

An exploratory study of friendship characteristics and their relations with hedonic and eudaimonic well-being

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Abstract

Friendships are an important source of happiness, well-being, physical health, and longevity. Researchers have often linked unidimensional friendship quality to life satisfaction and positive affect, which are hedonic forms of well-being. Aristotle presented an expanded view of friendship with three general characteristics: Utility, Pleasure, and Virtue. Following his theory, we expected Pleasure and Utility characteristics to be primarily related to hedonic well-being. In contrast, we expected Virtue characteristics to be more strongly related to eudaimonic well-being, which includes meaning, personal growth and positive relationships in this study. This exploratory study assessed Aristotle's theory about friendship and well-being with 375 participants. Two exploratory structural equation models were tested. There was an indirect relationship between Utility characteristics and hedonic well-being through Help Received. A friend's Virtue characteristics had an indirect relationship with eudaimonic well-being through the reliability of the friendship. These findings indicate that friendship characteristics related to Utility and Virtue friendships appear to have differential implications for understanding the role of friends in happiness and flourishing.

Key words: Aristotle, companionship, eudaimonia, eudaimonic well-being, hedonic well-being, friendships, virtue, well-being

Word count: 9117

No one would choose to live without friends, even if he had all other goods.

(Aristotle, 1999, p. 214)

Humans have been termed ultrasocial animals (Fowers 2015; Tomasello, 2014) because our lives tend to be extensively socially intertwined and our psychological and physical health is powerfully influenced by our relationships. Abundant evidence indicates that psychological and physical well-being are strongly related to social connections, as seen in perceived social support (e.g., Cohen, 2004), integration in a social network (Fowler & Christakis, 2008; Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015), marital quality (Miller, Hollist, Olsen, & Law, 2013; Robles et al., 2014), and the quality of close friendships (e.g., Demir & Özdemir, 2010; Goswami, 2012; Raboteg-Saric & Sakic, 2013; Wrzus, Wagner, & Neyer, 2012).

Aristotle (1999) emphasized the importance of close relationships to living well over 2300 years ago. This study focuses on friendship and explores the degree to which his rich view of friendship can contribute to our knowledge about the role of friendship to individuals' well-being. Until now, Aristotle's views have garnered limited research attention. We discuss three contrasts between the dominant modern Western concept of friendship that guide psychological research with Aristotle's views. These contrasts will illuminate a set of research aims that have not received attention because they emerge only from the Aristotelian perspective. Inasmuch as the Aristotelian perspective differs from the predominant approach to friendship research, this study is exploratory, with the purpose of assessing whether further research in this vein seems warranted.

Friendship Types

Contemporary researchers have treated friendship as an affinity-based peer relationship that may vary quantitatively on some dimensions (e.g., intimacy and satisfaction), but has a

single form. This construal is apparent in the way multicomponent measures of friendship quality or support are commonly combined into one summary value (e.g., Demir & Weitekamp, 2006; Furman & Buhrmester, 1985). We argue, with Aristotle, that reducing friendship to one general type with quantitative variations in relevant characteristics may miss important distinctions among friendship types and that those variations include the characteristics of the friend, not just the affective processes of the relationship. Aristotle described three types of friendships (or *philia*¹): Utility, Pleasure, and Virtue friendships (Cooper, 1977).

Utility friendships are best understood as having the primary purpose of making it possible for individuals to obtain valued outcomes for themselves through exchanges with others. Therefore, the primary value of Utility friendships is the degree to which relationships serve as a means to each friend's desired ends. A friend might have particularly helpful skills, relatively greater popularity, or physical strength. Because the relationship is based on a history of conferring benefits on one another, if that utility falters, so does the relationship. Friendships based on utility mirror the common idea that the point of friendship is to provide benefits for the friends, a view that has been enshrined in social exchange and interdependence theories of relationships (Huston & Burgess, 1979; Van Lange & Rusbult, 2012).

The second friendship type, Pleasure friendships, has the primary purpose of providing enjoyment or pleasure (Cooper, 1977). As long as the friends continue to obtain this pleasure, they will remain friends. This form of friendship mirrors the contemporary focus of

¹ Aristotle's *philia* is more similar to the broad term "personal relationships" than it is to the contemporary understanding of friendship as an affinity-based peer relationship. *Philia* includes family relations, teacher-student, and business relationships. There is limited consensus on the specific definition of *philia*, but common components include mutual liking, well-wishing, and personal interactions (Cooper, 1977). For simplicity's sake, we will study only the most commonly recognized friendships, which are affinity-based peer relationships, but we will seek to identify multiple friendship modes within those peer relationships.

psychological research on how friendship contributes to satisfaction and positive emotions (e.g., Wrzus, Wagner, & Neyer, 2012). For example, one study showed that for older adults, friends are important because they are associated with short-term pleasurable feelings resulting from spending time together playing sports, engaging in hobbies, or attending cultural activities (Larson, Mannell, & Zuzanek, 1986).

Aristotle (1999) viewed the third type, Virtue friendship, as the best form of friendship because the individuals in these relationships are beneficial and pleasurable, but the relationship is defined by three distinctive features. First, the individuals are friends because they admire one another's good qualities. The good qualities (virtues such as honesty, sympathy, generosity, fairness, and courage) of the friend are what attract and bind the friends together. Because good qualities can be assumed to be a stable pattern of acting and being, these friendships are expected to last longer. Second, Virtue friends see the friendship and their shared activities and goals as valuable in themselves. This is distinct from Pleasure and Utility friendships, wherein the primary goal of the interactions is to obtain outcomes such as enjoyment and received help. Finally, Aristotle suggested that Virtue friends want the best for one another, for the friend's sake. This means that obtaining benefits and experiencing pleasure for oneself are secondary to the value of one's friend and of the friendship itself. Virtue friends benefit one another, but they do so spontaneously to enhance the friends' welfare, without keeping track of or equalizing benefits. The non-accounting aspect of Virtue friendship has some similarities to the concept of communal relationships (Clark & Aragon, 2013), but Aristotle differs in emphasizing the importance of the good qualities of each friend. The emphasis on the characteristics of the friends is important because those good qualities make it possible to have the best kind of friendship.

Two studies focused on respondents' perceptions of their friends' characteristics and the results were consistent with Aristotle's friendship typology. Murstein and Spitz (1974) investigated the characteristics with which college-age participants described their friends and found that the descriptions of various types of friends ("best friend," "most useful friend," "most pleasurable friend" etc.) revealed the three factors of Utility, Pleasure, and Virtue. Bukowski, Nappi and Hoza (1987) also used this framework to investigate friendship characteristics and found that college-age friends were described most strongly as pleasure-based.

We aim to build on this research by first investigating whether these three sets of characteristics can be identified in friendships in a contemporary sample. If so, this would suggest that the conception of friendship as a single type may be insufficient because there are multiple, distinct modes of friendship. In addition, if there are friendships with strong Virtue characteristics (i.e., valuable in themselves), this would raise questions about the common assumption that friendships can be understood solely in terms of providing benefits. We will also explore the links between friendship characteristics and well-being in this study, which neither Murstein and Spitz (1974) nor Bukowski et al. (1987) did.

Well-being

In recent decades, psychologists have become increasingly interested in studying well-being. Most of this research has focused on individuals' cognitive and affective evaluations of their own life. Cognitive evaluation is generally assessed in terms of satisfaction with life (e.g., Diener, Emmons, Larsen, & Griffin 1985), and affective evaluations most frequently assess the preponderance of positive as compared to negative affect (e.g., Watson, Clark, & Tellegen, 1988). These cognitive and affective evaluations related to feeling good, fulfilling appetites, and being satisfied are often summarized as subjective well-being, but we will follow scholars who

use the term hedonic well-being (HWB; Fowers, 2012; Ryff, 2013; Vittersø, 2016) because the term emphasizes the form of well-being rather than on the method of assessment (i.e., subjective). This is important because other forms of well-being are also measured subjectively.

The second way that an Aristotelian perspective contrasts with most psychological research is that this viewpoint claims that HWB is important but insufficient for a full understanding of well-being (Fowers, 2012; Keyes & Annas, 2009; Ryff, 2013; Vittersø, 2016). Some psychologists have already adopted the Aristotelian perspective, and they contrast the substance of the concept of HWB with the concept of eudaimonic well-being (EWB).

Eudaimonia is an ancient Greek term that we translate as flourishing. Although Aristotle (1999) recognized the value of positive emotions, he saw eudaimonia as a more important form of well-being. The Aristotelian concept of eudaimonia is a complete life in which a person fulfills his or her potential as a human being. This means that eudaimonia is a way of living that is comprised of the coordinated pursuit of characteristic human goods such as knowledge, friendship, and social harmony (Fowers, 2012; 2015). From a purely hedonic perspective, a life focused primarily on pleasure would be a very desirable life. In contrast, because human nature includes the capacity for reasoning and for deep social connections, a life focused only on pleasure, but lacking in reasoning and enduring social ties, would not be called eudaimonic because it falls short in these two important domains of human potential.

In contemporary psychological research, eudaimonia is most commonly assessed as EWB, with an emphasis on authenticity, meaning, excellence, and growth (Huta & Waterman, 2014). Personal growth provides a distinct contrast with pleasure. Although one can experience pleasure regarding personal growth, it is often difficult and painful to improve oneself. For

example, it is generally frightening and risky to become a more courageous person, or one has to forgo some self-interest to become more compassionate.

When distinguishing between these two forms of well-being, it is important to remember that Aristotle (1999) suggested that hedonia and eudaimonia should be related because eudaimonia includes happiness and pleasure. However, happiness and pleasure do not necessarily entail eudaimonia. Fittingly, measures of EWB and HWB are often correlated (e.g., Fowers, Mollica, & Procacci, 2010; Compton, Smith, Cornish, Qualls, 1996), but still distinct. We have incorporated the distinction between HWB and EWB to assess whether this distinction helps us to better understand the ways that friendship functions. Therefore, the second research aim is to investigate whether different types of friendships have differential associations with the two forms of well-being.

Friendship Types and Forms of Well-being

Aristotelian theory can also contribute to the friendship and well-being literature by making differential predictions regarding how friendship types relate to the two forms of well-being. Utility friendships are consistent with the tendency in psychology to see friendships as sources of benefits or outcomes. This suggests a means-end approach in which friends are means to gain some desired benefits, which are the ends (e.g., Demir, & Özdemir, 2010). If enjoyment is seen as an outcome of friendship activities, the Pleasure friendships can also be seen as a means-end arrangement. It seems reasonable that some friendships will be defined primarily by the advantages or enjoyment they provide. Many studies have found links between the benefits friendships provide and HWB (e.g., Demir et al., 2011; Holder & Coleman, 2009). Therefore, the more advantageous or pleasurable a friendship is, the greater the HWB benefits it should provide.

Psychological research often conflates the utility (benefit provision) of friendships with emotional closeness and pleasure. For example, Demir and Özdemir (2010) defined friendship in this way: “A friend is someone who you enjoy doing things together with, count on to support you when you need it, provide support when he/she needs it, talk about your everyday life, problems, concerns, ideas, and intimate thoughts” (p. 248). There is no attempt to distinguish enjoyment from social support benefits in the way that an Aristotelian perspective recommends. It is possible that friendships function such that these two aspects are inseparable, but this is an empirical question that the Aristotelian viewpoint illuminates. Similarly, a widely used friendship quality scale, the McGill Friendship Questionnaire (Mendelson & Aboud, 1999) contains subscales assessing companionship, help, intimacy, alliance, emotional security, and self-validation. These scales are often summed into a single score or combined in a latent variable (e.g., Demir & Özdemir, 2010), making it impossible to separate the relationships between these various aspects of friendship and other variables (e.g., well-being).

Many investigations have used this conflated measurement approach to document the association between overall friendship quality and happiness or subjective well-being in children (Goswami, 2012; Holder & Coleman, 2007), adolescents (Cheng & Furnham, 2002; Raboteg-Saric & Sakic, 2013), early adults (Demir & Özdemir, 2010; Demir, Özdemir & Weitekamp, 2007; Demir & Weitekamp, 2007), middle-aged adults (Wrzus et al., 2012) and older adults (Pinquart & Sörensen, 2000; Larson et al., 1986). The link between friendship quality and happiness has been explained through various indirect relationships with mediating variables including the satisfaction of psychological needs (Demir & Özdemir, 2010), perceived mattering (Demir, Özen, Dogan, Bilyk & Tyrell, 2011), and a sense of uniqueness (Demir, Simsek, &

Procsal, 2013), which offer some clues about how the respondents' perceptions of friendships can help explain the relationship between friendship quality and happiness.

If there are different types of friendship, and two forms of well-being, as the Aristotelian perspective suggests, it stands to reason that there should be various pathways between friendship types and forms of well-being. The third research aim focuses on the whether there are separate pathways and indirect relationships between the types of friendship and forms of well-being. We describe the specific indirect relationship hypotheses below.

The Present Study

Using Aristotle's theory of friendship and well-being, we developed seven predictions, which we hope will add to nuance and depth to the literature. These hypotheses are grouped in three research aims, but this research is entirely contingent on the success of Research Aim 1. If Research Aim 1 is not corroborated, then this exploration of friendship types cannot progress to the other Research Aims.

Research Aim 1

Whereas extant research views friendship as an affinity-based peer relationship that may vary *quantitatively* on some dimensions (e.g., intimacy, satisfaction, or closeness; see Bryant & Marmo, 2012), but has a single *qualitative* form, we suggest that this reductive view may miss important *qualitative* variations in friendship types. We test this assumption with **Hypothesis 1**: ratings of friends' characteristics cannot be subsumed in a single type and will be better represented by Aristotle's three modes of friendship. We will approach this question by having participants rate their best friends on a set of descriptors reflective of useful, pleasurable, and virtuous friends. Hypothesis 1 will be evaluated by assessing whether the characteristics of a best

friend can be represented by a single latent dimension or is better represented by the three friend types described by Aristotle.

Although Aristotle described different friends when talking about Utility, Pleasure, and Virtue relations, we assessed one best friend in this study. We asked about best friends because we assumed these friends would have some Virtue characteristics, which according to Aristotle, are usually attended by Pleasure and Utility characteristics. As an exploratory study, we were interested to see if the general ideas had merit with one friend before pursuing more extensive research.

Research Aim 2

Whereas psychological research on friendship has been almost entirely focused on its contributions to individual satisfaction or positive emotions (hedonics), an Aristotelian perspective suggests that friendships are important for both HWB and EWB. **Hypothesis 2** is that all three types of friend (useful, pleasant, and virtuous) will be directly and positively associated with HWB. The rationale for this hypothesis is that all three friend types contribute to positive emotions and life satisfaction. **Hypothesis 3** assesses the direct relationships between the friendship characteristics and EWB, predicting that perceiving a friend as virtuous will have a stronger direct relationship with EWB than Utility or Pleasure characteristics. The rationale for this hypothesis is that having a friend with fine or virtuous qualities (e.g., sympathetic, forgiving) should facilitate the cultivation of eudaimonic aspects of life such as meaning and personal growth.

Research Aim 3

Whereas researchers have typically assumed that friendships are valuable primarily because they provide tangible or psychological benefits, we investigate distinct pathways and

indirect relationships between the three friendship types and the two forms of well-being. That is, psychologists tend to assume that the point of friendship is to benefit the individual, particularly to enhance individual satisfaction or fulfill individual needs. There is a *prima facie* validity to this benefit focus, but it does not distinguish between emotional benefits that might characterize Pleasure friendships and more tangible benefits such as career assistance or business partnerships that might characterize Utility friendships. Some relationships may be fully described solely in terms of Utility, others fully described by Pleasure, and still other friendships may not be adequately described with a primary focus on benefits at all. We begin the exploration of indirect relationships with **Hypothesis 4**, which predicts an indirect relationship between a friend's Utility characteristics and an individual's HWB through the degree of Help Received from the friend. **Hypothesis 5** predicts that there will be an indirect relationship between a friend's Pleasure characteristics and HWB through Companionate Relating which can be described as enjoying pleasurable activities together.

In contrast to the predominant focus on benefit provision in Utility and Pleasure friendships in psychological research, some friendships may be valuable in themselves and one may value one's friend based on the friend's good qualities. Aristotle (1999) believed that Virtue friendships are essential to human flourishing because being valued as a person is necessary for the best kind of life as a social creature. Having friends who recognize and treasure one's good qualities facilitates the full expression of what is good about a person. In psychological terms, having a Virtue friend should contribute to EWB. Clark and Aragón (2013) have documented a distinction between exchanging benefits and valuing a relationship for its own sake in their contrast between exchange and communal relationships . Aristotle indicated that virtuous friends see and appreciate the goodness in each other, which good is based on consistent

character traits. **Hypothesis 6a** is that the friend's Virtue characteristics will be indirectly related to EWB through Admiration of the friend. Moreover, when friends value one another for their good qualities, they are likely to remain friends for a long time. For these reasons, **Hypothesis 6b** is that the friend's Virtue characteristics will be indirectly related to EWB through Reliable Alliance, defined as the expectation that the relationship will last despite challenges. Friends with good characters will be seen as more reliable and this will contribute to increased well-being.

Method

Participants

The sample consisted of 375 undergraduate students attending two universities in the Southeastern United States. The sample consisted of 265 women (71%) and 109 men (29%) and 1 who did not specify a gender. Most participants (86%) were between 18-25 years old, 11% were between 26-34 years old, 2% were between 35-54 years old and one person was 55-64 years old. The racial/ethnic distribution was 226 White Latinx (60%), 49 Black/African American (13%), 53 White non-Latinx (14%), 25 Asian (7%), and 22 reported other categories (6%).

Procedure

The participants were recruited from the Psychology Department participant pool at one university and the School of Education at a second university. When the participants signed up for the study they were given a link to the online survey where they indicated consent to participate. Participants received class credit for participating in the study.

Measures

All measures were administered in a randomized order, with item order also randomized within each measure. A brief personality measure was administered, but due to low internal consistency, was not included in the analyses. See Supplemental Material for composite variable correlations.

Identifying a Best Friend. The initial instructions were: “Please enter the first name of the person whom you consider to be your current best friend. We ask that this be a non-romantic relationship.” Participants also provided the gender of their friend. We chose to include other-gender friendships to allow the individuals whose best friend is of the opposite sex, or of a non-binary gender to focus on their actual best friend.

Friendship Characteristics. To assess the friend’s Utility, Pleasure, and Virtue characteristics, we used items from Murstein and Spitz’s (1974) 80-item semantic differential adjective list of friend characteristics. The items had a 7-point scale with one end representing a more desirable characteristic and the other an undesirable characteristic. Participants indicated which of the two paired opposites is most descriptive of their friend. For example, pairs include persevering-gives up easily, talkative-untalkative, and selfish-unselfish. Higher scores indicate more desirable characteristics.

Murstein and Spitz (1974) assessed multiple friendship types with their original scale and found strong support for a three-factor structure of friendship characteristics. In order to achieve proper measurement for the latent variables without attempting to estimate an excessive number of parameters for our sample size, we reduced our friendship items to the four most prominent items from each of the three friendship characteristic factors from Murstein and Spitz’s (1974) original analysis. This involved selecting the items that loaded most highly for both the male and female best friends in Murstein and Spitz’s (1974) factor analyses. This resulted in the use of

goes out of way for others, softhearted, sympathetic, and forgiving to represent Virtue ($\alpha = .78$); *organized, thorough, precise, and efficient* as Utility items ($\alpha = .82$); and *outgoing, active, adventurous* and *impulsive* as Pleasure items ($\alpha = .67$). These items performed according to expectations in two previous studies (Bukowski et al., 1987; Murstein & Spitz, 1974). We assess the factor structure of this Friendship Characteristics Scale in the Results section.

Hedonic Well-being. HWB was measured using the Satisfaction with Life Scale (SWLS; Diener et al., 1985) and the Positive Affect Scale from the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). The SWLS assesses the cognitive evaluation of one's life (e.g., "I am satisfied with my life"). It is a five-item measure with a 7-point Likert agreement response scale. This scale has been widely used and had a Cronbach's alpha in this study of .87.

The PANAS is a 20-item scale that assesses the extent to which the participant experienced ten positive and ten negative emotion states in the last week. The scale is based on a 5-point continuum ranging from "very slightly or not at all" to "extremely." The 10 items from the Positive Affect Scale are summed (e.g., enthusiastic, proud, interested). It is a very widely used measure of affective experience. The Cronbach's alpha was .89 for positive emotion in this study.

Eudaimonic Well-being. We assessed EWB with three scales from Ryff's (1989) psychological well-being (PWB) scale. We used the 7-item versions of the Purpose in Life (e.g., "I have a sense of direction and purpose in life"), Personal Growth (e.g., "I have the sense that I have developed a lot as a person over time"), and Positive Relations² (e.g., "Most people see me

² The Positive Relations scale has often been used as a measure of EWB (e.g., Fowers et al., 2010). Although it assesses the degree of positivity in relationships, its items focus on the respondent's capacity for good relations, not on any specific relationship or on the qualities of other individuals. Therefore, we deemed it sufficiently different from the other measures in the study to warrant its inclusion in EWB.

as loving and affectionate”) scales. We selected these three scales because they represent key elements of Aristotle’s (1999) concept of eudaimonia. Previous research has confirmed their utility for assessing EWB (Fowers et al., 2010; Owenz, Winakur, & Fowers, 2010; Birichi, 2015). The items have a 6-point Likert agreement scale. Approximately half of the items are reverse scored. The alpha coefficients in this study were Purpose in Life ($\alpha = .75$), Personal Growth ($\alpha = .73$), and Positive Relations ($\alpha = .74$).

Friendship Interaction Variables. To assess the indirect relationship of Utility characteristics and HWB through Help Received, we used the 3-item Instrumental Aid subscale of the Network of Relationships Inventory – Social Provisions Version (Furman & Buhrmester, 1985; $\alpha = .78$; “How much does this person teach you to do things that you don’t know?”). To measure the indirect relationship of Pleasure characteristics and HWB through Companionate Relating, we used the 3-item Companionship subscale from the Network of Relationships Inventory – Social Provisions Version ($\alpha = .83$; “How much do you spend fun time with this person?”). To assess the indirect relationship of Virtue characteristics and EWB through Reliable Alliance, we employed the 3-item Reliable Alliance subscale of the Network of Relationships Inventory – Social Provisions Version ($\alpha = .91$; “How sure are you that this relationship will last no matter what?”). We also assessed the indirect relationship of Virtue friendship and EWB through Admiration by using the English translation of the 4-item Admiration subscale of the Admiration/Adoration Scale (Schindler, Paech & Lowenbruck, 2015; $\alpha = .89$; “I admire him/her for his/her characteristics or abilities.”).

Analytic Strategy

We used an exploratory structural equation model (ESEM) framework to test whether a friend’s characteristics might differentially predict two types of well-being and to test the three

indirect pathways. An ESEM model allows for an exploration of the rotated factor structure of different variables while also analyzing the path coefficients between those factors and other variables (Marsh, Morin, Parker, & Kaur, 2014). It forgoes the unrealistic assumption that cross factor loadings among psychological measures are 0 and allows each indicator to load on each relevant factor. In this paper, we modeled the friendship characteristics as ESEM factors, while the other latent variables were treated as traditional CFA latent variables (Marsh et al., 2009). An exploratory approach to our data is appropriate because it is already known that many of our variables are correlated and that this is the first study of its kind.

Items from the two HWB and three EWB scales were summed and divided by the number of items per scale to create five composite variables. We created a latent variable of EWB from the composites of the Purpose in Life, Personal Growth, and Positive Relations scales. The latent variable of HWB consisted of the composites of the Satisfaction with Life and Positive Affect scales. The latent Reliable Alliance variable consisted of items of the Reliable Alliance subscale, the latent Admiration variable was comprised by the items of the Admiration scale, the latent Companionate Relating was comprised by the items of the Stimulating Companionship scale, and the latent Help Received was made up of the Instrumental Aid subscale. Descriptive statistics were calculated in SPSS 24.0 (IBM Corp, 2016) and latent factor models were modeled in Mplus 7.11 (Muthén & Muthén, 1998-2015).

Results

Of the 109 male participants, 87 (80%) indicated that their best friend was a male, 21 (19%) indicated their best friend was a female, and one indicated their best friend was non-binary. Of the 265 females, 241 (91%) indicated their best friend was a female, 22 (8%) indicated their best friend was a male, one left their friend's gender blank, and another entered a

non-binary gender. The length of the relationship with the best friend had a mean duration of 9.02 years ($SD = 6.84$). See Table 1 for variable means, standard deviations and correlations.

Research Aim 1: Friendship Characteristics

We assessed Hypothesis 1 through factor analysis of the respondents' descriptive ratings of their friend, to examine whether that structure fit the expected 3-factor Aristotelian model. We explored which friendship characteristic factor structure best fit the data using ESEM with a GEOMIN oblique rotation. We used maximum likelihood estimation with robust standard errors to account for missing data which was less than .5% for variables in the dataset. We explored the missingness patterns in the data and are assuming that it can be classified missing at random.

We began by fitting a single factor model which resulted in a significant Chi-Square goodness of fit test ($\chi^2(54) = 330.88, p < .001$) and fit indices that indicated poor fit ($CFI = .73$; $SRMR = .09$; $RMSEA = .12$ [.11 - .13]). We next fitted a two-factor model, allowing all indicators to load on each factor which resulted in relatively poor fit ($\chi^2(43) = 178.60, p < .001$; $CFI = .87$; $SRMR = .05$; $RMSEA = .09$ [.08 - .11]). A three factor ESEM model was fitted next, which fit the data well ($\chi^2(33) = 55.61, p < .001$; $CFI = .98$; $SRMR = .03$; $RMSEA = .04$ [.02 - .06]). Due to our use of robust maximum likelihood, a Satorra-Bentler corrected Chi-Square test was carried out to assess the relative fit of the three-factor and two-factor models. The three-factor model fit significantly better than the two-factor model ($\Delta\chi^2(10) = 138.41, p < .001$). A four-factor model was also fit which also fit the data very well ($\chi^2(24) = 33.17, p = .10$; $CFI = .99$; $SRMR = .02$; $RMSEA = .03$ [.00 - .06]). The Satorra-Bentler corrected Chi-Square test was significant ($\Delta\chi^2(9) = 20.78, p = .01$) indicating that the four-factor model fit better than the three-factor model. However, upon inspection of the estimated parameters, none of the indicators

loaded significantly on the first latent factor. Due to problems of factor interpretation, we decided to retain the three-factor model, which also fit the data relatively well.

The factor loadings for the three-factor model can be seen in Table 2. As expected, these items performed similarly in our sample as compared to Murstein and Spitz's (1974) original factor analysis with the items loading most strongly on their relevant factors. Importantly however, while the Utility, Pleasure, and Virtue items are the strongest indicators of the respective factors, there are some significant cross-loadings. The benefit of using an ESEM approach is that it reveals how theorized latent characteristics (Virtue, Utility, and Pleasure) may not independently predict observable characteristics (e.g. outgoing, precise, and forgiving). In this case, some of these friend characteristics are best explained by the joint contribution of Utility, Virtue, and Pleasure. Overall, these results are consistent with the key premise of Hypothesis 1: that friendship characteristics cannot be captured in a single dimension.

Research Aim 2: Friendship Characteristics as Predictors of HWB and EWB

We then tested hypotheses 2 and 3 with a structural model that included the Friendship Characteristics Scales, HWB, and EWB. A measurement model was fitted and resulted in a significant Chi-Square goodness of fit test ($\chi^2(91) = 186.05, p < .001$) and adequate relative fit indices (CFI = .94; SRMR = .04; RMSEA = .05, 90% CI [.04 - .06]). The standardized factor loadings for EWB ranged from .67 to .82 while the standardized loadings for HWB were .62 and .70 for SWLS and Positive Affect respectively.

The full structural model was then fitted with EWB and HWB predicted by the friend characteristics. The model resulted in a significant relationship between HWB and EWB ($r = .55, p < .001$), as expected. There were also significant associations between the Friend characteristics (Utility with Virtue, $r = .52, p < .001, 95\% \text{ CI } [.33, .69]$; Pleasure with Virtue, $r =$

.33, $p = .04$, 95% CI [.02, .64]; Pleasure with Utility, $r = .29$, $p < .01$. 95% CI [.10, .47]). The proposed model resulted in acceptable fit ($\chi^2(91) = 186.05$, $p < .001$, CFI = .94, SRMR = .04, RMSEA = .05 90% CI [.04-.06]). Contrary to Hypothesis 2, the results indicated that HWB was not directly associated with any of the friend's Utility, Pleasure, or Virtue characteristics.

Consistent with Hypothesis 3, EWB was significantly associated with Virtue characteristics ($\beta = .23$, $p = .02$, 95% CI [.03, .42]), but not to the Utility or Pleasure characteristics. However a Wald test indicated that the beta coefficients were not significantly different (Wald's test(2) = 1.71, $p = .43$). Overall, 10% of the variance in EWB was explained by the friend characteristics.

Figure 1 contains the results for this model.

Research Aim 3: Indirect Relationships of Friend Characteristics and Well-being

A model was fitted to test the indirect relationships between friend characteristics and the two forms of well-being. A measurement model resulted in good fit ($\chi^2(351) = 579.47$, $p < .001$, CFI = .95, SRMR = .05, RMSEA = .04 90% CI [.04-.05]). The factor loadings ranged from .67 to .80 for Help Received, .73 to .83 for Companionate Relating, .86 to .90 for Reliable Alliance, and .79 to .86 for Admiration.

Next, a structural model was fitted to the data which resulted in good fit ($\chi^2(351) = 579.47$, $p < .001$, CFI = .95, SRMR = .05, RMSEA = .04 90% CI [.04-.05]). We assumed that the friendship interaction variables would be correlated, so we allowed them to correlate freely. The correlations between the friendship interaction variables were all significant: Reliable Alliance with Admiration ($r = .36$, $p < .001$, 95% CI [.23, .48]), Help Received ($r = .43$, $p < .001$, 95% CI [.30, .56]) and Companionate Relating ($r = .45$, $p < .001$, 95% CI [.34, .56]); Admiration with Help Received ($r = .41$, $p < .001$, 95% CI [.29, .52]) and Companionate Relating ($r = .27$, $p <$

.001, 95% CI [.15, .39]); and Companionate Relating with Help Received ($r = .67, p < .001$, 95% CI [.55, .78]). The key results of the model can be seen in Figure 2.

Hypothesis 4 was that Utility characteristics would have an indirect relationship with HWB through Helping. As predicted, Utility was uniquely related to Help Received ($\beta = .35, p < .001$, 95% CI [.19, .50]), and Help Received was significantly associated with HWB ($\beta = .33, p = .02$, 95% CI [.06, .59]). The specific indirect association between Utility and HWB through Help Received was significant ($\beta = .12, p = .04$, 95% CI [.02, .22]), consistent with Hypothesis 4.

Hypothesis 5 predicted that Pleasure characteristics would have an indirect relationship with HWB through Companionate Relating. Unexpectedly, Companionate Relating was not linked to Pleasure ($\beta = .09, p = .24$, 95% CI [-.10, .28]), and the relationship between Companionate Relating and HWB was only marginally significant ($\beta = .22, p = .07$, 95% CI [-.02, .46]). These results are inconsistent with the hypothesis.

Hypothesis 6a was that Virtue characteristics would have an indirect relationship with EWB through Admiration. Virtue characteristics were related to Admiration ($\beta = .22, p = .02$, 95% CI [.04, .40]), and Admiration was linked to EWB ($\beta = .20, p = .02$, 95% CI [.04, .37]). The indirect association between Virtue and EWB through Admiration was marginally significant ($\beta = .05, p = .08$, 95% CI [.00, .09]), failing to support Hypothesis 6a. Unexpectedly, Utility was also linked to Admiration ($\beta = .31, p < .001$, 95% CI [.15, .47]), and the indirect effect from Utility to EWB through Admiration was also significant ($\beta = .06, p = .04$, 95% CI [.00, .12]).

Consistent with Hypothesis 6b, Virtue was associated with Reliable Alliance ($\beta = .33, p = .001$, 95% CI [.13, .52]), and Reliable Alliance was also related to EWB ($\beta = .19, p = .02$, 95% CI [.03, .35]). The indirect association of Virtue with EWB by Reliable Alliance was significant ($\beta = .06, p = .04$, 95% CI [.00, .12]), consistent with the hypothesis. Overall, 30% of the

variance in HWB and 18% of the variance in EWB were explained by the friend characteristics and the friendship interaction variables.

Discussion

This study explored the relationships among friend characteristics, aspects of friendship interactions, and two types of respondent well-being using exploratory structural equation modeling. The findings indicate that ratings of a best friend's characteristics can be understood as comprised of three types: Utility, Pleasure, and Virtue. Our hypothesis suggesting that Utility, Pleasure, and Virtue characteristics would be directly associated with HWB was not supported. Virtue friend characteristics had a significant direct relationship with EWB, as predicted. As hypothesized, we found an indirect relationship between Utility traits and HWB through Help Received. There was no direct or indirect relationship between Pleasure traits and HWB. We also expected indirect relationships between Virtue characteristics and EWB through Admiration and Reliable Alliance. The indirect relationship through Reliable Alliance was supported, but the association through Admiration was only marginally significant. In addition, Utility was also indirectly related to EWB through Admiration.

An important finding is that respondents rated their best friends differentially in terms of the friend's Utility, Pleasure, and Virtue characteristics. In this way, we empirically revived the ancient idea that a friend's virtuous qualities may be an important aspect of friendship. Our interest in a friend's qualities differs from the heavy focus in extant friendship research on single-measure summary perceptions of friendship quality and the benefits friends provide to the respondent. Our results suggest that there may be a form of friendship in which the primary value lies in the good qualities of the friend and in the friendship itself rather than solely in the instrumental benefits the friend provides. Greater confidence in this conclusion requires research

in which participants rate multiple friends to see if friend types can be differentiated and classified, potentially with latent profile analyses. This support for Hypothesis 1 stands in stark contrast with the standard assumption that friendships can be seen as a single type, with overall quality that is based primarily on emotional benefits. This opens the way toward exploring whether there are different friendship types. In addition, it indicates that different forms of friendship may have distinct purposes and value.

Contrary to expectations, we found that none of the best friend's characteristics were directly related to HWB, disconfirming Hypothesis 2. This stands in contrast to previous research which has shown many interesting links between perceived aspects of the friendship relationship and HWB. However, as in previous research (Demir & Özdemir, 2010; Demir, et al., 2011; Demir, et al., 2013), the function that friends fulfill, in this case Help Received, was associated with the individual's HWB. We also found that a friend's Utility characteristics were indirectly associated with HWB through Help Received, supporting Hypothesis 4. With this result, our study extended the research linking friendship quality and HWB by illuminating the importance of a friend's individual characteristics. We interpret this to mean that having a friend whom one sees as having Utility characteristics (e.g., being organized, efficient, or clear-headed), is related to HWB only to the degree that one actually receives assistance from that friend. Unexpectedly, we did not find the same direct or indirect relationship for Pleasure on HWB, disconfirming Hypothesis 5. One speculative reason for these null findings may be that other, more casual, pleasure-based friendships significantly predict HWB, but by only measuring best friends, we were unable to investigate that claim.

Another unique aspect of our study was the examination of the associations between friendship and EWB, which allowed us to test the importance of an assessment of the friendship-

well-being relation that is not limited to HWB. In the simple model containing only direct effects, only EWB was related to having a best friend that can be described as virtuous. Although the direct path from Virtue to EWB was significant and the paths from Utility and Pleasure to EWB were not, the results for Hypothesis 3 were ambiguous because there was a non-significant difference between the coefficients for the paths from the three friend characteristics to EWB.

We found support for an indirect relationship of Virtue characteristics and EWB through Reliable Alliance, as predicted in Hypothesis 6b. Aristotle (1999) argued that virtue friendships last longer because they were founded on the individual's virtuous characteristics, which he saw as relatively unchanging. Our prediction that a friend high on Virtue characteristics would also be a friend with whom one could have an enduring relationship was supported.

Although Admiration was significantly associated with Virtue characteristics and with EWB, the indirect relationship through Admiration was only marginally significant. One potential explanation for this weak indirect effect is that Admiration may be less salient in EWB for college students than for other adults because well-being includes different social aims and capacities across the lifespan (Carstensen, Isaacowitz, & Charles, 1999). For example, one study indicated that growth in identity development for emerging adults was related to the characteristics of romantic relationships, but not characteristics of friendships (Barry, Madsen, Carroll & Badger, 2009). Another possible explanation is that Admiration is a more passive aspect of interpersonal relating than Reliable Alliance, Help Received, or Companionate Relating. The lack of an indirect relationship with EWB could be due to this relative passivity. This important set of results related to Virtue characteristics and EWB only came to light due to the Aristotelian perspective we adopted.

These results suggest that HWB may be insufficient as a criterion measure for all important aspects of friendships. Previous research has been limited to the relationships between friendship quality and its hedonic benefits. These links are well worth investigating, but our results indicate that this restricted focus may leave out important implications of friendship. The assumptions that friendships are benefit-based and affect focused relationships may represent an unacknowledged bias toward seeing friendships as instruments through which individuals obtain desired outcomes. This means-end understanding of friendship obscures the question of whether individuals see their friends as having value in themselves.

It turns out that some of the best aspects of friendship, such as a real appreciation for a friend's goodness, are related to EWB, but not to HWB. The indirect relationship between a friend's Virtue characteristics and EWB through Reliable Alliance indicates that friendships may be related to vital domains such as purposeful living and personal growth.

These results are consistent with Aristotle's (1999) focus on Virtue friendships, in which a friend's good qualities contribute to a reliable friendship. So rather than asking individuals whether their friend is *good for* them, we asked whether participants saw their friends *as good* (i.e., having good qualities). By including an assessment of the friend's good characteristics and a criterion measure that included eudaimonic elements such as purpose and personal growth, we have provided preliminary evidence that some individuals focus on the goodness of the friend rather than only on the tangible benefits the friendship provides. Further research is necessary to test this proposition. For example, do friends with Virtue characteristics actually focus less on benefit exchange or the pleasantness of the relationship? Is there a difference across friendships in how friends value one another? Do these valuing processes have the predicted relationships with EWB?

Although the findings of this study are theoretically important, the study has limitations. First, this research was cross-sectional. Second, our sample was not representative, consisting of college students with a preponderance of Latinx participants. Most of the participants were female as well. This raises questions about generalization to the general population regarding how the individuals rated friends, engaged in friendships, and saw their own personal well-being. All the items were self-report, which has potential bias and veracity limitations. Yet self-reports of well-being and perceptions of friends are certainly important sources of this kind of information. Further, the ratings provided by the participants were only for a single friend, which leaves unanswered the way that multiple friendships might influence well-being. Lastly, only a portion of the friendship characteristics items from Murstein and Spitz's (1974) original study were used because of the limited sample size.

These limitations could be alleviated in future studies. Daily diary assessments of friendships may allow for the assessment of day-to-day relational functioning rather than global, one-time measurement. Longitudinal research could allow predictive modeling and more rigorous assessments of mediation. In this way, the stability in friendship characteristics and interactions over time may be assessed. More representative sampling can help to assess the generalizability of the findings. Qualitative studies can add depth and nuance to our understanding of friendship types by exploring participants' experiences more fully.

This study suggests that assessing a friend's various characteristics, according to an ancient typology forwarded by Aristotle, revealed important variation across friendships. A friend's Virtue and Utility capacities, while related, are associated with distinct well-being measures. These friendship characteristics appear to have important implications for understanding the role of friends in happiness and flourishing. Specifically, a best friend's Virtue

traits appear to have a special link with EWB through Reliable Alliance, whereas Utility traits were found to relate indirectly to HWB through the activation of these characteristics in helpful interactions with the friend.

Open research statement

As part of IARR's encouragement of open research practices, the authors have provided the following information: This research was not pre-registered. The data used in the research are available. The data can be obtained at https://osf.io/9aynk/?view_only¼138ece4c86544036929172ee59e0c1d7 or by emailing aanders8@yahoo.com. The materials used in the research can be obtained by emailing aanders8@yahoo.com.

Supplemental material

Supplemental material for this article is available online.

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Table 1

Inter-item correlation matrix for friendship characteristics

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. goes out of way for others (C)	5.65	1.37	1.00											
2. sympathetic (C)	5.83	1.34	.52	1.00										
3. forgiving (C)	5.73	1.44	.39	.48	1.00									
4. softhearted (C)	5.63	1.51	.33	.55	.51	1.00								
5. precise (U)	5.40	1.35	.41	.33	.21	.24	1.00							
6. organized (U)	5.04	1.70	.29	.29	.21	.17	.43	1.00						
7. efficient (U)	5.79	1.28	.47	.42	.32	.28	.59	.49	1.00					
8. thorough (U)	5.56	1.31	.45	.46	.36	.39	.60	.49	.62	1.00				
9. outgoing (P)	5.81	1.40	.38	.30	.29	.26	.25	.18	.33	.25	1.00			
10. impulsive (P)	4.55	1.67	.05	.01	.03	.06	.01	-.15	.05	.06	.18	1.00		
11. adventurous (P)	5.63	1.43	.24	.28	.40	.32	.20	.04	.30	.25	.43	.38	1.00	
12. active (P)	5.71	1.44	.27	.24	.28	.25	.32	.23	.31	.30	.37	.18	.49	1.00

C – Character item, U – Utility item, P – Pleasure item

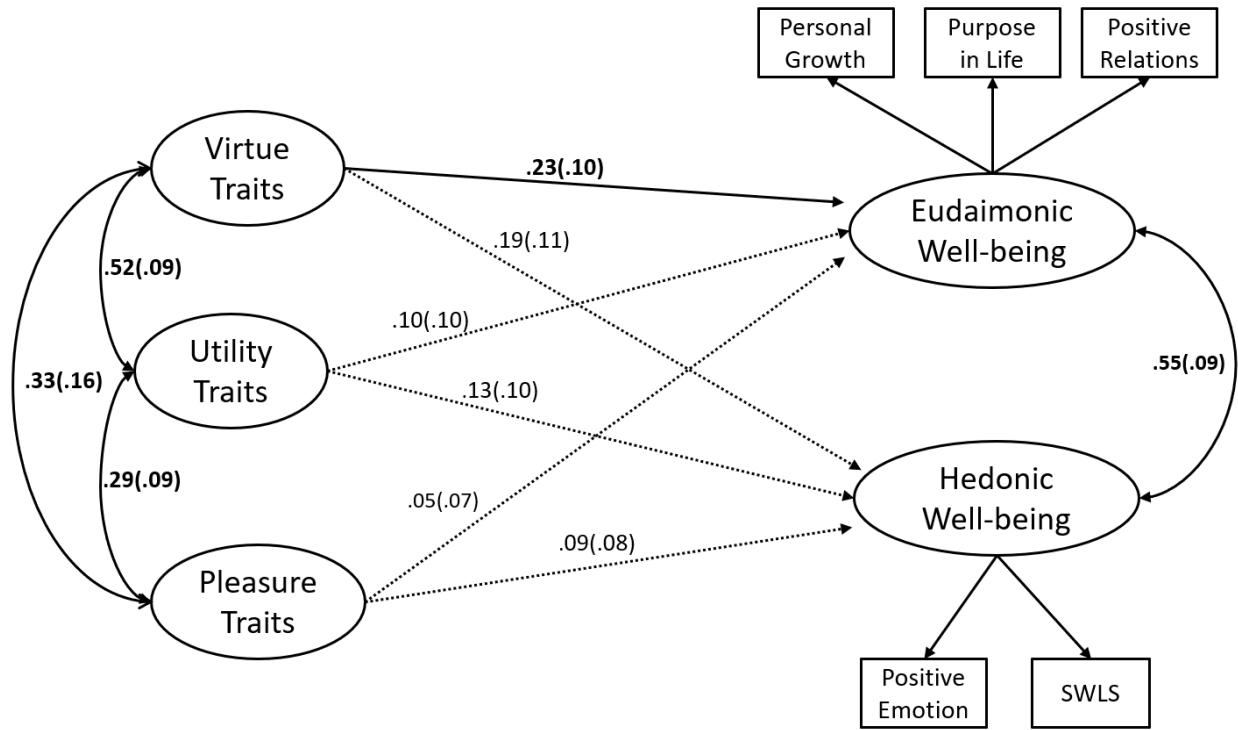
Table 2

Factor loadings for friendship characteristic items.

	Virtue	Utility	Pleasure
Unsympathetic to others – Sympathetic to others (V)	.71***	.15	-.02
Hardhearted – Softhearted (V)	.69***	-.02	.09
Bears a grudge – Forgiving (V)	.59***	.01	.20
Does not go out of way for others – Goes out of way for others (V)	.36**	.37***	.03
Unprecise – Precise (U)	-.08	.79***	.00
Inefficient – Efficient (U)	.00	.77***	.08
Careless – Thorough (U)	.15	.71***	-.01
Disorganized – Organized (U)	.01	.66***	.00
Timid - Adventurous (P)	.04	.01	.89***
Restrained – Impulsive (P)	-.12	-.06	.48***
Passive – Active (P)	-.01	.27***	.46***
Inhibited – Outgoing (P)	.12	.19**	.37***

* $p < .05$, ** $p < .01$, *** $p < .001$, V – items originally designed to assess Virtue, U – items originally designed to assess Utility, P – items originally designed to assess Pleasure. All loadings $> .40$ are bolded

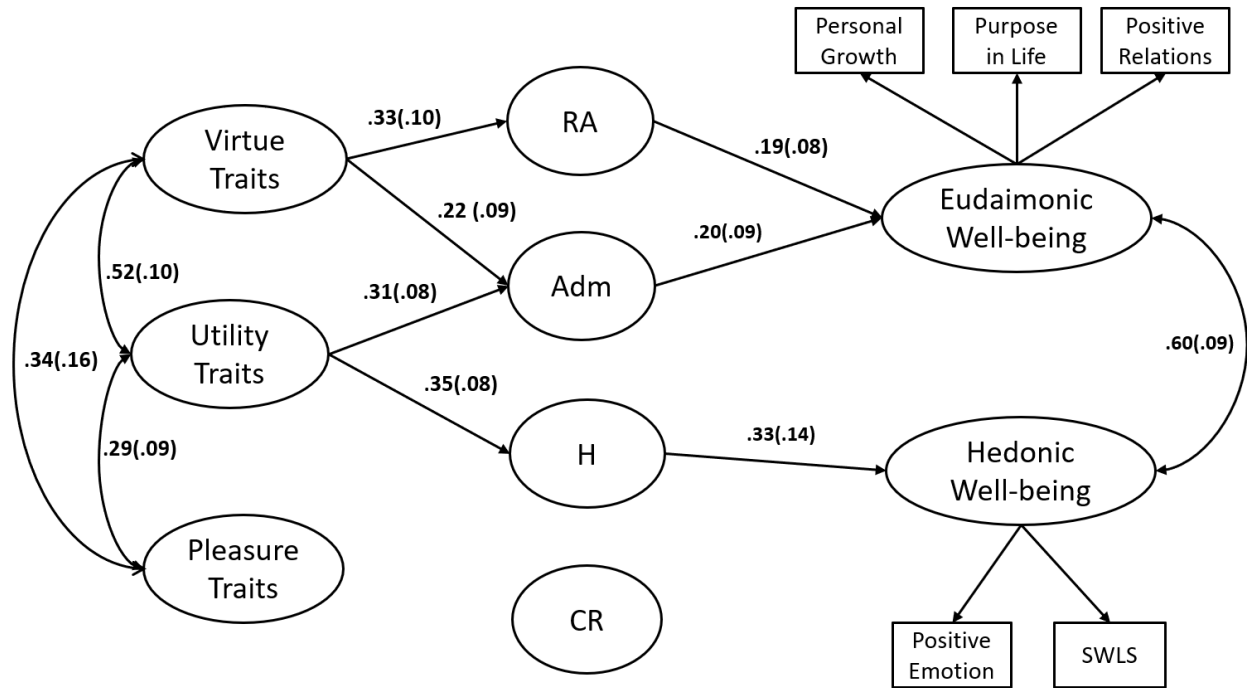
Figure 1



Structural equation model of characteristics predicting two forms of well-being

Solid line indicates statistically significant relationships. Due to space constraints, item indicators for the friendship characteristics are not shown. Factor loadings can be seen in Table 2.

Figure 2



Mediational model of three friendship types.

Only significant path coefficients are shown. For interpretability the correlations between the latent mediating variables, which were all significant are not shown. The indicators for the latent variables are not shown. RA = Reliable Alliance; Adm = Admiration; H = Help; CR = Companionate Relating.