous gender differences in friendship.

Contrary to expectations about friendship ethnicity homophily, which were that adolescents who have a same ethnicity close friend would be more likely to have an *ideal* friendship profile; the current study found that adolescents who have a cross-ethnicity friend were more likely to have a *realistic* friendship than a *somewhat problematic* friendship. In other words, having a cross-ethnicity close friend is associated with being in the most common profile but is not associated with being in either the ideal or *somewhat problematic* friendship group. This result is consistent with prior studies showing some benefits and costs of cross-ethnic friendships in adolescence. For instance, some studies found no friendship quality (Aboud, 2003) no friendship stability differences (Hallinan & Williams, 1987) between same-and cross-ethnic friendships. Other studies found fewer conflicts in cross-ethnic friendships compared to same-ethnic friendships (McGill et al., 2012). The fact that adolescents with cross-ethnic friends fell in

the *realistic* profile that was mostly positive but included some conflict further shows some social benefits to cross-ethnic friendships that adds to already existing evidence that cross-ethnic friendships provide adolescents extra opportunities in understanding others' language, culture, and ethnic differences (Graham et al., 2014), develop positive intergroup attitudes (Tropp & Prenovost, 2008), promote less tolerance for excluding others (Killen et al., 2010), and enhance social competence (Lease & Blake, 2005).

As hypothesized, adolescents who have an ideal friendship profile reported the highest feelings of school belonging. This finding is consistent with Roeser et al.'s (1996) comprehensive model of school belonging that individual factors, such as adolescents' friendship profiles, may shape adolescents' environments and produce corresponding feelings about the environment and further influence students' behavioral outcomes. Several positive outcomes, such as better academic outcomes and better social-emotional outcomes, have been linked with positive school belonging, according to a recent meta-analysis by Korpershoek et al. (2020). However, research in understanding the relationship between the features of friendship and school belonging is scarce. Based on the current sample, students' perceived school belonging does not statistically differ between the *ideal* and *realistic* friendship profiles. However, adolescents with *somewhat problematic* friendships rated significantly lower school belonging. In other words, having a low level of school belonging, adolescents in the *somewhat problematic* profile might be the most vulnerable students at school to suffer from academic failure or difficulties in social-emotional functioning.

Limitations

Although new insights were gained from the method used here, some limitations in the present study need noting. First, the cross-sectional design of the present study prevented us

from exploring the stability of the identified friendship profiles and drawing directional conclusions between friendship profiles and school belonging. Hiatt et al. (2015) 's longitudinal study explored adolescents' friendship profile stability from 6th to 7th grade, but further studies on friendship profile should examine friendship stability in other developmental periods (e.g., high school years as was the focus here) using longitudinal LPA or latent transition analysis. Second, only four friendship features were included as the indicators of friendship profile. Future studies should include more features of friendship quality to ensure individual differences in friendship experiences are fully captured. Third, the present study relies on self-reports from only one source, which might include biased information about a friendship. Without knowing about their closest friend's opinion on their relationship, researchers cannot have a comprehensive understanding on the friendship as a whole. It would be ideal to have reports from both the adolescent and their close friend. Fourth, our sample size required us to drop the fourth and fifth profiles because of the very small number of adolescents in these groups. Although we did find meaningful social differences between the three groups, it is possible that other important groups exist. Studies with larger samples could allow greater confidence in conclusions about the number of meaningful different friendship profiles.

Conclusions

The findings of the present study established three unique friendship profiles based on perceptions of self-disclosure, help, conflict, and conflict resolution within a close friendship and established that gender and ethnicity homophily was associated with profile membership and that high schoolers' school belonging differed by friendship profiles. In practice, it may be worthwhile to inform teens themselves, parents, and individuals who work with teens, such as teachers, about the complexity of friendships so that they are aware that multiple dimensions

contribute to an adolescents' friendship experience. It is helpful to know having a friendship profile with moderate levels on most friendship features seems to be good enough to protect high schoolers from not feeling like they belong at school but that being lower on the positive qualities while also experiencing conflict in the friendship is worrisome.

References

Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: Are they distinct attitudes? Developmental Psychology, 39, 48–60.

Allen, K., Kern, M. L., Vella-Brodrick, D., Hattie, J., & Waters, L. (2018). What schools need to know about fostering school belonging: A meta-analysis. *Educational Psychology Review*, *30*(1), 1-34.

Bagwell, C. L., & Schmidt, M. E. (2013). *Friendships in childhood and adolescence*. Guilford Press.Chapter2. Studying Friendship.

Bauminger, N., Finzi-Dottan, R., Chason, S., & Har-Even, D. (2008). Intimacy in adolescent friendship: The roles of attachment, coherence, and self-disclosure. *Journal of Social and Personal Relationships*, *25*(3), 409-428.

Berndt, T. J. (2002). Friendship quality and social development. Current Directions in Psychological Science, 11, 7–10.

Berndt, T. J., Hawkins, J. A., & Jiao, Z. (1999). Influences of friends and friendships on adjustment to junior high school. *Merrill-Palmer Quarterly (1982-)*, 13-41.

Berndt, T. J., & McCandless, M. A. (2009). Methods for investigating children's relationships with friends. *Handbook of peer interactions, relationships, and groups*, 63-81.

Brendgen, R. (1996). Peer rejection and friendship quality: a view from both friends' perspectives.

Branje, S. (2018). Development of parent–adolescent relationships: Conflict interactions as a mechanism of change. *Child Development Perspectives*, *12*(3), 171-176.

Bohnert, A. S., German, D., Knowlton, A. R., & Latkin, C. A. (2010). Friendship networks of inner-city adults: A latent class analysis and multi-level regression of supporter types and the association of supporter latent class membership with supporter and recipient drug use. *Drug and Alcohol Dependence*, *107*(2-3), 134-140.

Buhrmester, D., & Prager, K. (1995). Patterns and functions of self-disclosure during childhood and adolescence.

Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre-and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of social and Personal Relationships*, *11*(3), 471-484.

Bowker, A. (2004). Predicting friendship stability during early adolescence. *The Journal of Early Adolescence*, *24*(2), 85-112.

Chen, X., & Graham, S. (2017). Same-ethnic, interethnic, and interracial friendships among Asian early adolescents. *Journal of Research on Adolescence*, *27*(3), 705-713.

Cillessen, A. H., Jiang, X. L., West, T. V., & Laszkowski, D. K. (2005). Predictors of dyadic friendship quality in adolescence. *International Journal of Behavioral Development*, *29*(2), 165-172.

Clogg, C. C. (1988). Latent class models for measuring. In *Latent trait and latent class models* (pp. 173-205). Springer, Boston, MA.

Collins, L. M., & Lanza, S. T. (2010). Latent class analysis with covariates. *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences*, *149*.

Croft, C. D., & Zimmer-Gembeck, M. J. (2014). Friendship Conflict, Conflict responses, and instability: Unique links to anxious and angry forms of rejection sensitivity. *The Journal of Early Adolescence*, *34*(8), 1094-1119.

De Wied, M., Branje, S. J., & Meeus, W. H. (2007). Empathy and conflict resolution in friendship relations among adolescents. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, *33*(1), 48-55.

Delgado, M. Y., Ettekal, A. V., Simpkins, S. D., & Schaefer, D. R. (2016). How do my friends matter? Examining Latino adolescents' friendships, school belonging, and academic achievement. *Journal of youth and adolescence*, *45*(6), 1110-1125.

Demir, M., & Urberg, K. A. (2004). Friendship and adjustment among adolescents. *Journal of Experimental child psychology*, *88*(1), 68-82.

Derlega, V. J., Metts, S., Petronio, S., & Margulis, S. T. (1993). *Self-disclosure*. Sage Publications, Inc.

Eshghi, A., Haughton, D., Legrand, P., Skaletsky, M., & Woolford, S. (2011). Identifying groups: A comparison of methodologies. *Journal of Data Science*, *9*(2), 271-291.

Felmlee, D., Sweet, E., & Sinclair, H. C. (2012). Gender rules: Same-and cross-gender friendships norms. *Sex Roles*, *66*(7), 518-529.

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental psychology*, *21*(6), 1016.

Gao, Q., Bian, R., Liu, R. D., He, Y., & Oei, T. P. (2017). Conflict Resolution in Chinese adolescents' friendship: Links with regulatory focus and friendship satisfaction. *The Journal of psychology*, *151*(3), 268-281.

Gifford-Smith, M. E., & Brownell, C. A. (2003). Childhood peer relationships: Social acceptance, friendships, and peer networks. *Journal of school psychology*, *41*(4), 235-284.

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, *30*(1), 79-90.

Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education*, *62*(1), 60-71.

Graham, S., Munniksma, A., & Juvonen, J. (2014). Psychosocial benefits of cross-ethnic friendships in urban middle schools. *Child development*, *85*(2), 469-483.

Graham, S., Taylor, A., & Ho, A. (2009). Race and ethnicity in peer relations research. In K. Rubin, W. Bukowski, & B. Laursen (Eds.), Handbook of peer interactions, relationships, and groups (pp. 394–413). New York: Guilford Press.

Granic, I. (2005). Timing is everything—Developmental psychopathology from a dynamic systems perspective. Developmental Review, 25,386–407. https://doi.org/10.1016/j.dr.2005.10.005. doi:10.1016/j.dr.2005.10.005

Griffin, D. W., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of personality and social psychology*, *67*(3), 430.

Hallinan, M. T., & Williams, R. A. (1987). The stability of students' interracial friendships. *American Sociological Review*, 653-664.

Hallquist, M. N., & Wiley, J. F. (2018). MplusAutomation: an R package for facilitating large-scale latent variable analyses in M plus. *Structural equation modeling: a multidisciplinary journal*, *25*(4), 621-638.

Hamm, J. V., & Faircloth, B. S. (2005). The role of friendship in adolescents' sense of school belonging. *New Directions for Child and Adolescent Development*, *2005*(107), 61-78.

Hartup, W. W., & Stevens, N. (1999). Friendships and adaptation across the life span. *Current directions in psychological science*, *8*(3), 76-79.

Hiatt, C., Laursen, B., Mooney, K. S., & Rubin, K. H. (2015). Forms of friendship: A person-centered assessment of the quality, stability, and outcomes of different types of adolescent friends. *Personality and individual differences*, *77*, 149-155.

Hollenstein, T., & Lewis, M. D. (2006). A state space analysis of emotion and flexibility in parent–child interactions. Emotion, 6,656–6 62. https://doi.org/10.1037/1528-3542.6.4.656

Killen, M., Clark Kelly, M., Richardson, C., Crystal, D., & Ruck, M. (2010). European American children's and adolescents' evaluations of interracial exclusion. *Group Processes & Intergroup Relations*, *13*(3), 283-300.

Kim, J., & Dindia, K. (2011). Online self-disclosure: A review of research. *Computer-mediated communication in personal relationships*, 156-180.

Kochel, K. P., Bagwell, C. L., Ladd, G. W., & Rudolph, K. D. (2017). Do positive peer relations mitigate transactions between depressive symptoms and peer victimization in adolescence?. *Journal of applied developmental psychology*, *51*, 44-54.

The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: A meta-analytic review. *Research Papers in Education*, *35*(6), 641-680.

La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression?. *Journal of clinical child and adolescent psychology*, *34*(1), 49-61.

Lansford, J. E., & Parker, J. G. (1999). Children's interactions in triads: Behavioral profiles and effects of gender and patterns of friendships among members. *Developmental Psychology*, *35*(1), 80.

Laursen, B. (1993). Conflict management among close peers. *New Directions for Child and Adolescent Development*, *1993*(60), 39-54.

Lease, A. M., & Blake, J. J. (2005). A comparison of majority-race children with and without a minority-race friend. *Social Development*, *14*(1), 20-41.

Liu, D., & Brown, B. B. (2014). Self-disclosure on social networking sites, positive feedback, and social capital among Chinese college students. *Computers in Human Behavior*, *38*, 213-219.

Lo, Y., Mendell, N., & Rubin, D. (2001). Testing the number of components in a normal mixture. Biometrika, 88, 767 778.

McDougall, P., & Hymel, S. (2007). Same-gender versus cross-gender friendship conceptions: Similar or different?. *Merrill-Palmer Quarterly (1982-)*, 347-380.

McGill, R. K., Way, N., & Hughes, D. (2012). Intra-and interracial best friendships during middle school: Links to social and emotional well-being. *Journal of Research on Adolescence*, *22*(4), 722-738.

McNelles, L. R., & Connolly, J. A. (1999). Intimacy between adolescent friends: Age and gender differences in intimate affect and intimate behaviors. *Journal of Research on Adolescence*, *9*(2), 143-159.

Miche, M., Huxhold, O., & Stevens, N. L. (2013). A latent class analysis of friendship network types and their predictors in the second half of life. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *68*(4), 644-652.

Moody, J. (2001). Race, school integration, and friendship segregation in America. *American journal of Sociology*, *107*(3), 679-716.

Muthén, B., & Muthén, L. K. (2000). Integrating person-centered and variable-centered analyses: Growth mixture modeling with latent trajectory classes. *Alcoholism: Clinical and experimental research*, *24*(6), 882-891.

Nelson, R. M., & DeBacker, T. K. (2008). Achievement motivation in adolescents: The role of peer climate and best friends. *The journal of experimental education*, *76*(2), 170-189.

Normand, S., Mikami, A. Y., Savalei, V., & Guiet, J. (2020). A Multiple Indicators Multiple Causes (MIMIC) model of friendship quality and comorbidities in children with attention-deficit/hyperactivity disorder. *Psychological Assessment*.

Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural equation modeling: A multidisciplinary Journal*, *14*(4), 535-569.

Nylund-Gibson, K., Grimm, R. P., & Masyn, K. E. (2019). Prediction from latent classes: A demonstration of different approaches to include distal outcomes in mixture models. *Structural Equation Modeling: A Multidisciplinary Journal*, *26*(6), 967-985.

Oberski, D. (2016). Mixture models: Latent profile and latent class analysis. In *Modern statistical methods for HCI* (pp. 275-287). Springer, Cham.

Parker, E. C.2010. "Exploring Student Experiences of Belonging within an Urban High School ChoralEnsemble: An Action Research Study." Music Education Research12 (4): 339–352.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental psychology*, *29*(4), 611.

Perry, N. B., Dollar, J. M., Calkins, S. D., Keane, S. P., & Shanahan, L. (2020). Maternal socialization of child emotion and adolescent adjustment: Indirect effects through emotion regulation. *Developmental psychology*, *56*(3), 541.

Rubin, K. H., Bukowski, W. M., & Parker, J. G. (2007). Peer interactions, relationships, and groups. *Handbook of child psychology*, *3*.

Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of educational psychology*, *88*(3), 408.

Rose, A. J. (2002). Co–rumination in the friendships of girls and boys. *Child development*, *73*(6), 1830-1843.

Rose, A. J., & Asher, S. R. (1999). Children's goals and strategies in response to Conflicts within a friendship. *Developmental Psychology, 35*(1), 69–79. https://doi.org/10.1037/0012-1649.35.1.69

Sakai, A., Murohashi, H., Sugawara, M., Matsumoto, S., & Aizawa, M. (2020). Relation between the Quality of Best Friendship and Emotional Problems in Elementary and Junior High School Students 小中学生における親友関係の質と情緒の問題との関連. The Japanese Journal of Personality. 10.2132/personality.28.3.10

Salvatore, J. E., Kuo, S. I. C., Steele, R. D., Simpson, J. A., & Collins, W. A. (2011). Recovering from Conflict in romantic relationships: A developmental perspective. *Psychological Science*, *22*(3), 376-383.

Spencer, S. V., Bowker, J. C., Rubin, K. H., Booth-LaForce, C., & Laursen, B. (2013). Similarity between friends in social information processing and associations with positive friendship quality and Conflict. *Merrill-Palmer Quarterly*, *59*(1), 106-131.

Syed, M., & Juan, M. J. D. (2012). Birds of an ethnic feather? Ethnic identity homophily among college-age friends. *Journal of adolescence*, *35*(6), 1505-1514.

Thien, L. M., Shafaei, A., & Rasoolimanesh, S. M. (2018). Specifying and assessing a multidimensional friendship quality
construct. *Child Indicators Research*, *11*(4), 1321-1336.

Tropp, L. R., & Prenovost, M. A. (2008). The role of intergroup contact in predicting children's interethnic attitudes: Evidence from meta-analytic and field studies.

Valkenburg, P. M., & Peter, J. (2007). Preadolescents' and adolescents' online communication and their closeness to friends. *Developmental psychology*, *43*(2), 267.

Valkenburg, P. M., Sumter, S. R., & Peter, J. (2011). Gender differences in online and offline self-disclosure in pre-adolescence and adolescence. *British Journal of Developmental Psychology*, *29*(2), 253-269.

Van Doorn, M. D., Branje, S. J. T., VanderValk, I. E., De Goede, I. H. A., & Meeus, W. H. J. (2011). Longitudinal spillover effects of Conflict Resolution styles between adolescent-parent relationships and adolescent friendships. *Journal of Family Psychology, 25*(1), 157–161. https://doi.org/10.1037/a0022289

van Rijsewijk, L. G., Snijders, T. A., Dijkstra, J. K., Steglich, C., & Veenstra, R. (2020). The interplay between adolescents' friendships and the exchange of Help: A longitudinal multiplex social network study. *Journal of Research on Adolescence*, *30*(1), 63-77.

Vijayakumar, N., & Pfeifer, J. H. (2020). Self-disclosure during adolescence: exploring the means, targets, and types of personal exchanges. *Current opinion in psychology*, *31*, 135-140.

Wang, Z., Chen, X., Liu, J., Bullock, A., Li, D., Chen, X., & French, D. (2020). Moderating role of Conflict Resolution strategies in the links between peer victimization and psychological adjustment among youth. *Journal of Adolescence*, *79*, 184-192.

Weimer, B. L., Kerns, K. A., & Oldenburg, C. M. (2004). Adolescents' interactions with a best friend: Associations with attachment style. *Journal of Experimental Child Psychology*, *88*(1), 102-120.

Wentzel, K. R., & Erdley, C. A. (1993). Strategies for making friends: Relations to social behavior and peer acceptance in early adolescence. *Developmental psychology*, *29*(5), 819.

Way, N., Cowal, K., Gingold, R., Pahl, K., & Bissessar, N. (2001). Friendship patterns among African American, Asian American, and Latino adolescents from low-income families. *Journal of Social and Personal Relationships*, *18*(1), 29-53.

Woods, S., Done, J., & Kalsi, H. (2009). Peer victimisation and internalising difficulties: The moderating role of friendship quality. *Journal of Adolescence*, *32*(2), 293-308.

Yang, C. C. (2006). Evaluating latent class analysis models in qualitative phenotype identification. *Computational statistics & data analysis*, *50*(4), 1090-1104.

YOU, J. I., & Bellmore, A. (2012). Relational peer victimization and psychosocial adjustment: The mediating role of best friendship qualities. *Personal Relationships*, *19*(2), 340-353.

Table 1.

Means and Standard Deviation of Main Study Variables and Gender, Same Gender, and Same Ethnicity Comparisons.

Variables	Gender			Same Gender			Same Ethnicity		
	Males	Females		Same	Different		Same	Different	
	M (SD)	M(SD)	t	M(SD)	M(SD)	t	M(SD)	M(SD)	t
Conflict	2.19(.59)	1.93(.63)	3.47**	2.00(.61)	2.32(.71)	-2.86**	2.12(.66)	1.98(.59)	1.73
Help	3.88(.70)	4.17(.57)	-3.69***	4.00(.65)	4.24(.53)	-2.09*	3.92(.71)	4.13(.56)	-2.46*
Self-Disclosure	3.54(.81)	4.06(.77)	-5.27***	3.78(.84)	4.07(.60)	-2.53*	3.75(.90)	3.88(.73)	-1.16
Conflict Res.	3.31(1.01)	3.60(.86)	-2.46*	3.44(.93)	3.69(.88)	-1.45	3.35(.93)	3.57(.89)	-1.88
School Belonging	3.30(.65)	3.02(.71)	3.20**	3.15(.69)	3.08(.72)	.60	3.04(.68)	3.22(.70)	-1.85

Note. Conflict Res. = Conflict Resolution. $^{*}p < .05$; $^{**}p < .01$, $^{***}p < .001$

Table 2.

Bivariate Correlations between Dimensions in the Friendship Quality Scale and the Outcome Variable.

	1	2	3	4	5
1.Conflict	__				
2.Help	-.177**	__			
3. Self-Disclosure	-.158*	.739**	__		
4.Conflict Resolution	-.109	.619*	.705**	__	
5. School Belonging	-.090	.193**	.112	.267**	__
M	2.049	4.033	3.814	3.466	3.151
SD	.622	.651	.830	.944	.697
n	261	258	260	262	252

Note. for Likert scale "1= no way!" "5= for sure yes". $^{*}p < .05$; $^{**}p < .01$, $^{***}p < .001$

Table 3.

Unconditional Model: Fit Indices for the LPA Model with 1 through 5 Latent Profiles (N=265).

							Group size				
Profile	*AIC*	BIC	aBIC	pLMR	pBLRT	Entropy	*1-C*	*2-C*	*3-C*	*4-C*	*5-C*
1-profile	2369.63	2398.27	2372.90	——	——	——	265				
2-profile	2123.83	2170.37	2129.15	0.003	0.000	0.804	76	189			
3-profile	2014.83	2079.26	2022.19	0.006	0.000	0.824	52	133	80		
4-profile	1957.42	2039.75	1966.83	0.001	0.000	0.877	5	129	52	79	
5-profile	1950.90	2051.13	1962.35	0.020	0.040	0.899	5	123	6	80	51

Note. Bold values indicate the model the fit criteria endorse. Bolded values indicate "best" fit for each respective statistic. Values in Red indicate the selected fitting model.

AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; aBIC = adjusted BIC; pLMR = p values for Lo-Mendell-Rubin adjusted likelihood ratio test for K vs. K-1 profiles; pBLRT = p values for Bootstrapped Likelihood Ratio Test.

Table 4.

Characteristics of the Three Profiles

Variables	*Somewhat Problematic* (19.5%)	*Ideal* (29.7%)	*Realistic* (50.8%)
Gender			
Males	40	60	26
Females	12	73	54
Same Gender			
Same	47	109	63
Different	2	21	14
Ethnicity			
Caucasian	8	27	21
African	5	4	4
Asian	13	28	13
Mexican/Latino	11	30	14
Pacific Islander	5	8	8
Native		1	1
More than one	10	34	16
Same Ethnicity			
Same	29	44	28
Different	18	79	45

Table 5.

Log Odds Coefficients and Odds Ratio for Three-Profile Model with Gender, Gender Congruence, and Ethnicity Congruence

	Realistic VS. *Somewhat Problematic*			*Ideal* VS. *Somewhat Problematic*			*Ideal* VS. *Realistic*		
	β (SE)	*t*	Odds ratio	*β (SE)*	*t*	Odds ratio	*β (SE)*	*t*	Odds ratio
Male[a]	-1.510***(.446)	-3.389	.221	-2.131***(.471)	-4.52	.119	-.621(.354)	-1.755	.538
SameGender[b]	-.994(.471)	-1.341	.370	-1.274(.729)	-1.749	.280	-.280(.419)	-.669	.756
SameEthnicity[c]	-.944*(.406)	-2.324	.389	-.777(.434)	-1.788	.460	.167(.354)	.472	1.182

Note. Logit estimation (*β*), standard errors (SE), *Somewhat Problematic* and *Ideal* are the reference profile in the corresponding comparison.

*$p < .05$; **$p < .01$; ***$p < .001$

[a] Reference Category = Female

[b] Reference Category = Different Gender

[c] Reference Category = Different Ethnicity

Figure 1.

Final Profiles in the Present Study

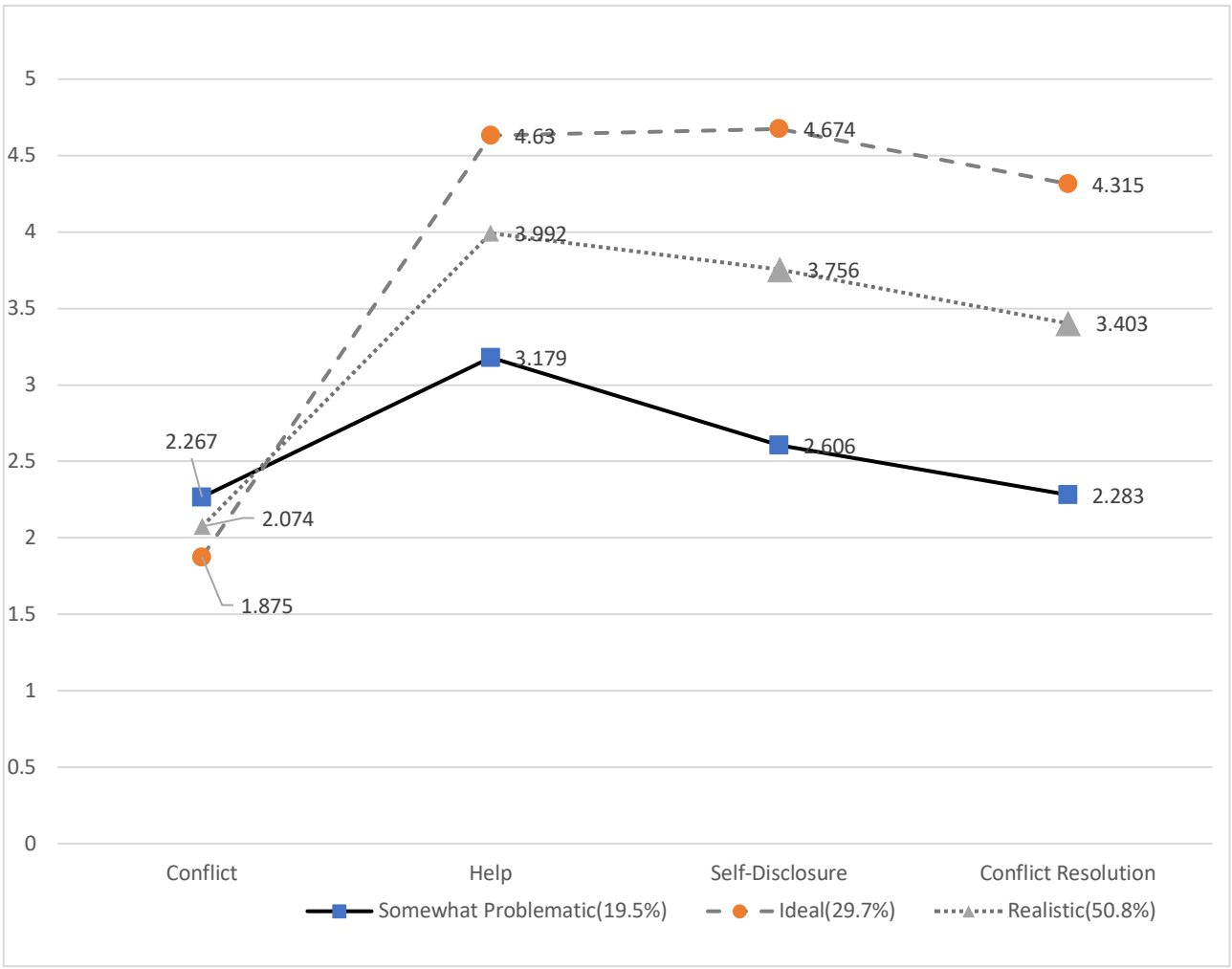
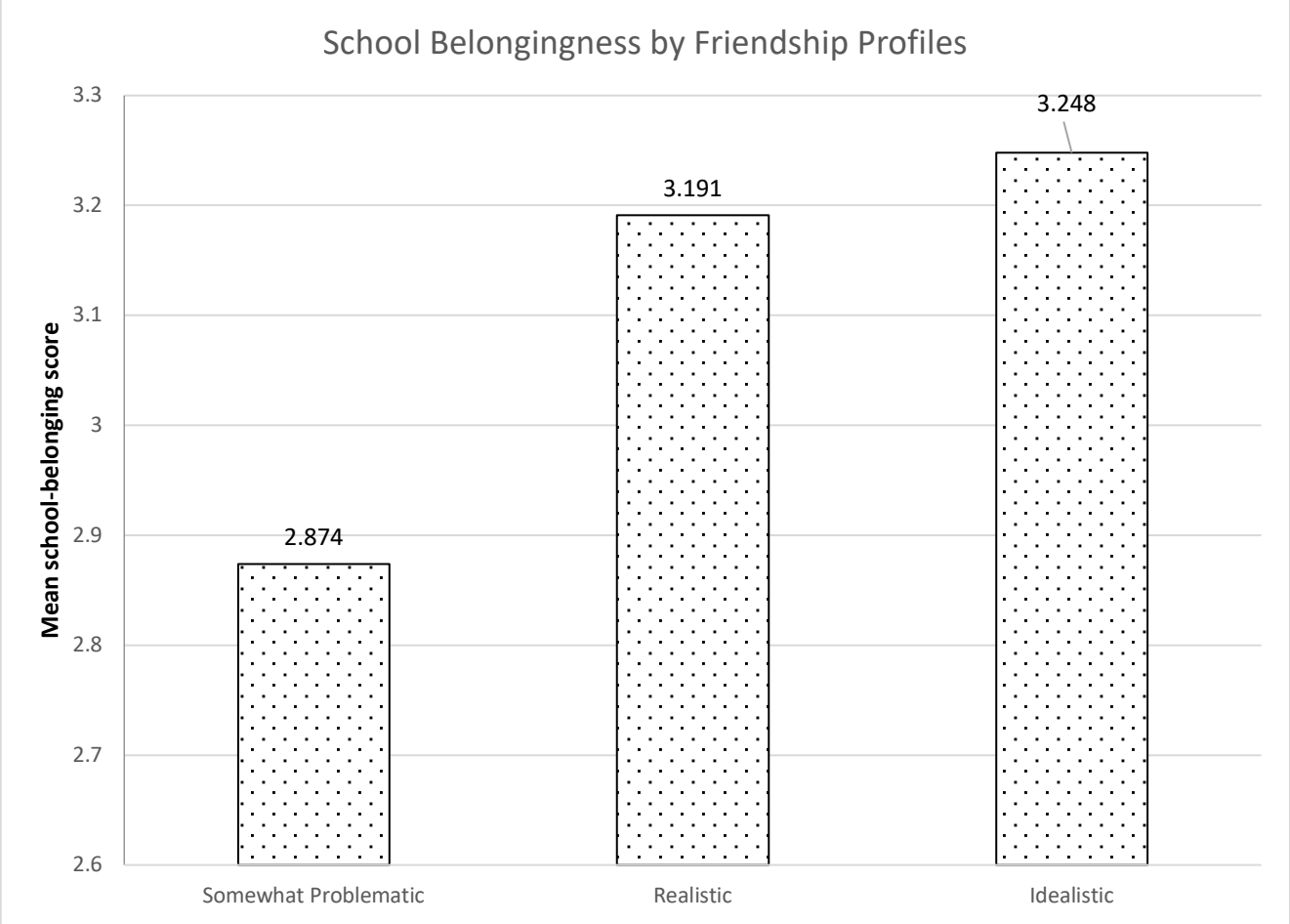


Figure 2.

Three Friendship Profiles and the Associated School Belongingness



Note. Mean school-belonging score is ranged from 1 to 5.