Defining Friendship: An Age Old Question

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Abstract

This paper uses a dataset generated from keyword tagging works of literature and contemporary sources to scope the potential of a common definition and understanding of friendship.

About 9000 keyword tags on about 300 keywords are used to extract friendship definitions from authors such as Aristotle, Cicero, C.S. Lewis, Alberoni, Nehamas, Greif, Degges-White, Hall, Shumway, Millington and others. On the compiled dataset MDS and correlational analysis is used to validate intuitive groupings and relatedness of friendship concepts. Six key dimensions of friendship are deduced with 55 subtraits.

As an application a relative importance of friendship traits in old age is deduced.

The paper is still work in progress but now at a stage soliciit discussion and comments.

DEFINING FRIENDSHIP: AN AGE OLD QUESTION V0.6

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ABSTRACT. This paper uses a dataset generated from keyword tagging works of literature and contemporary sources to scope the potential of a common definition and understanding of friendship.

1. INTRODUCTION

Friendship is an age old topic. The first recorded story of mankind, Gilgamesh and Enkidu, essentially is about friendship. The Greeks, most notably Plato, Aristotle and Epicurus, and the Romans (Cicero) discussed its nature and its effect.

In the 20th century sociologists and psychologists started studying the concept of friendship, whether more its nature and effects within the pair or dyad, or what impact it has on networks and how people move within society and networks. Theories on Social Penetration theory and Social Exchange theory have been formulated and tested. Whereas however sociologists and psychologists clamour about the loss of meaning of 'friend' given todays superficiality and Facebook, equally the supposedly more meaningful term 'friendship' classifying the relationship that two 'true' friends have towards each other is by no means even close to uniformly agreed upon. Indeed even linguistically classical philosophers, psychologists and sociologists can be shown to occupy different spheres. Even in 2020 it seems that the criticism of (Fischer, 1982) on the inadequacy of the various definitions available does still hold. (Fischer, 1982, p.288) defines the task at hand thus: "These observations lead to the conclusion that 'friend' is probably too vague a concept to be used in scientific research. We cannot, however, abandon it. It is too important a 'folk concept', an idea that people use to order their worlds. And, it is too much a part of our own intellectual apparatus. But we should at least have a systematic, empirical understanding of what Americans seem to mean when they call someone a friend."

This paper tries to measure and contrast the associations and emphases that writers of old and new place on the concept friendship. It intends to thus answer then question by simply generating a data set rather than fine arguments along philosophical or logical lines, and likewise staying with simple data rather than indulging in highly sophisticated statistics analysing carefully crafted sociological surveys.

The focus at the moment is getting the overall view and dimensionality of friendship right. This document is designed to spell things out, and to serve as a discussion basis with other scholars and friends to garner feedback, placing trust in peoples intuition and gut feeling about this feature of basic social life. In terms of vocab and language it should thus be understandable to a well-read lay person, but not necessitating familiarity with specialist psychological and sociological vocabulary.

The content of this paper is to define a conceptual framework that captures the key elements of friendship attitude and behaviour with a set of variables reasonably completely and concrete enough, that it resonates with lay peoples experience and understanding. It tries to evaluate whether there is a consensus view on friendship

and explore to what degree divergence exists across disciplines, target audience, gender and other

2. Literature Review

When reviewing the preeminent works on friendship, the following works come to mind. (Aristotle, 1926) with his Nikomachean ethics and the classification of friends of utility, pleasure and virtue is quoted and discussed usually at length in any text on friendship. Likewise many classically minded people cite his requirements of goodwill that is reciprocally declared and demonstrated. (Cicero, 1923), discussing the role of friendship on the back of breaking friendship and allegiances during the Roman Civil war, however deserves no less attention. In our time continuing the classical tradition of discussing the nature of friendship there is the Oxford Inkling (C.S. Lewis, 1960), normally known for apologetic writings on Christianity and the Chronicles of Narnia, (Alberoni, 2016) - an Italian intellectual most prolific in the 70ies - and Princeton philosopher (Nehamas, 2016) generally concerned with translating what a philosophically good life could mean in our century.

On the psychological / sociological pop science literature (i.e. books that are based on solid research however designed to be read by a wide public) there is (Degges-White and Borzumato-Gainey, 2011) on female friendship, (Greif, 2008) on male friendship, and (Delaney and Madigan, 2017) on friendship among modern adolescents.

(Shumway, 2018) and (Millington, 2019) published densely packed friendship improvement advice, even labelling their book identically as the Friendship Formula. (Kira Asatryan, 2016) writes with depth and insight about concrete steps towards improving friendship quality. (Nelson, 2016) illustrates the importance of the positivity - consistency - vulnerability framework for female friendships and (Nelson, 2020) transfers this framework to working relationships and teams at work.

On the research side, (Jeffrey A. Hall, 2012) conducted a key study on the important features of friendships among undergraduates. (Roberts-Griffin, 2011) summarized a survey conducted on the AuthenticHappiness Website of Seligman at UPenn. On adult research, the authors Blieszner and Adams have over three decades been at the center of a long research program looking at friendship among adults and older adults, with (Blieszner et al., 2019) providing an intermediate review and quo vadis.

On the religious side, aside from going directly to the Bible, Youtube and SermonCentral has made a number of sermons accessible where pastors urge their flock to build good friendships and give advice on how to go about it.

(Rath, 2006) on the back of a large dataset from the Gallup organisation identifies eight roles how our friends benefit our lives and how this can particularly unfold at the work place.

Using the internet as resource I found three contributions by Jenna Birch, describing important characteristica of friends according to an MBTI (Birch, 2018b), (Birch, 2018a), (Birch, 2019). Other friendship type explanations from (Cerri, 2019) or (van Devender, 2020) do the same, giving advice on friendship desirability and compatibility of various personality types. Likewise Youtube has a host of Ted Talks and other video resources such as (Hollander, 2012), (Stacey Flowers, 2016) and (Akana, 2018) where people young and old share their wisdom on the significance of friendship and how to assess their quality.

Finally in the general public media opinion pieces on friendship appear regularly.
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[1] I analysed Medium, e.g. (Wiest, 4 30), (Renner, 7 08), (Ball, 5 18) and Guardian e.g. (Nicholson, 7 12),(Tovey, 4 01), (Beddington, 9 16)

(Aristotle, 1926)	203	(Cicero, 1923)	210
(Alberoni, 2016)	469	(Nehamas, 2016)	466
(C.S. Lewis, 1960)	137	(Cuddeback, 2010)	247
(Pahl, 2000)	476		
(Degges-White and Borzumato-Gainey, 2011)	672	(Greif, 2008)	1035
(Shumway, 2018)	321	(Millington, 2019)	505
(Nelson, 2016)	314	(Nelson, 2020)	463
The Guardian	238	Medium	347
(Jeffrey A. Hall, 2012)	196	Adams Blieszner Publ.	208
(Roberts-Griffin, 2011)	196		
The Bible	183	Christian Material	382
(Rath, 2006)	471		
Birch var.	368	MBTI Descriptions	308
Youtube	120	and others	

Table 1. Number of Keyword Tags per Author

The range is truly diverse and it indicates that the associations with the term 'good close friend' or 'friendship' might vary and indeed significantly diverge depending on the value set, age, gender, education, background or other personal attributes and preferences of the person asked.

It is the goal of this draft paper to map out the commonalities and divergences among the approaches.

3. Method

The method chosen was simply one of counting of triggers for the nonquantitative texts, and trying to map the significance of the measured items for the quantitative sociological texts. Overall after manually going through with a key word tagger [2] through the texts in question approximately 300 different key words were identified describing nuances of friendship personality attributes, attitudes, needs, activities, resources and the likes. These key words would generally describe items such as 'my friend does X with or for or to me' or 'my friend is or has this desirable attribute' or 'my friend exhibits this attitude towards me'. Thus a text would have anything between 50 and 500 keywords triggered, depending on its length, topic focus and depth. At the time of writing the status is for the major texts as depicted in table 1. Keywords could be 'Allow Expression of Self' or 'Play Boardgames' or 'Virtuous character' or 'Wants my success'. A total of 9000 tags are currently marked across the text sources analysed. Where sociological analyses such as (Jeffrey A. Hall, 2012) or (Roberts-Griffin, 2011) provided tables based on surveys, usually between 100 and 150 keyword tags were used to approximate the relative results and allocate it to the various keywords. Note that a reasonable cut had to be made to restrict to actual friends behaviour or expectations towards them while they are still friends. Once friends become romantic lovers or enemies this behaviour became out of scope and no keyword tags were assigned to descriptors.

From this a general classification was generated, the preliminary framework now exhibited on the companion website practicalfriendship.com, and described in the following section. A large normalised matrix then assigned the transformation of the different key words towards the key themes, thus each key word trigger distributed exactly 1 point towards them.

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[2]I used the software Citavi to attach key words to passages. The internal datastructure is accessible through an SQLite interface, that allows for extraction of the keyword tag data into CSV, thereby allowing processing in Excel and R.

Thus the 300-keyword-tuple or frequency table vector per works is transformed into a uniform 50-tuple per work simply stating to what percentage the work is placing emphasis on the various themes. Figure 1 displays the flow. It should be noted that at this point it is a mere taking note of the aspect and trying to make the aspect specific, but not elaborate placing into context, interpretation or evaluation.
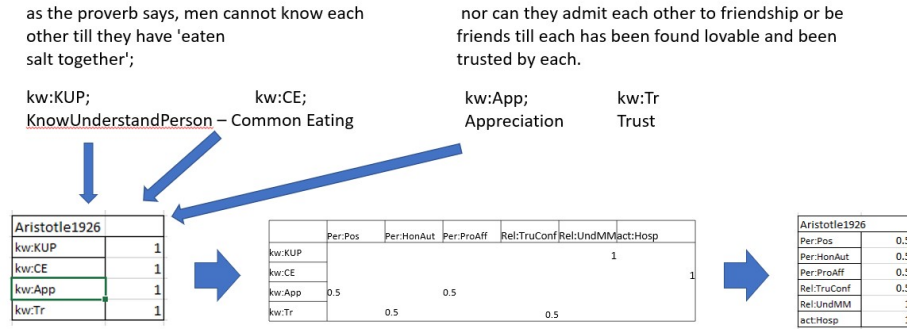

FIGURE 1. Example Coding Aristotle

And thus while individual codings can surely be argued and would be seen differently by other readers, summarizing across the works a fairly clear topic vector emerges of what the author in question finds noteworthy simply by mere repetition and reiteration.

Of course it can be questioned to what degree a work such as Book VIII and IX of the Nikomachean ethics or as the l'Amicizia of Alberoni can be adequately reduced to essentially a vector of 55 numbers, but it is a necessary step in order to adequately try to compare the weights placed on the individual concepts.

One side result of the coding exercise is an appreciation for the diversity of key words and aspects also shows the need to catalogue and codify past questions used in sociological surveys. Positivity in past research could be meaning anything from affirmation to laughter, and depending on different psychological concepts or personality definitions different 'positivities' or listening styles might have very different impacts on friendship maintenance. Thus 'laughter-positivity' (fun) could be different to 'affirmation-see strengths positivity' (affirmation) to 'see positive' positivity (hope, optimism) and points to a clear cost of higher aggregation common in sociological research without clear definitions. This is very much similar to the differentiation of abstract virtues and concrete character strengths employed by (Christoph Peterson and Martin Seligman, 2004). For several academic sociological publications it will thus be necessary to recode them to this framework once the actual question sets have been obtained from the authors. Likewise the definitions of some of these attributes in other books (see e.g. (Nelson, 2016)) may be far more general and encompassing, whereas the definition set below will be quite specific.

Overall there was no special rhyme or reason to choosing these texts other than the fact they were specifically about friendship or associated with it, whether academic, historical, pop science or self help books, Youtube videos, sermons, or other. It was simply a general collection and classification of statements that people associate with the term friendship.

4. The friendship framework

The classification of recurring themes of friendships was a result of slow iteration and expansion, as I was grouping and allocating key word themes. Loosely

the friendship personality strengths are inspired by the VIA Character Strengths of (Seligman, 2004), the friendship attitudes by the general sociological literature (Hall, Adams, Blieszner, Degges-White, Matthews, Oswald and De Vries to name but a few) and the activities by the friendship books such as Shumway, Degges-White and Rath. Sociological research frequently (e.g. in (Blieszner and Adams, 1992)) wrote also about the exchange of resources, however frequently those resources were disguised personality traits (love, knowledge), and thus I separated just genuine resources that are externally given by the situation. Finally searching for a general validated typology of psychological needs that could be used in this context I found a good fit in the one provided by (Max-Neef et al., 1992), having experimentally mapped the keyword list into it. It was a very iterative process of reclassing keywords, and groupings revisited leading to different definitions and foci of the individual strengths, attitudes and activities. The basis for a category also was not so much the eventual name, such as positivity or understanding, but the collection of 3-5 statements seen to be at the core of this aspect. I will now go through the fifty core themes and explaining what they mean. The second key aspect will be exhibiting their main supporting sources and the variability of emphasis and importance assigned to the respective trait within the friendship literature. To provide context I will also provide the summary of how across the entire data set the different themes are valued in figure 3.

Resulting from this set of personality traits, relationship attitudes and activities it is possible to take Aristoteles original goodwill and virtue based **definition of friendship** and generalise it. 'Friendship is a free relationship of two or more people, (1) who bring into the friendship some personality strengths conducive to forming a relationship and attractive to the respective other, (2) who develop an attitude to, appreciation and understanding of each other through past interactions, and (3) who repeatedly act out their friendship with and towards each other through a variety of activities.' (Fischer, 1982, p.289) makes the claim to report observations, i.e. correlations but no causalities [3]. (Fehr, 1996) describes friendship development processes at great length, though for the purpose of this definition it is a start to note that both 'Friendship by Spark' style or the 'Takes time to Grow' friendship are proposed as natural in literature. It is thus not easy to decide whether the existence of friendship determines the attitude and activities, or whether activities and a developing attitude builds and develops the friendship.

5. The Personality Traits

The personality traits or personality strength loosely contribute 25 pc of what people think is important in a friendship (the cluster centers are between 22 and 36. This is a far cry from the all-importance of the virtuous character, but it does show remarkable significance.

Patience, peace and calmness: * People that radiate internal peace make it possible for other people to relax and calm in their presence. They can be the rock in emotional turmoil. In their talk on how to relate well (Lee and Lee, 2009) separate between peace and patience. Patience is described as absence of a quick temper resulting from internalised anger. Peace they define as the result as the absence of stress. Likewise the Bible stresses the importance on internalised peace

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[3] And no causal claims are made, only claims of correlation. The fact that associates with whom respondents discussed their hobbies were especially likely to be called friends could mean that discussing hobbies determines whether an associate will be called a friend, or it could mean that respondents were especially likely to turn to people they called friends when they wanted to discuss their hobbies. Either causal interpretation would be appropriate.'
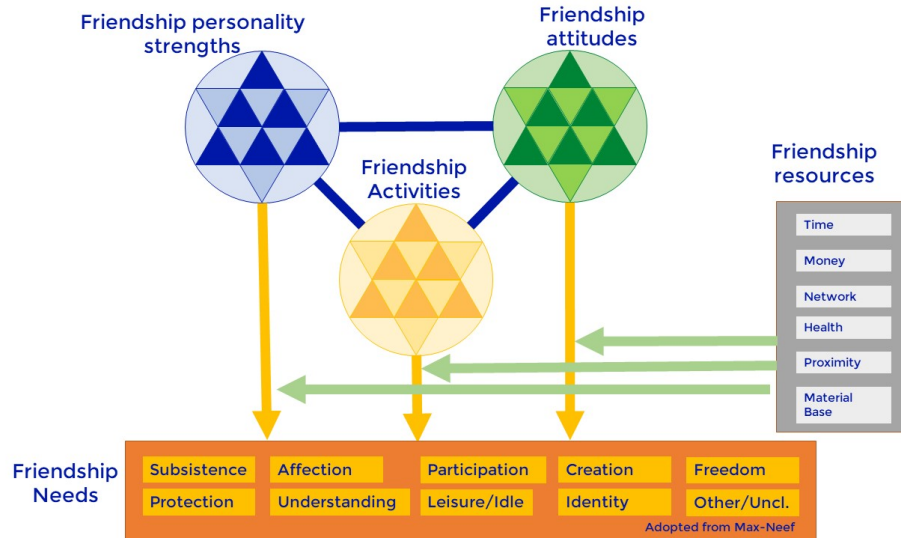
FIGURE 2. Friendship Framework

Absolute Values								
Peace	1.1	Respect of Priv.	1.5	Dirt Time	4.4	Time	0.4	Subs&Prot	0.15
Positivity	1.5	Benevolence	2.1	Work Together	2.9	Material	0.4	Affection	0.18
Proactiveness	1.3	Consideration	2.6	Expression of Self	2.6	Money	0.4	Understanding	0.07
Humility	2.0	Pride	2.5	Encourage	1.5	Network	0.7	Participation	0.17
Agreeableness	1.2	Trust	2.9	Discovery	1.0	Attract.	0.1	Leisure	0.12
Fun	2.2	Shared History	4.7	Guidance	1.0	Health/Athl.	0.8	Creation	0.04
Energy	1.3	Mutual Belief	2.0	Pract. Help	1.8	Content	0.9	Identity	0.21
Honesty	3.5	Loyalty	3.0	Being there	2.4	Proximity	1.2	Freedom	0.07
Reliability	2.3	Mut. Interest	2.3	Vocal Support	0.6	NoMonPowe	0.4	Total	1.00
Acceptance	2.3	Understanding	3.0	Effect Change	1.0				
Kindness	1.8	Reciprocity	2.8	Generosity	0.7			Common Time	0.21
Intelligence	1.7	Openness	2.5	Teach & Learn	0.8			Affection / Care	0.12
Virtue	1.8	Affection	2.7	Circle	1.7			Classics	0.15
		Enjoyment	3.4	Communion	1.2			Good Rel	0.23
		Independence	1.5					CollUnd	0.18
		NindRespPriv	0.5					Improvement	0.07
		DiffBG	0.2					Resource	0.04
		FS Priority	3.5					Total	1.00
		FS Quality	3.7						
Total	23.8	Total	39.5	Total	23.6	Total	5.2		

FIGURE 3. Total Summary

on good relationships between the disciples. (Nelson, 2016) also frequently stresses this characteristic.

Positivity, hope and seeing the good:* Positivity is seeing the good in people and situations and making others around you see and feel it too. This one is a popular across the spectrum, being championed by (Aristotle, 1926), (Lee and Lee, 2009), (Nelson, 2016), (Rath, 2006) and (Stacey Flowers, 2016). It also resonates with the christian virtue of hope, as advocated by (Seligman, 2004) and (C.S. Lewis, 1952). Finally (Chapman, 2009) states affirmation as one of his five love languages, and affirming someone's strengths is the essence of it.

Proactiveness and Consideration:* This trait implies perceiving your friends or generally other peoples needs and being willing to actively meet it, both at smaller and larger physical, emotional, financial or time cost to yourself. This is the spirit of altruism. (Lee and Lee, 2009) quote this as yet another key friendship virtue. (Cicero, 1923) repeatedly has Laelius extol the concern Scipio had for his
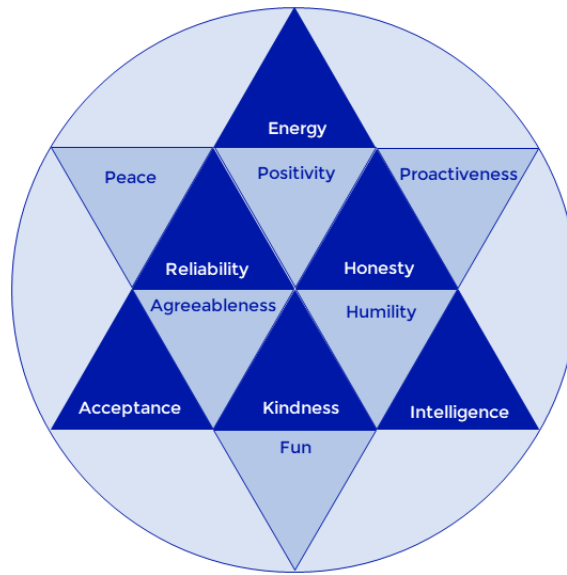
FIGURE 4. Personality Strengths

friends and not just wishing them good, but actively doing whatever he could for them, as well as his family (sisters) and the general public.

Humility and interest in others:** Taking a genuine interest in others and in particular your friends first. This is not being jealous but being quietly happy at their good fortunes and happiness. (C.S. Lewis, 1952) elaborates on the effect of pride in friendships, effectively negating the feasibility of friendship among proud people. But also (Shumway, 2018) and (Rath, 2006) highly emphasise its significance.

Social Ease, agreeableness and connectibility:* This is 'being good with people', making them comfortable to relax, integrating them, being able to do the small talk and taking the initiative to it. Despite being the killer application among child oriented friendship literature, it actually is hardly mentioned by the philosophers. Possibly seen more as a skill than a virtue, it is no surprise that (Rath, 2006) and the MBTI classifications give it due credit.

Fun and humour:** Being able to make people laugh is a great trait. Laughter is good for us all and bringing it out in people is a wonderful capability. Again, hardly mentioned by the philosophers, it is highly valued by literature describing friendship among the young (Delaney and Madigan, 2017) and (Millington, 2019), (Jeffrey A. Hall, 2012) as well as (Rath, 2006) and the MBTI classifications.

Energy, determination, agency and organization:* Having energy is a resource, applying it in the context of your friends is a trait. For most experiences that determine our good friendships someone took the initiative and made us do that hike, that trip, engage in that project or volunteer action, and inspired us or cajoled us into it with his sheer determination to do it and involve us too. This is an almost exclusively young valued characteristic, exemplified by (Delaney and Madigan, 2017), (Akana, 2018) and (Stacey Flowers, 2016). Likewise a similarity can be seen to (Seligman, 2004) with the character strengths 'zest' and 'leadership'.

Honesty, Authenticity and Integrity:*** We instinctively all know it when we see it in people. That sincerity, that 'this is genuinely me' aura honest and authentic people have about them. The feeling that our words will be safe with them. The feeling that there is no 2nd person hiding in there, behind the mask,

but that word and thought are congruent. It is a strong item across the board, capturing 10pc from (Cicero, 1923) and 7.5 pc from (Alberoni, 2016), but likewise (Aristotle, 1926), (Millington, 2019) and (Delaney and Madigan, 2017) emphasise its importance. (Seligman, 2004) character strength 'honesty' resonates in here of course.

Reliability, consistency and persistence:** While sometimes surprises are good, it is good to have a stable element in our life. Reliable and consistent friends who are with us and don't just change their behaviour on a whim, but who will show up if they said they would, are sure not to drop of the radar but to maintain a stable affection for us is one of those key elements in life to give us comfort and stability. (Nelson, 2016), (Greif, 2008) and (Delaney and Madigan, 2017) as well as (Jeffrey A. Hall, 2012) and the Bible stress this aspect as vital for friendship development and maintenance.

Acceptance, Tolerance and Flexibility:** The capability to separate between action and person. The affirmation of the other as a person and being undogmatic about aspects of disagreement. (Delaney and Madigan, 2017), (Nehamas, 2016), (Blieszner and Adams, 1992) and the MBTI characterisations emphasise this characteristic.

Kindness, Warmth and Love:** This is the love and affection shown both spontaneously as well as over longer times. It is the warm hug, the caring smile, the meal prepared for us, the card sent to wish us well or a speedy recovery, all these are signs that the person genuinely cares for us from the bottom of her/his heart. Particularly religious literature including (C.S. Lewis, 1960) but also (Blieszner and Adams, 1992) stress this.

Intelligence, Curiosity and Knowledge:** This trait is an enabler of good discussions, that are stimulating. The variety of topics, interest and the quality of arguments are all driven by an acute and alive intellect. The love of learning and teaching enables great interactions that are by design memory building for friends too. Again being more a capability than a virtue it is put forward by (Rath, 2006) and the MBTI descriptors.

Virtue and Good Character:** For (Aristotle, 1926), (Cicero, 1923) and less so but even still our contemporary followers (Alberoni, 2016) and (Nehamas, 2016) this is one of the key aspects of friendship, as virtue begets friendship and friendship begets virtue. Among the sociologists only (Jeffrey A. Hall, 2012) in his study demonstrates the centrality of good character to the nature of friendship to a significant degree. It is this divergence that is interesting to observe, as whether our view of friendship has changed so much that thoughts on virtue are simply nowadays anachronistic, or whether sociologists have missed out on investigating the centrality of good character to a healthy friendship.

6. The Relationship Attitudes

The Relationship attitude carry about 45 pc weight, with the cluster centers lying between 39 and 48. This is where the weight lies, the meat of the friendship.

Respect of Privacy:* The respect of privacy is a controversial item. (Alberoni, 2016) most of all, but also (C.S. Lewis, 1960), (Millington, 2019) and (Degges-White and Borzumato-Gainey, 2011) stress its importance. (Aristotle, 1926) (Cicero, 1923), (Rath, 2006) and Bible advise against it, citing the importance of direct and unfiltered living together as a clear and necessary foundation of true friendship. (Aristotle, 1926) goes so far to claim that the absence of desire to live together is a sign of lower class (utility) friendship, and it is most curious that whilst almost everyone writing about friendship comfortably and extensively quotes Aristotle, but ignores this aspect.
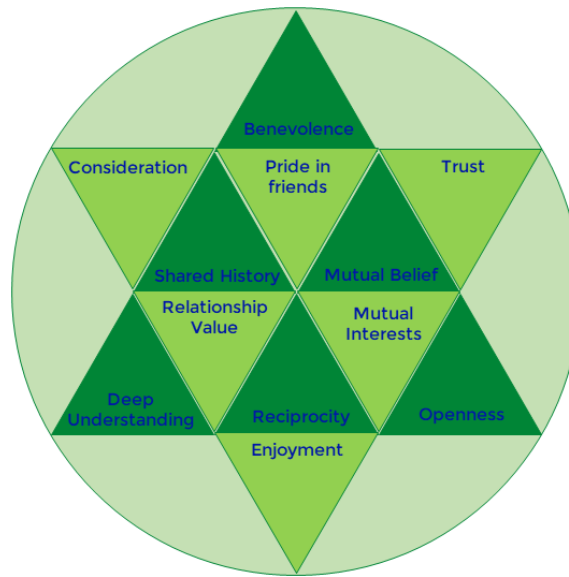
FIGURE 5. Friendship Attitudes

Benevolence, Wanting Success and Wellbeing:** Wishing your friend well and being interested in their wellbeing is the defining element of friendship. This is the classical precondition of friendship. Championed by (Aristotle, 1926), it is likewise seconded by (Alberoni, 2016) and (Nehamas, 2016) as well as Christian writings like (Cuddeback, 2010).

Consideration and prioritisation of friends needs:** This is taking your friends needs into account, potentially taking one for the team. Not chatting to that pretty girl or handsome boy because you know your friend has a crush on him/her, recommending a friend for a job even though you might have liked it yourself, going to the cinema even though you might have preferred the theatre etc., or actively coming to your friends help at financial, emotional or time cost to yourself. (Aristotle, 1926), (Cicero, 1923) and christian writings emphasise beneficence as core friendship attitude (approx. 5pc), but likewise to lesser degree (Degges-White and Borzumato-Gainey, 2011), (Alberoni, 2016), (Nehamas, 2016), (Greif, 2008) all support it. (C.S. Lewis, 1960) makes however the point that while you do it, you at best consider it a nuisance that is distracting from the core of friendship.

Pride in your friends, affirmation and approval:** Pride in your friends gives them confidence. It is affirming them, openly stating towards them that you approve of their character and are proud to be their friend. (Alberoni, 2016), (Nehamas, 2016) and (C.S. Lewis, 1960) all emphasise this attitude as central to friendship.

Trust and Confidentiality:** Keeping secret or confidential stories or items just that - confidential. This is a virtue mostly valued among contemporary common friendships, much studied and evidenced by the sociologists.

Common Memory and History shared:*** This is the hoard of history, joined stories and experiences that both of you treasure and value. Nostalgia is a proven happiness drug in particular in old age. (Matthews, 1983) in her study of elderly women allocates 12pc to this, likewise (Nehamas, 2016) keeps reiterating common memories as a key friendship theme. Across the dataset it captures 5pc of all mentionings, showing its predominance in importance.

Mutual Belief and Cultural Background:** Having the same beliefs or cultural background offers a common ground from which to build trust and closeness. As this is a character connection trait, it is no surprising that this is mostly emphasised again by the philosophers Aristotle, Cicero, Alberoni and Lewis, but also strongly picked up upon by Adams and Blieszner in their research programme.

Loyalty:*** This is about really appreciating the relationship that has built up, and not giving in if the going gets tough. It includes the act of forgiveness in order to salvage it in crisis (rather than general propensity to forgive, which is more a character strength). This is again at the core of friendship, seeing the friendship as a value by itself and consistently scores 3-5 pc across the board of philosophical, psychological and religious sources.

Mutual Interest:**Mutual interest binding together friends also is a classic theme. Interests and life goals, fascination for sports, political or social causes (with the actual intent to do something about it), all leading to a range of joined activities. It is strongest for (C.S. Lewis, 1960) with his male common passion and interest oriented focus, but also acknowledged by Adams and Blieszner and (Greif, 2008). Fitting the stereotype, (Nelson, 2016) does hardly mention it at all, as is the case for religious writings.

Mutual Understanding:*** This is the capability of understanding the other and the feeling of being understood on a deep level. It enables the state of quality time, that (Chapman, 2009) writes about in quality time. Note that this is not just emotional understanding, but also context or factual understanding, such as two professionals being able to talk shop and understanding what the other person is saying, the ability to be at ease to say what you want both emotional as well as factual in the knowledge that the other person will understand you. It features strongest in (Rath, 2006) and Birch, as well as (Shumway, 2018) and (C.S. Lewis, 1960).

Feeling Needed and Reciprocity:** A friendship being one of equals is a recurring theme in literature, and this means that both friends are both giving and receiving, though there might be differences in timing and kind. But imbalanced relationships usually end up breeding resentment over time. It is important to note that not always the takers are the problem. Human nature has long bred in reciprocity, and being in a relationship where effectively you cannot meaningful contribute is deeply dissatisfactory. In such a scenario the receiver and incapable giver will over time distance her/himself to restore balance, unless a meaningful way is found how he can return favour and express his benevolence by active beneficence. Particular in old age this is a key factor, as elder people appreciate the care or favours bestowed upon them, but get frustrated as they feel incapable of doing anything that genuinely benefits younger friends and family. This factor is strong and features across the board, with (Aristotle, 1926), Blieszner and Adams, (Degges-White and Borzumato-Gainey, 2011), (Nelson, 2016) and (Pahl, 2000) devorting 5+pc to it.

Openness and Vulnerability:**This is another one of the key enablers, as friendship is an authentic relationship from person to person, thus requiring friends to be open with each other. Again, in particular in male friendships, this attitude will only grow in time in tandem with trust. Again, sociological literature and popular literature identifies this - contrary to the philosophers and utility focused group - as a key driver of friendship, its key proponents being (Nelson, 2016), (Shumway, 2018) and (Degges-White and Borzumato-Gainey, 2011). On the other end of the spectrum the testimonials reported by (Greif, 2008) for the age group 60-90 report this as an undesirable feature for their friendships.

Love, Affection and directed Gratitude:** Whilst love and affection are usually mentioned in romantic love, great expressions have throughout the ages been used in classical nonromantic friendships both between men and women. Recognising the pure love and affection a friend holds for you is greatly affirming and friendship enhancing. With little surprise both Bible and Christian writings greatly emphasise this virtue. The sentiment however is echoed by (Shumway, 2018) and (Nelson, 2016) as well as Adams and Blieszner and (Matthews, 1983).

Enjoyment:*** Be it because of the fun and laughter, the positive energy, the interesting discussion or the warmth experience, a key theme is that friends again and again come together is because they experience thorough joy in their encounter making them want to continue meeting. Whilst (Aristotle, 1926) makes his preference for the virtuous friendship clear, he does however repeatedly come back to the point that many people maintain pleasurable relations which accrue great benefit to them, and indeed posits enjoyment or pleasure as a necessary but not sufficient condition even to the virtuous friendship. Both the sociological writers as well as the skill/utility writers likewise highly value enjoyment as a facilitator of friendship.

Independence:* (C.S. Lewis, 1960) and (Alberoni, 2016), and to a lesser degree (Millington, 2019) stress the nature of friendship as being an independent rather than dependent relationship, free of choice and freely absolvable if key parameters such as interest or character change. Others disagree, such as (Rath, 2006). My hunch is also that specifically (C.S. Lewis, 1960) position is inconsistent, given his great value of what is lost upon the death of a friend, and the dissolution of a friendship has a similar effect, as common memories and future options to enjoy times together are effectively invalidated.

Equality: Equality in rank and financial resources initially was a subcategory of reciprocity, however on second reading of in particular the philosophers it became clear that at its core is a different issue. The statement that is made is that friendship is only possible between people of equal social status, because only thus can one not gain socially from the other by the friendship, but is in it only for its sentimental value [4]. Thus equality really means that both do not depend on each other for any commercial or other utilitarian benefit, potentially giving one person power over the other (Alberoni, 2016).

No Privacy: Whilst respect of privacy in modernity has become an issue, traditionally this was not the case. Aristotle insists that good friends want to live together, and likewise in old age there are a number of elderly who do wish to get much closer with their friends, prizing situations when they are even living together, see e.g. (Matthews, 1983).

Difference in background: Where joined and mutually agreeable activities are seen as the key of friendship, often the easier relationship recommends similarity in background. There are however opinions that recommend the opposite, as only different friends can suitably act as mirrors to oneself for self discovery and the challenging of ones own thinking (see (Alberoni, 2016) and (Nehamas, 2016)).

Making friendship a priority:*** Making Friendship a priority is a clear key virtue among a broad spectrum of modern writers and a number of writers such as (Matthews, 1983), various Guardian columns as well as (Nelson, 2016) and (Millington, 2019) keep reverting to this issue in their books. It goes beyond loyalty or reliability, but confers upon the other party a sense of value, that they matter. Put differently, saying to your friend that 'you are busy' is the exact opposite of this

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[4]e.g. (Kale, 2 11)

attitude, implying that just about any and every other activity is more important than making time for your friend. [5]

7. THE ACTIVITY HABITS

The activity habits likewise carry about 25 of weight just as personality. Contrary to the stereotype that men's friendships are all about doing and women's friendships are all about listening and feeling, the actual activities are secondary to the fact that they are happening and what comes out of it.
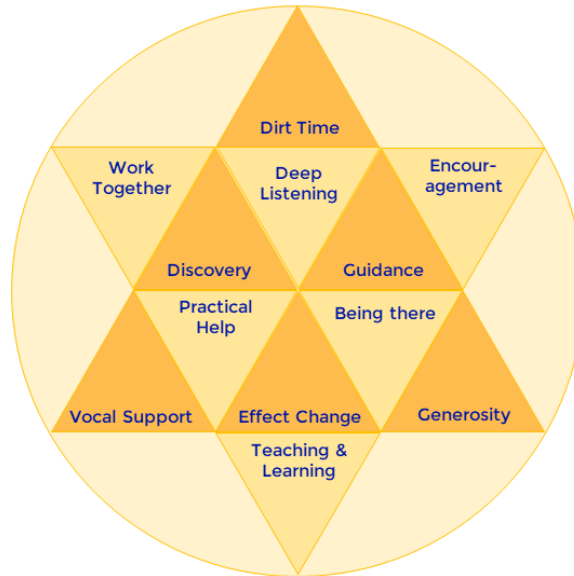

FIGURE 6. Activity Habits

Dirt time and Hanging Out:*** This is the pure spending time in each others company. It doesn't so much matter what you do, or how you do it, but that you spend the time together and thus build up a greater familiarity. Playing cards, taking walks, anything really as long as you are in each others company. With 4.5pc overall this is uniformly identified as a key driver. The statement 'quality time is no substitute for quantity time' arguably also holds true for friendship. Interestingly enough both (Adams and Blieszner, 1989) and (Matthews, 1983) score significantly higher, pointing to an increase of matter for old age friends.

Work together or pursue common goal or interest:** Here the unifying element is the common goal or task. This builds acquaintance as you learn to appreciate the others approaches, energy, thinking. There is also a companionship element and bonding, as you work towards the goal. Some writers on friendship define this as the core element of 'male friendship'. Thus it is not a surprise that (C.S. Lewis, 1960) and (Greif, 2008) put much focus here, but also (Adams and Blieszner, 1989) and (Matthews, 1983) give credence to it, pointing to the need to stay productive in old age with ones friends.

Deep Listening and Allowing Expression of Self:** This is the activity of one side opening up and the other one being deeply attentive in order to enable it. Depending on the needs of the situation this can be one-sided (in a crisis) or interactive (general sharing encounter), and over time builds a deep understanding

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[5]Compare: https://www.psychologytoday.com/us/blog/the-art-closeness/201510/is-the-one-word-can-kill-friendship

towards each other. Some writers on friendship define this as the core element of 'female friendship'. Naturally (Nelson, 2016) and (Degges-White and Borzumato-Gainey, 2011) extol its importance, but it consistently ranges in the 2.5 to 4pc region across the board and thus a universally agreed friendship virtue.

Encouragement and Challenge:* This is about our friends seeing the best in us but holding us accountable to achieve it. This is both stick and carrot, cajoling our friends to push towards their goals, and challenge them whether they are doing enough, as well as helping them to keep up the spirit in difficult situations. This is very split issue, with the self help and sociologist group spending hardly any focus on it (0-1pc), whilst the utility focus group emphasising it to great deal (5-10pc).

Exploration and Discovery:* This is the joined activity of exploring - both physically out into the world, museums and new places, as well as mentally to new topics, theories and experiences, satisfying our mutual curiosity. A key focus for (Alberoni, 2016), (Rath, 2006) and the MBTI group, hardly on the radar for anyone else. It seems also more typical of male friendships.

Guidance and Giving Direction:* Helping a friend make sense of a situation, talking through the pros and cons, asking questions that helps him/her structure and get perspective as well as using our own experience and insight to support the decision process is helpful and meaningful for our friends wellbeing. (Cicero, 1923) and the Bible see one of the main functions of friendship as providing support with character enhancement, and likewise (Rath, 2006) and the Youtube advisory for the young crowd see its value, however hardly featuring with the sociologist group (less than 1pc).

Practical Help:* This activity is the classical baby sitting or helping out with homework. Meeting our friends practical need by our investment of time and effort to their benefit. Knowing you repeatedly are there to support and get your hands dirty is a powerful display of valuation and appreciation. (Chapman, 2009) puts Acts of Service as one of his key love languages, and thus it is no surprise that this theme commands widespread support around 2.5pc (with a few exceptions).

Being there and Spending time to help you in difficult times:** This activity is being there when your friend needs you, be it at the funeral of another person, for venting after a romantic breakup or coming to the hospital. No advice, no practical help, no deep listening, just being there and showing you have your friends back. This activity is likewise uncontroversially endorsed by all, with (Delaney and Madigan, 2017), (Greif, 2008) leading. The quiet being there possibly also resonates more with men than the more listening and sharing approach of women.

Vocal Support: Having your friends back vocally, affirming that you have his back even when they are being criticised by others or when the going gets tough, introducing them to other people in your network and commenting positively in their presence and absence. This item is much weaker than others, with main advocates being (Shumway, 2018) and (Rath, 2006), who denotes one of his key role of Champion-Cheerleader to this virtue.

Effect Change:* Effecting lasting change in your friends is one of the key themes in (Nehamas, 2016), dedicating 6.5pc of his focus on it. Similarly (C.S. Lewis, 1960) and (Cicero, 1923), lend it some support, but it is largely ignored by most others (less than 1pc).

Generosity and Making Gifts: Whilst in our over affluent society gifts are a little out of fashion, well placed and thoughtful gifts have historically been a key ritual and habit between people to build connection. Not by accident is this one of Chapman's key love languages and arguably a bit of a lost art. (Marcel Mauss, 1925) writes an entire treatise on the importance of gifts when humans establish

relationships. (Cicero, 1923) likewise has Laelius emphasise the generosity of Scipio towards his friends, and also the Bible acknowledges Jonathan giving to David his sword, bow and robe. Whilst still acknowledged by (Adams and Blieszner, 1989) and (Delaney and Madigan, 2017) it is largely ignored by most others.

Teaching and Learning: Both teaching and learning from each other is a deeply memory building experience as you invest in each others growth. It often occurs in tandem in working on a joined goal or passion, but also conveys caring. (Shumway, 2018) is the key proponent of this, emphasising the bonding and memory making experience that joint learning and teaching has. (Rath, 2006) likewise points to the important role of friends in our learning process.

Embedding and Circle bonding:* This is about embedding the pairwise friendship in a group, of three, four or five people, each of whom complementing each other, enhancing each others jokes, insights, listening and understanding capabilities and advice giving. So even if one person becomes quiet or stressed, the friendship is maintained in the embedding in the circle of friends. This is (C.S. Lewis, 1960) key issue, placing 10pc of weight on it. For him friendship is not the sociological dyad, but the convivial team of four, in whose company genuine friendship will be experienced. (Rath, 2006) likewise points out that having three friends at work is better than one, and also (Nelson, 2016) and (Shumway, 2018) emphasise the importance of being inclusive and inviting other people into your circle of friends.

Communion and Hospitality:* In German we say - love goes through the stomach, and Aristotle likewise says that strangers need to eat salt together before they can become friends. Eating together, and indeed in ones home is a strong bond. Indeed it is a hallmark of Jesus and the disciples, as they recognise him through the breaking of bread, a theme followed up by Christian books and sermons such as (Lee, 1 01). In this context there is also the significance in the initiation, as Jesus frequently invites himself to someones house to initiate the friendship (a thought that would of course abhor freedom and independence advocates such as Alberoni). But also in contemporary times, (Nelson, 2016) and (Shumway, 2018) emphasise eating and drinking together for friendship bonding. (Dunbar, 2016) devoted an entire report to the importance of people sharing a drink. And the modern youth phenomenon of Couchsurfing, where people open their homes to travelling strangers in a bid for good conversation, companionship and in no few cases ultimately friendship is a further indicator, that this factor merits attention.

8. The Friendship Resources

As noted, resources - once given at a basic level - are generally at best peripheral to the functioning of friendships, mostly in total only meriting 3-6pc of emphasis. This changes for the young adolescents, valuing athletic capability and physical attractiveness, the middle aged, valuing spare time, and the elderly, valuing mobility, financial security and proximity. Other than proximity, no individual resource consistently has a score of higher than 1pc. But essentially, resources are only significant as they enable people to participate, be it in school or clubs via physical prowess and fitness, or be it in civic life of town clubs, church and neighbours by still being mobile and reasonably healthy.

Time: Time is the scarce currency for adults in their prime years, as (Nelson, 2016), (Shumway, 2018) and (Millington, 2019) note.

Material: A certain amount of a financial base enables certain friendship activities, thus a guest room enables people to stay over, a living room enables hosting for dinners, and with it comes a certain financial independence allowing for participating on a night out. Indeed there is some anecdotal evidence (Newspaper

FIGURE 7. Friendship Resources

articles) how lack of financial resources severely constrains friendship activities, see also (Matthews, 1983).

Money: Once basic viability is established, (Alberoni, 2016) points that larger imbalances in financial status will introduce inequality to a friendship, rendering it a liability. On the other end of the spectrum (Matthews, 1983) points out that beyond meeting basic needs, increased affluence increases the mobility and capability in particular of elderly people.

Network: Having a network is seen as useful (but not essential) both by (Aristotle, 1926) and (Rath, 2006) who attaches the role of Connector to the friend supporting his friends with his network.

Attractiveness: Attractiveness is hardly mentioned both by the philosophers and the Christian crowd, but studied by (Jeffrey A. Hall, 2012), (Blieszner and Adams, 1992) with a limited impact, mostly on the younger crowd.

Health and Fitness: This attribute is important both at the adolescent age, enabling participation in sporting activities and thus conferring status (Jeffrey A. Hall, 2012) as well as in older age conferring general mobility and thus participation in community events outside one's household (Matthews, 1983)

Content: Having things to say and thus being interesting is a core feature of friendship, according both to (Alberoni, 2016), (Delaney and Madigan, 2017) and the MBTI crowd.

Proximity:* This is the key resource, driving the possibility to spend time with each other. It is arguably the only resource or external property consistently acknowledged, both by (Aristotle, 1926) who proposes that friends should live together, as well as (Greif, 2008) and (Degges-White and Borzumato-Gainey, 2011). In old age, as (Matthews, 1983) points out, it becomes a key determining factor of feasibility of friendship.

The factor structure here is also heavily codependent, and it is not always easy to separate the issue. Essentially almost all resources except for Time and Content are essentially about one factor 'Enabling Participation'. Resources in itself for the establishment of friendship are essentially insignificant, as long as a minimum amount is met. However once this threshold is not met, they become prohibitive. Couples with small kids or investment bankers or consultants becoming so time scarce that there is simply no way to get out of the house to meet friends. People who lose their incomes and simply cannot go out with their friends to restaurants anymore, or live in really tight accomodation that they cannot host people coming

for dinner. Shy people coming to new places, and in the absence of 'any' network do not feel comfortable to join social events. Teenagers not conforming to physical norms (attractiveness, fitness = suitability for sports) ostracised in school or adolescence. Elderly people or long time unemployed or recently divorced who believe (often through no fault of anybody else) that they have nothing to say that anybody might be interested in and withdraw from society. Elderly who are vulnerable (specifically in current times of COVID19) and rendered stationary by disease or other health conditions. And finally people whose friends move away, or through a move inside a city or cuts in public transport suddenly find themselves transport-topologically further away from their friends, making activities of friendship maintenance expensive in time and money (see the London phenomenon, where people who self profess to be friends, but living in different suburbs go through months without managing to see each other despite a maximum distance of 5 miles as the bird flies).

9. The Friendship Needs

Figure 8. Needs

Categorising Needs as mentioned I did not want to exploratively generate this from the key word frequency analysis, but utilize a pre-existent studied and validated framework. On the back of the excellent summary of human development scales in (Alkire, 2002) and her given criteria on how to evaluate them, I tried out a few of them that were focused on psychological needs rather than the general measures of poverty and human development. The framework of (Max-Neef et al., 1992) provided the most natural fit. Natural here I mean the degree to which common sense and intuition provided a natural fit when trying to map the correspondence of friendship key words to the need categories. Intuitively I found the categorization almost like a perfect descriptions of 'love languages for friendship'(in exactly the same sense that (Chapman, 2009) writes about love languages for romantic couples - the frequencies on which signals of love are both sent and received, if the partner is open for reception).

Subsistence: Apart from physical health this includes mental health, humour and sustainable living. It is in my view what (C.S. Lewis, 1960) would classify as a strict 'Needlove'.

Protection: This encompasses caring for other people, helping and protecting them. This in a way is a strict 'Giftlove', and thus naturally paired with Subsistence.

Affection: Affection includes emotional caring for other people, sharing and listening to emotions and thoughts, building relationships etc. Like all the other needs this is both a gift and need love. This need is mostly emphasised within the sociological group.

Understanding: This is the brain oriented expansion need, thinking, investigating, exploring and analysing. This is probably not a universal need, but much emphasised among the philosopher group.

Participation: This is our need of connection to the wider community and society. The herd instinct, the need to belong, and to cooperate with other people.

Leisure: This is the need to destress, to relax in each others company, to play, fantasise, laugh and indulge in nostalgia.

Creation: The need of creation, to leave a legacy, to work together. Doing is in a way at the heart of 'male' friendship, and characterising many great friendships such as Marx and Engels, Cicero and Atticus, chinese artists and western musicians collaborating to create works of literature, art or music.

Identity: Building a positive story about oneself, a sense of identity and self worth is a key human need. Friends are core in this discovery process and can support this need probably better than family or wider society on the back of the trust and mutual understanding slowly built within the relationship.

Freedom: The sense of liberty, independence, openmindedness and separation from others is innate in many of us, though probably the most fraught with cultural differences from all the other needs above.

The exercise proved its utility in demonstrating, how different the various authors imagine which needs are at a core of being met by friendship. It should be noticed of course that this concept of 'friendship satisfying a need' or 'friendship being a need to be satisfied' is strongly debated in (Alberoni, 2016), though enough evidence to the contrary is provided by evolutionary biology and general psychological research, and its tradition ranges to Aristotle (Humans are social animals) and arguably the earliest part of the Bible (it is not good for man to be alone ...).

But being specific here will help in identifying, what need or love gaps people have when they complain about being lonely. This holds true for all ages, but specifically is necessary when trying to devise intervention programmes or policy for the elderly.

Why is this 'gift-need love' dimensionality important? For an illustrative example I will turn to the popular test for loneliness developed by (Hawthorne, 2006) Friendship Scale with six items '(1) It has been easy to relate to others, (2) I felt isolated from other people, (3) I had someone to share my feelings with (4) I found it easy to get in touch with others when I needed to& Others felt they had to help me, (5) When with other people I felt separate from them, (6) I felt alone and friendless.' It is a great scale however it mostly serves the purpose of answering 'is a person X lonely' or 'how lonely does a person X feel'. It does not answer the question 'why or in what way does a person feel lonely'.

One thus might devise a different loneliness scale dependent on whether the individual friendship or connection needs are being met. As an example (1) There is 'someone' who supports me in my day to day life. (2) There is 'someone' I can take care of and support. (3) There is 'someone' with whom I exchange regularly signs of affection. (4) There is 'someone' who understands my thoughts and with whom I can discuss politics, daily news or other interests. (5) There is 'someone' with whom I can together participate in civic life, be it church, association, local events etc. (6) There is 'someone' with whom I can relax, play games, laugh and indulge in nostalgia. (7) There is 'someone' with whom I can engage creatively, write, paint, make music and generally make stuff. (8) There is 'someone' who helps me discover myself, with whom I can discuss personal issues and my personal growth. (9) (difficult) There is someone who does (1)-(8), but respects my privacy and independence, with whom I do not have to conform to societal norms, who disconnects me from the daily world.

It is a hypothesis that behind all the items (1)-(6) of the Hawthorne scale or similar scales are one or more items from the FS needs group driving this perceived lack in connection relative to a state of satisfied need. By identifying the strengths

of needs for groups of population (e.g. academic widowed women in care homes who might have a need for intellectual stimulation or men in early retirement who just want a friendly fellow to head to the pub with and engage in work nostalgia) and how they contribute to feelings of loneliness we can develop targeted policy to mitigate this felt lack in connection.

10. Comparing Works about Friendship

Given these normalised vectors, one can now even produce a correlation matrix to see how close overall - or by categories - the different authors are to each other in their characterisations of friendship. Similarly correlations can be calculated for the needs that friendship is implied to satisfy within their description. The individual correlations are not at the core at this point, of much larger interest is the fact that even within class, such as the class of philosophers, or authors tailoring to and analysing a young audience, significant differences remain. Furthermore the correlations of Nelson, Greif, Degges-White and Millington with the Total are arguably a bit overestimated, as they have the largest number of tags. On visual inspection, five groups emerge, again hardly surprising. A virtue and character oriented group of philosophers, the classical sociological scholar and self help group, the religious focus group, the utilitarian exchange focused group, and an energy activity oriented young group.

Another takeaway, that could theoretically also be due to my coding and how I assigned the weights, but if verified could prove an interesting point, is that the personality drives 20-30pc of the variability, relationship attitude 30-50pc, the activities 20-30pc and resources overall just 3-5pc. Thus the focus on resources in some of sociological literature is most likely far beside the mark. The notable exception here is (Matthews, 1983) looking at old age and with good reason, as resources become only relevant once their absence (proximity by living far away or poor help preventing venturing out of the door) severely prohibits friendship interactions. In essence, once basic viability is established, a surplus of resources does nothing to friendship, and indeed an excess of resources might hinder it introducing inequality.

Note that a low score in a category does not (necessarily) imply disagreement, but more disregard. It just does not register as important to be written about, and it is this aspect that is intended to be measured - what is considered important and relevant, and what isn't.

10.1. **"Total".** is simply the average of all the keyword tags of the database. The percentages of emphasis are represented in Figure 3, and it represents the 'consensus' opinion if that can be claimed given the wide divergence on a number of topics. All following works are commented upon relative to the 'mean ideal friendship properties', with the first high emphasis items pointing to factors of 2 or higher, the latter ones still 1.5, whereas low emphasis items pointing to factors of 0.3 or below.

10.2. **Aristotle.** (Aristotle, 1926) is the first western philosopher who dedicated an entire book to friendship and a framework to think about it, after Plato's Lysis concluded rather inconclusive. The differentiation of utility, pleasure and virtue friends, the need to appreciate the friend for his sake in an almost Marxian sense, and the definition of reciprocally declared and acted out goodwill are all due to him, and many a book on friendship finds some way to go through these items. What is often however less appreciated and contrary to common thought, is his complete disregard for privacy. In essence he proposes for friends to live together, and indeed questions that in the absence of such longing friendship can exist. He is also critical of wealth differences, emphasising equality among friends. Finally while disencouraging friendships for the purpose of utility and pleasure, he describes

that friendship must encompass these elements, thus having pleasurable times and actively doing good to each other in proportion of owned resources (both physical and personal) must be elements of the friendship. The key needs addressed by friendship are subsistence and protection (Benefit to each other), participation (in civic life as the Greeks understood it) and identity (development of virtuous character).

10.3. **Cicero.** (Cicero, 1923) writes his text as a dialogue of Laelius, an accomplished general, speaking to two young family members on his deep friendship to the recently deceased Scipio Africanus. Key themes are the continual generosity of Scipio that he bestowed upon his close friends, and the virtuous character that the friendship was based on and fostered among each other, mostly flowing from Scipio to his friends. Thus friendship is of high benefit to the young who can befriend a virtuous elder (exactly the setting of the dialogue) who can guide them, admonish them, and help them grow in their identity as free citizen, it is thus very active moral development. Like Aristotle, Cicero emphasises the need to spend a lot of time together in a close setting, Laelius quoting the long military campaigns he shared with Scipio.

10.4. **Alberoni.** Alberoni wrote his treatise on Friendship in 1984, in English available via (Alberoni, 2016) as of 2016. Alberoni proposes a friendship of the highest degree of independence and respect of each others private affairs. Friendship is there to discover - mutual interest and the self. It is based out of affection, mutual knowledge of each other and approval and appreciation of the others person. The difference in character or background of a friend is for him more than anyone else a boon, helpful to challenge one's own thinking. Despite his extreme focus on independence and privacy, other characteristics, behavioural attitudes and activities however all find their space. The purpose of friendship is thus a mutual deep understanding in order to build one's character, with the friendship almost taking the role of the key ingredient available.

10.5. **Lewis.** C.S. Lewis, steeped in ancient literature both Graeco-Roman, Norsk and Christian, as well english literature in his section on Friendship in the four loves writes about his concept of what today would be called co-creation and co-enjoyment. For him friendship exists in the circle of friends that freely came together and is focused on a specific task, interest. Unlike the other libertarian, he however does not disavow duties to friends [6], but treats actual beneficence to support a friend as a mere distraction from the common creative and enjoyable interest. It is possibly this that is the most stereotypical 'man friendship' of two friends standing side by side looking at the object of mutual interest for as long as they are interested in it, but no longer. The key needs this friendship caters to are thus creation and freedom.

10.6. **Nehamas.** The Princeton philosopher Alexander Nehamas focuses on the long term effects friendships can have on each others characters, both positive and negative, and also benefitting from exposure to different thinking if befriending people of different backgrounds. Despite being a philosopher, concerns for privacy and independence hardly feature in his work in line with Aristotle and Cicero and out of step with Lewis and Alberoni, apart from that having a high congruence with the mainline friendship. Change however comes through discussion and general

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[6]Particular cases of distress among your own relatives, friends, neighbours and employees, which God, as it were, forces upon your notice, may demand much more: even to the crippling and endangering of your own position.

exposure, not guidance and inspiration. Nehamas concept of friendship addresses needs across the board reasonably balanced.

10.7. **Pahl.** Preparing his grand sociological study of friendship structures in Britain (Spencer and Pahl, 2006), (Pahl, 2000) is a short readable outlook on what his take on friendship is. It is a balanced mix between the virtuous-libertarian view of Alberoni and the sociological view on friends having a strong social influence on each other as well as requiring resources to pursue friendship activities.

10.8. **Degges-White.** The NIU professor of counseling and higher education focuses on female friendships, what role they play in women's lives and giving advice on how to improve them. It is rich in personal testimonials of female friendships. (Degges-White and Borzumato-Gainey, 2011, Chapter 3,p39) condenses the 40 rules of (Argyle and Henderson, 1984) into 10 key rules, losely mapped to the themes non-jealousy, confidentiality, practical help, openness, respect, positivity, understanding, pride about friends, acceptance, emotional support and respect of independence, items that all come out in the book again and again. In essence, it is the reference book on female friendship. [7] Whilst overall balanced, the key theme is participation by spending time in a circle of female friends that are also physically close.

10.9. **Greif.** The UMB Professor wrote the equivalent book of Degges White for men. The book is extremely balanced, with all aspects (except virtue) being somewhat touched upon in line with Total. It is based on a survey with 380 participants he performed with his graduate class. Quantitative measures resulting from it are highly aggregated, but the testimonies of male friendship are extremely powerful. Thus for the analysis I split his book three ways, 1st his general section, 2nd his section with the testimonials 20-50 and 3rd his section with the testimonials 60-90 and ex post was justified given the different emphases placed in all three. The general section emphasises proximity, mutual interest, loyalty and reliability, essentially the canon of men hanging out together. Analysing out the general adult testimonials topics such as financial and health constraints are addressed, as well as the important of social agreeableness and the need to expose oneself to friends of different backgrounds. For older adults the constraint of health becomes overarching, with partial impacts also by material constraints as well as the need to rebuild the network. Having a good time with friends especially over food and drink is the main purpose, but also here it is documented that elderly people both wish to become closer to another not being lonely and yet insist on their privacy.

10.10. **Shumway.** Friendship Formula No1 is written by a psychotherapist based on personal experience [8] with a view to help (young) people be better friends. It is full of practical advice employing different metaphors to make the topic accessible and intuitive as much as possible. The key focus of this book lies on factual teaching and learning together with a mutually humble attitude, and spending time with each other in this process, preferably over food and drink. Standing up for your friends, being emotionally available reciprocally sharing and listening is also key in this book incorporating a key lesson of 'female friendship' into the playbook. The needs catered to are balanced overall with a focus on showing affection and care for each other as well as trying together to understand each other and the world.

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[7] I split off (Degges-White and Borzumato-Gainey, 2011, Chapter 10) on friendship in older age as a separate item to cluster with other older age literature. Likewise for other chapters splits may be in order.

[8] Young psychotherapist writing for a general non-academic audience rather than old achieved psychotherapist academic writing his magnum opus for posterity

10.11. **Millington.** Friendship Formula No2 is written by a general journalist and loosely put catering to a 30ies female cosmopolitan audience. Despite lightly written, it is extremely dense, full of advice and very practical. It is realistic in the sense that healthy finances essentially enable a lot of the friendship activities, as well as almost as fiercely protective of privacy and independence as Alberoni, emphasising the right to walk away from a friendship. Other aspects emphasised are fun, being proud and appreciative of your friends and making sure that sufficient time is made for joint and fun activities.

10.12. **Nelson.** (Nelson, 2016) and (Nelson, 2020) puts the key concept positivity, consistency and vulnerability at the key of her two books. Interestingly enough, these do register as key aspects, but in second place to other traits, which however drastically differ. (Nelson, 2016) emphasizes the having and giving time to friends, peace & patience as well as reciprocity and communion. The core need addressed here is affection. (Nelson, 2020) with its professional focus is much more balanced, emphasising peoples behaviour at work, and thus traits such as general kindness as well as being appreciative of each others positive achievements and aspects both towards as well as about each other.

10.13. **The Bible.** For all the times I heard in sunday sermons that the bible is all about friendship, scouring the Bible for statements specifically on (human) friendship you have slim pickings. Jonathan and David, Ruth and Naomi and a few other examples in the old testament provide some input, as do proverbs. Much more illustrative is the New Testament, as when Jesus is not preaching to people, healing them or driving them from temples, he is essentially sitting around with his disciples, teaching them and showing them his affection and eating with them (apparently mostly broiled fish), slowly building a trusting circle of close friends over a course of three years. And when his darkest hour approaches, he specifically requests two of them to stay and wake with him, a most commendable counterexample of male vulnerability in friendship. The core friendship virtue here is also peace and patience, as also picked up upon by (Lee and Lee, 2009). Furthermore as (C.S. Lewis, 1960) and (C.S. Lewis, 1952) and various sermons point out, the Christian canon of virtues such as hospitality, hope, affection, consideration, acceptance and non-judgement, humility and peace make excellent characteristics to bring into a friendship. The texts are thus split into one category of specific scripture describing friendship behaviour (the Bible) as well as interpretative texts (aka sermons) about friendship drawing on scripture (Christianity).[9] The key need addressed is that of mutual taking care of each other, i.e. Subsistence & Protection and Affection.

10.14. **Miller.** (J. R. Miller, 1897) in the friendships of Jesus casts the relationship of Jesus to his disciples as a friendship. For all the well-meaning of exalting the term 'Friendship' essentially however it is instructive to contrast it with C.S. Lewis Four Loves to notice that he essentially characterises a pure gift love, thus relabeling the relationship of Jesus to his disciples (and by extensions all Christians) but thus rendering the original traditional meaning obsolete. Indeed many observations of C.S. Lewis and Miller are parallel, but C.S. Lewis classifies them with the other loves, and keeps friendship a pure peer-to-peer relationship of humans with humans, choosing to keep the classical meaning of the word friendship intact. Yet given some of the virtues and habits extold it is in a way a text about friendship, albeit from a very peculiar standpoint. The key virtues of loyalty, standing by your friend,

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[9]Future versions might also incorporate Jewish as well as Islamic texts on friendship, but without guidance from a good scholarly authority on cultural and historical context I did not feel comfortable to analogously identify, select and code suitable and representative sources.

benevolence and trust are consistent with the expectations of friendship in the old testament, and friendship is characterised as primarily a relationship of affection.

10.15. **Olyan.** (Olyan, 2017) carefully analyses the role of friendship in the Hebrew Bible - Old Testament. Linguistically dissecting the termini technici he shows the care that need to be taken to translate and subsequently interpret bible passages in our time. Many passages referring to 'friendship behaviour' are shown to be much more statements of political allies bound by covenants or treaties, and expected to stay loyal to them, usually overriding the strong emotional image we today infer from Davids lament. Thus there are clear obligations of actions, and being friends means simply honouring the contract and thus being loyal to the friend by standing by him in crisis and supporting him. The alternate view is that of inclusion in the extended family, and the strong resulting social obligation in lieu of this. Interesting here is the key characterisation of the good friend 'clinging to' his friend, implying physical proximity, intimacy, loyalty and a lot of time spent together. The key need addressed is that of Subsistence and Protection, consistent with the needs of living in a harsh and unforgiving environment and society.

10.16. **Cuddeback.** (Cuddeback, 2010) styles his book as a Christian themed further development of Aristotle. He is uncompromising in his stance that only the virtuous[10] is capable of true friendship, thus moving well beyond both the Aristotelian tradition [11] and other Christian writers such as C.S. Lewis [12]. Furthermore hardly any mention is given of the classical Christian virtues of Hospitality, Affection and Peace. All is subjected to the joint pursue of virtue, influencing each other for better or worse on the path towards it or leading each other astray if not focused. The key needs friendship addresses in this context is that of joint development of understanding and identity.

10.17. **Rath.** Based on a series of interviews conducted by the Gallup Group (Rath, 2006) focused on finding key roles for the core friends we have or need in our lives, ending up with the 8 roles Builder, Champion, Collaborator, Companion, Connector, Energizer, Mind Opener, Navigator. Despite seeming both to the philosopher and the sociologist a superficial and commercially or utilitarian minded book, its importance cannot be understated. The key message is that there is no such thing as the universal best or close friend, and asking for it in a survey or debating its role in a philosophical context will fail because essentially it is the wrong question. It postulates that a friend will always naturally be important in one or two ways to a person, and that the roles that two friends have towards each other thus define the nature of the friendship. Despite different writing styles and audience there is a certain similarity to the (Chapman, 2009) concept for romantic couples or family relationships. The key needs addressed are understanding each other and doing things together (Creation).

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[10]Almost merging the classical greek virtue definition with Christian holiness in the process, given a strong emphasis on christian chastity as yardstick for virtue: 'But there must he a bottom limit, below which there is no real capability for true friendship. I would put it this way: The minimum requirement for being capable of true friendship is that a person is dedicated to the pursuit of virtue or holiness, making it the focus of life.

[11]Aristotle despite emphasising virtuous nature still emphasised the need for pleasure and mutual utility even within the virtuous friendship

[12](C.S. Lewis, 1952) in 'Mere Christianity': 'The Christians are right: it is Pride which has been the chief cause of misery in every nation and every family since the world began. Other vices may sometimes bring people together: you may find good fellowship and jokes and friendliness among drunken people or unchaste people. But Pride always means emnity-it is enmity.'

10.18. **Hall.** The KU professor (Jeffrey A. Hall, 2012) did a study on friendship factors in 2012, building on the most preeminent friendship characteristic studies to date. Study 1 measured the strength of factors as used priorly, Study 2 surveyed 400 undergrad communications students to calibrate the measurements of the friendship dimensions of study 2. However, like most sociological studies, the target was to highly reduce this to abstract general factors. Whilst the method generated great material, mapping the outcome shows the partiality of sociological research utilizing this demographic group. As can be seen in figure 10, the friendship concept implied by this survey is completely unrelated to any (sic!) other source covered within this study.

10.19. **Adams, Blieszner and Matthews.** This category is a conglomerate of the tags generated by a number of publications both on adult and older age friendships, and I generally subsumed in line with their two main books (Adams and Blieszner, 1989) for the Older age literature and (Blieszner and Adams, 1992) for the general adult literature. Included in coding are also (Blieszner and Ogletree, 2017), (Blieszner et al., 2019), (Rosemary Blieszner, 1989), (Blieszner, 1995) and (Adams and Torr, 1998). Given their sociological background, it comes to no surprise that the key topic studied are the impact of resources on the friendship, similarity of backgrounds as well as in particular the affective processes typical for female friendships, as well as attractiveness and practical help for surveys of younger participants. More to the core friendship patterns, items such as reliability, reciprocity and openness likewise feature strongly in their studies. (Matthews, 1983) also was a long term coauthor of them, likewise mostly studying women in old age with indepth interview based studies and emphasising the impact of financial, mobility and health constraints in old age.

10.20. **Other studies.** (Roberts-Griffin, 2011) in his data evaluated mostly variables relating to personality and relationship and widely ignoring the activities. Key focus is thus on fun, loyalty, trust, being there for each other as well as the cluster intelligence, mutual interest and content, however given the open question and free text nature of the original survey this data set could possibly be recoded to the full scope of the variables of this framework.

10.21. **Birch.** Birch, author of the popular self-help book 'the love gap' supporting women maneuvering their way to the preferred contemporary quarry, in her blog also touched upon the topic of friendship, and in particular how MBTI type of a friend impacts the friendship with that person. (Birch, 2018b), (Birch, 2018a) and (Birch, 2019) describes according to MBTI what strengths and weaknesses certain types have. Whilst the typology itself is most likely not backed by solid science, as a source of what is viewed as important to mention overall makes the listings into a valuable source for a relative valuation of friendship strengths, behaviours and activities, that can be sought for in friends. Thus personal energy, intelligence as well as the capacity to encourage, explore, give guidance and teach are emphasised. The friendship essentially caters to joint collaboration and self improvement. Being person focused, resources other than content and social connections are completely excluded from the scope.

10.22. **Other MBTI characterisations.** Similar to Birch, other relationship bloggers likewise published their own friendship typologies. (van Devender, 2020), (Cerri, 2019) and (Bennett2018, 2018) are currently included in here, again catering to a young and mostly female audience. Thus they emphasise fun, enjoyment,

attractiveness and loyalty, focusing on the relationship itself and its leisure value.

10.23. **Medium, Guardian and Youtube.** Both the online platform Medium as well as the British Guardian have channels for opinion pieces on aspects of friendships, drawing on a variety of different authors. The Guardian as a politicaly left publication to no surprise emphasises the need for equality, i.e. no difference in money or power between friends, as well as eating and drinking, and the need to spend time with each other, accept and bne kind to each other. Medium is more libertarian (respect of independence and privacy) as well as following a good relations canon, emphasising humility, peace and acceptance of each other. The sources on Youtube coded emphasise the dearth of time in our society and what it means for friendship, the need to eat and drink together to build friendships and interestingly a most emphasised desire for live-in intimacy and pulling down the walls of our society.

10.24. **Discussion.** The overview of the key sources again should show the wide divergence on some of the aspects and the fact that whilst a few themes (value of relationship, common memory building, spending dirt time together and enjoying it) are common across friendship literature, most aspects are widely divergent in emphasis and possibly even sign of direction (need for resources vs. adverse effect of money and status, desire for proximity and intimacy vs. need to respect freedom of choice and privacy, insistence on a virtuous character vs. acceptance of shortcomings, humble spending fun times and eating together vs. character development and pursuit of higher causes and sophisticated interests, setting apart in group against all odds vs. integration into community and polis). Even within clusters significant divergences occur. Time will tell whether the inclusion of further works such as novels or biographical treatments of friendships will add further aspects or tilt the balance.

11. Clustering

As currently only 30 sources are coded with 50+ variables classical methods of factor analysis or principal component analysis do not work well to extract information. What does generate results is the mining algorithm of K-Means, with both Euclidean and Manhattan Distance to account for weights of significant outliers. Some degree of Winsorization could also be applied for the same purpose. Applying K-Means with Euclidean Distance to the current dataset places CS Lewis into one cluster and Bible & Christian writings into another, and then distributing the other Authors into remaining three clusters, loosely described as one utilitarian (Rath, Birch and MBTI), another joined philosophical (Aristotle, Cicero, Alberoni, Cuddeback)and sociological (Millington, Hall) cluster, and another purely sociological portfolio (DeggesWhite, Shumway, Nelson, Adams and Blieszner). However these are not stable, indeed shifted between 6000 and 9000 key words and a future version will most likely generate slightly different groupings with then also adjusted centroids. As further sources get added in, and also subgroups such as texts specifically written to or about young or old, male or female people get added, analysing friendship preferences will become less sensitive to individual texts or observations.

A good method for illustrating the connections is that of graphing using dimension reduction techniques such as multidimensional scaling by (Mead, 1992). There are suitable R-packages available including, and the figures are generated with the general cmdscale functionality as well as the igraph package. 9 and 10 show connections between the key properties and the authors respectively. At the 9000 word mark these were reasonably robust to omissions of outliers and a general theme

is emerging on both counts. While the Author connections are in line with the k-means clustering, the clustering of the properties is quite illustrative and hints at the existence of a few key dimensions.

(1) **Common Time**: Dirt Time, Proximity, No Respect for Privacy, Common History and Memory, and interestingly also Reciprocity

(2) **Affection and Care**: Valuing the relationship, Loyalty, Admiration, Affirmation, Kindness and warmth, Hospitality and Communion, Love and Affection

(3) **The classical canon**: virtuous character, benevolence, beneficence, meeting each others needs, practical help

(4) **Good relationship practice**: Positivity, Humility, Reliability, Consistency, Openness, Vulnerability, Trust and Confidentiality, Enjoyment and Leisure, Fun and Humour

(5) **Collaboration and Understanding**: Work Together, Similar belief, Expression of self and deep listening

(6) **Improvement:** Exploration and Discovery, Encourage and Challenge, Guidance Direction, Intelligence and Curiosity, Resource Content

(7) **(Resources):** Money, Health, Mobility and Material base came off as a separate factor with minor weight or are classed with collaboration.

(8) **(Privacy):** Respect of Privacy, Independence within Friendship

In the appendix the various works are graphed on these dimensions. It can be seen that for some of these dimensions the natural clusters group togethers whereas on some they don't, more emphasising the diversity in friendship concepts rather than the existence of a common underlying concept.
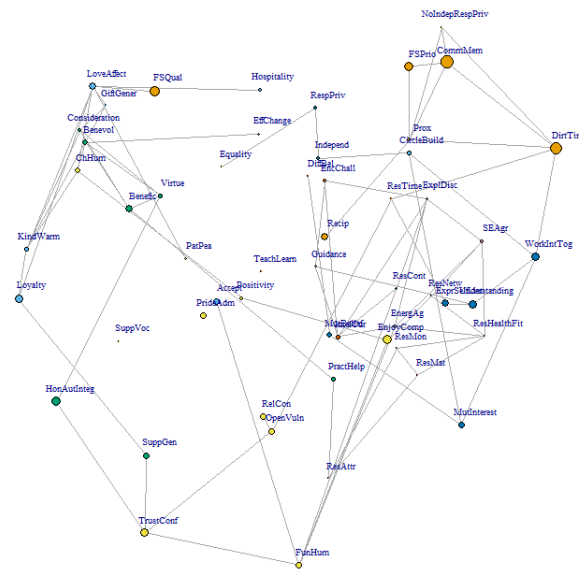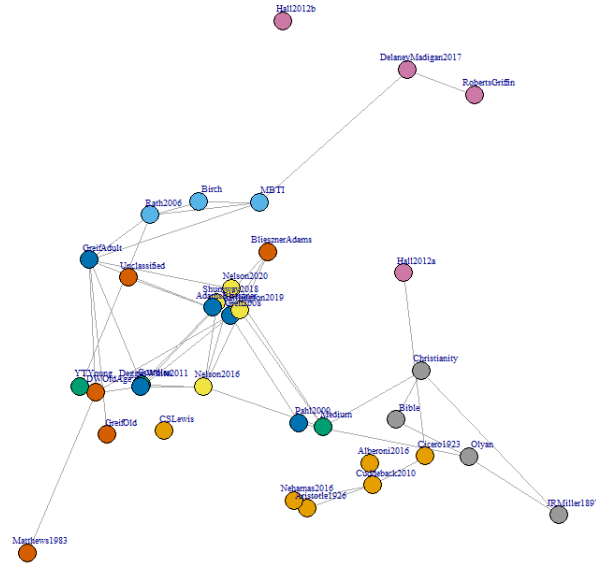

FIGURE 9. Property Connections

FIGURE 10. Author Connections

	Subs + Prot	Affection	Understanding	Participation	Leisure/Idleness	Creation	Identity	Freedom
Common Time	- 0.38	0.10	- 0.23	0.87	- 0.20	- 0.64	- 0.33	0.15
Affection / Care	- 0.02	0.50	- 0.13	- 0.15	0.01	- 0.04	- 0.02	- 0.16
Classics	0.61	- 0.26	- 0.04	- 0.50	- 0.33	- 0.13	0.68	- 0.08
Good Rel	0.19	0.49	- 0.16	- 0.51	0.42	0.26	0.13	- 0.57
Collaboration Understanding	- 0.43	- 0.32	0.13	0.25	- 0.08	0.39	- 0.37	0.65
Improvement	- 0.20	- 0.22	0.84	- 0.35	0.08	0.32	0.14	0.03
Resource	0.21	- 0.34	- 0.19	0.31	0.27	0.00	- 0.35	- 0.08

FIGURE 11. Correlations Factors and Needs

12. NEEDS AND FACTORS

Whilst some factors naturally correspond to some of the needs listed above, there is no 1-1 correspondence, as figure 11 shows, and thus conceptually it seems currently necessary to keep the friendship factors and the needs separate. The correlational graph however shows very clearly also the differences in emphasis that can occur, depending which friendship model and addressable need the author thinks is key. Furthermore a further reduction from the seven factors or the eight needs will come at a cost of goodness of fit.

13. FRIENDSHIP IN OLD AGE

This is now the part where this analysis moves from being theoretically interesting to potentially applicable and useful. Thinking about the idea on how to foster friendships in the third age in order to reduce loneliness, it is necessary to ask the question, what kind of friendships elderly would like to have, and what needs

need to be addressed. Utilizing the datasets provided by the coding of (Degges-White and Borzumato-Gainey, 2011, Ch10), (Greif, 2008, Ch11-14), (Matthews, 1983) and (Adams and Blieszner, 1989) we have a combined dataset of 734 tags of friendship in old age, and can in figure 12 calculate multiples relative to total dataset average displayed in figure 3. Starting with needs it becomes clear that old people are mostly concerned with participation, still being part of society. On the other hand they have lived their lives and do not need so much to refine their character and identity as the young ones. We can deduce that resources (in the classical sense) become much more important in old age than during earlier years. Financial constraints determine the capacity to participate in cultural activities, as does health. This all correlates with mobility (being able to go about to see people) as well as proximity (how far I need to go to see friends). The general goal is to spend a good and enjoyable time with each other, in a circle of agreeable people who can appreciate their history, ideally old friends with whom they can indulge in nostalgia. A curious fact is the insistence on respect of privacy as well as contrary to that the wish that people would less insist on privacy and be withdrawn (NIndRespPriv), but come out, open their houses, eat and live closer to each other. Finally there is a desire to enjoy mutual interests and hobbies together and be thus somewhat productive (WorkTogether).

Relative Multiples

Peace	0.3	Respect of Priv.	1.6	Dirt Time	1.6	Time	1.2	Subs&Prot	0.8
Positivity	0.6	Benevolence	0.7	Work Together	1.5	Material	5.7	Affection	1.1
Proactiveness	0.8	Consideration	0.9	Expression of Self	1.0	Money	3.0	Understanding	0.6
Humility	0.5	Pride	0.6	Encourage	0.3	Network	1.9	Participation	1.5
Agreeableness	2.2	Trust	0.4	Discovery	1.2	Attract.	0.0	Leisure	0.9
Fun	0.5	Shared History	1.5	Guidance	0.2	Health/Athl.	4.1	Creation	0.8
Energy	1.7	Mutual Belief	1.4	Pract. Help	1.1	Content	1.2	Identity	0.9
Honesty	0.4	Rel.ship Value	1.1	Being there	0.8	Proximity	2.2	Freedom	0.9
Reliability	0.6	Mut. Interest	1.3	Vocal Support	0.5	NoMonPowe	0.5	Total	1.0
Acceptance	0.8	Understanding	0.7	Effect Change	0.4				
Kindness	0.7	Reciprocity	1.3	Generosity	0.6			Common Time	1.4
Intelligence	0.8	Openness	0.3	Teach & Learn	0.8			Affection / Care	1.0
Virtue	0.3	Affection	1.0	Circle	1.6			Classics	0.5
		Enjoyment	0.9	Communion	1.1			Good Rel	1.0
		Independence	1.1					CollUnd	1.1
		NindRespPriv	2.6					Improvement	0.4
		DiffBG	1.4					Resource	1.6
		FS Priority	1.3					Total	1.0
		FS Quality	1.0						
Total	0.7	Total	1.0	Total	1.1	Total	2.4	Total	

FIGURE 12. Friendship in Old Age

14. FURTHER RESEARCH

As the main thrust of this venture is to identify how friendships can be strengthened in midlife so that in later life loneliness is reduced, this theoretical construct needs to be validated. It is unlikely that truly common themes appear. Friendship is by its nature very individual, and friends as (Rath, 2006) noticed play different roles to each other. It would be thus great to validate and quantify what needs which groups of people have both in midlife and elder life, and then to see whether there can be interventions to gently nudge people as a whole to interact in meaningful ways that build the friendships towards each other tailored to these needs.

For me the major takeaway is the loss of information and depth, that attempts to reduce friendship to a two, three, four or six factor model and validate them with various survey and statistical methods incur. Friendship is a nuanced relationship, probably significantly more nuanced than romantic relationships, and needs to be treated as much. Characteristics or aspects that are crucial to one person could

be negligible to the next. Reducing friendship quality to a set of one to three questions on social support, emotional sharing, discussing personal items or joint activities as is common practice in public surveys is likewise falling short of many peoples diverse understanding of what friendship means to them. The need for such procedure in the context of large scale population surveys is of course self-evident, but for genuine research of the causes of loneliness the specific dimension in which people feel lonely (i.e. the friendship 'need') probably is a crucial ingredient of the analysis.

Before putting this to proper and practical use there is the question of how to validate the stability of the individual items further, and measure how each of the factors are influenced by age, gender, culture etc., and in turn impact friendship satisfaction. This will happen as more and more texts on friendship are worked through in the above described manner, as well as preparing a survey study to corroborate on a larger scale the relative significance that the literature above implied.

A lot of past sociological research while trying to identify general social mechanisms on the general concept of self disclosure or support did use very specific questions to measure disposition for it, see (Jeffrey A. Hall, 2012) for such a list. It thus should be possible to recode and thus utilize a lot of past research for integration into the variable set described above. Unfortunately open data policies only have become popular in the last five to three years, and it will be interesting how much data can genuinely be salvaged from past surveys and studies for this meta study. The rewards however can potentially be great, ideally generating insight on how to enhance and strengthen friendships on a character, gender, age or other trait configuration.

Furthermore - while romantic relationships or general family relationships are substantially and structurally different in structure than friendships, a survey could likewise be conducted on how family members score on these scales and importance, and in what aspects significant differences occur to friendships. This would also provide additional evidence to the debate of whether friendships and kinships are complementary, substitutable or to what degree they can and do overlap.

15. Conclusion

This is a reasonable framework to analytically categorize friendships and in particular friendship activities within the larger project 'Maintaining Friendships in Midlife'. It brings together philosophical, psychological, sociological and popular contemporary material, and thus shows agreements and contrarian points. Whilst it draws on a lot of survey- or data based material, it is not yet validated by a comprehensive survey. At the point of this writing (July 27, 2020) this document is just a proposition for discussion and testing to be developed over the course of 2020. At the time of this publication about 9000 key words are included, and texts for another ≈ 5000 key words are still to be covered. For actual publication it will be edited for brevity. Please feel free to contact me with suggestions and comments.

Appendix

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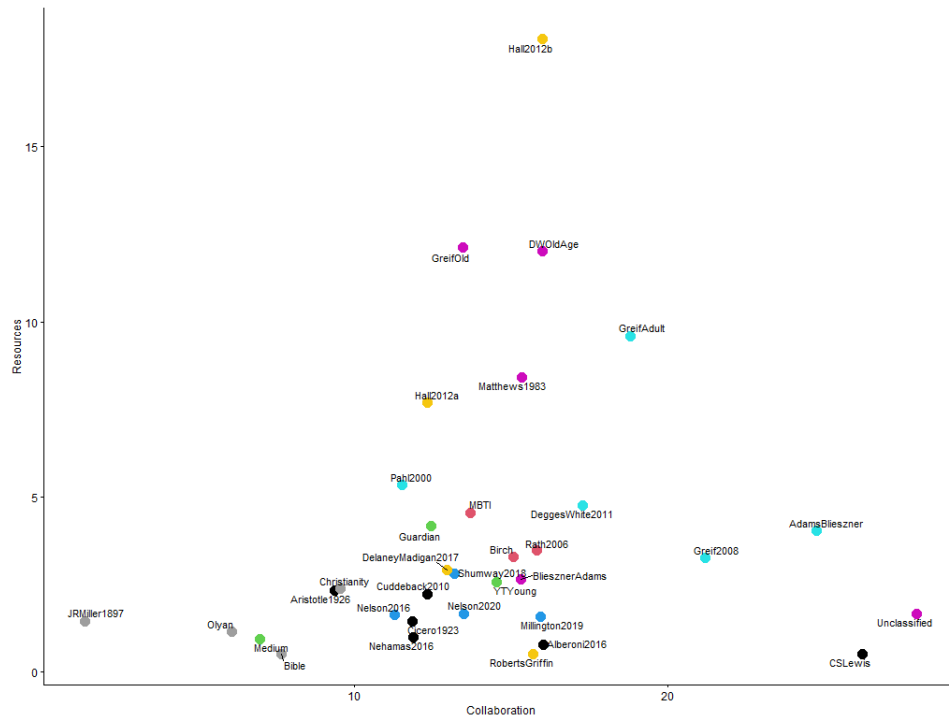Wiest, B. (2020-4-30). True friendship is never a performance. *Medium*.
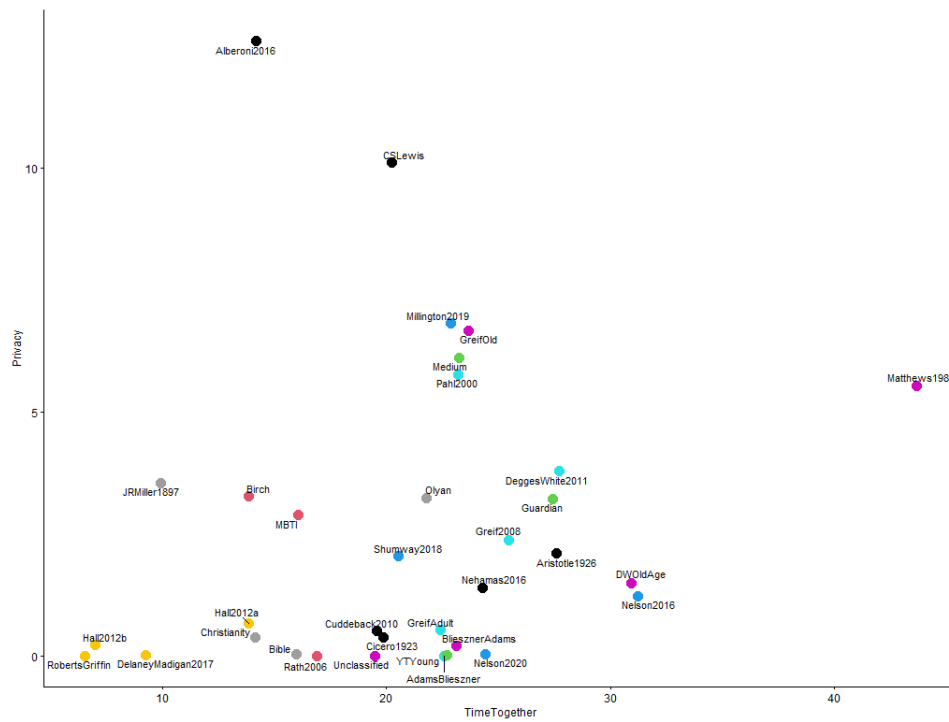
FIGURE 13. Affection v Good Relation

FIGURE 14. Classics v Improvement

FIGURE 15. Collaboration v Resources

FIGURE 16. Time Together v Privacy

	Max1	Max2	Max3	Max4	Max5	Max1	Max2	Max3	Max4	Max5	Min1	Min2	Min3	Min1	Min2	Min3
Total	None	None	None	None	None	1.00	1.00	1.00	1.00	1.00	None	None	None	1.00	1.00	1.00
Aristotle1926	Benevolence	Virtue	Hon Aut Integ	Mut. Belief	Proximity	3.88	3.50	2.54	2.30	2.04	Res. Time	Material Base	Res. Attract	0.03	0.00	0.03
Cicero1923	Virtue	Consideration	Equality	Guidance	Mut. Belief	4.48	3.70	2.91	2.20	1.91	Diff. Bel.	Res. Time	Res. Time	0.02	0.02	0.08
Alberoni2016	Independ.	Resp. Priv.	Loyalty	Expl. Disc.	Hon Aut Integ	4.26	4.15	2.21	2.21	1.96	Material Base	Res. Attract	Res. Time	0.00	0.04	0.11
Nehamas2016	Effect Change	Benevolence	Benevolence	Consideration	Quality of FS	6.34	2.32	1.80	1.72	1.68	Material Base	Agreeableness	Res. Time	0.01	0.02	0.02
Cuddeback2010	Effect Change	Virtue	Mut. Interest	Hon Aut Integ	Enc. Chall.	5.92	3.84	3.80	1.78	1.72	Resp. Priv.	Equality	Diff. Bel.	0.00	0.02	0.00
CSLewis	Circle Building	Independ.	Res. Content	Work Tog.	Mut. Belief	6.00	5.31	3.17	2.38	2.03	Energy Agency	Guidance	No Indep. Resp. Priv	0.04	0.04	0.14
Guardian	Equality	Hospitality	Hospitality	Accept	Kind. Warm	3.30	2.40	1.96	1.90	1.75	Res. Time	Res. Atttract	Support Voc.	0.00	0.00	0.08
Shumway2018	Teach & Learn	Open. Vuln.	Open. Vuln.	Humility	Pat Pea	4.24	2.13	2.03	2.02	1.71	Diff. Bel.	Res. Attract	Equality	0.00	0.00	0.00
Nelson2016	Pat Pea	Res. Time	Rel. Con.	Rel. Con.	Recip.	3.04	2.63	2.28	1.97	1.94	Equality	Diff. Bel.	Material Base	0.00	0.12	0.17
Greif2008	Proximity	Work Tog.	Res. Network	Mut. Interest	Pract. Help	2.26	2.02	1.83	1.73	1.73	Diff. Bel.	Res. Network	Equality	0.00	0.00	0.14
DeggesWhite2011	Proximity	Circle Building	Pride Admir.	Mut. Belief	Open. Vuln.	3.07	2.32	2.12	2.07	1.96	Material Base	Teach & Learn	Res. Time	0.00	0.00	0.10
Millington2019	Independ.	Fun Humour	Proximity	Pat Pea	Priority of FS	3.09	1.99	1.66	1.64	1.41	Material Base	Res. Attract	Diff. Bel.	0.00	0.00	0.00
DWOldAge	Material Base	Res. Health Fit	Comm. Mem.	Circle Building	Recip.	3.88	3.19	2.85	2.33	1.86	Virtue	Guidance	Res. Attract	0.00	0.00	0.00
Matthews1983	Proximity	Material Base	Mut. Interest	Accept	Dirt Time	5.75	2.75	2.41	2.36	1.97	Fun Humour	Mut. Belief	Guidance	0.00	0.00	0.00
AdamsBlieszner	Mut. Belief	Material Base	Open. Vuln.	No Indep. Resp. Priv	Dirt Time	5.10	2.30	2.03	1.71	1.62	Agreeableness	Resp. Priv.	Independ.	0.00	0.00	0.00
BlieszerAdams	Pract. Help	Recip.	Material Base	Accept	Trust Conf.	3.82	2.30	1.97	1.94	1.69	Independ.	Support Voc.	Teach & Learn	0.00	0.00	0.00
Hall2012a	Virtue	Rel. Con.	Res. Money	Mut. Belief	Res. Health Fit	3.61	2.61	2.27	2.27	2.24	Independ.	Enc. Chall.	Guidance	0.00	0.00	0.00
Hall2012b	Material Base	Pract. Help	Hospitality	Res. Health Fit	Fun Humour	5.81	4.28	3.50	2.80	2.66	Love Affect.	Benevolence	Resp. Priv.	0.01	0.01	0.01
Bible	Pat Pea	Love Affect.	Love Affect.	Loyalty	Teach & Learn	3.58	3.01	2.72	2.17	2.05	Resp. Priv.	Independ.	Effect Change	0.01	0.00	0.02
Christianity	Pat Pea	Kind. Warm	Trust Conf.	Rel. Con.	Humility	4.13	2.34	2.22	2.01	2.01	Material Base	Res. Attract	Independ.	0.01	0.00	0.04
DelaneyMadigan2017	Fun Humour	Energy Agency	Intel. Cur.	Rel. Con.	Hon Aut Integ	4.03	3.65	1.92	1.85	1.75	Resp. Priv.	Independ.	Hospitality	0.01	0.01	0.01
Rath2006	Guidance	Enc. Chall.	Expl. Disc.	Expl. Disc.	Teach & Learn	3.80	3.22	2.64	2.25	1.83	Resp. Priv.	Independ.	Diff. Bel.	0.00	0.00	0.00
MBTI	Energy Agency	Fun Humour	Expl. Disc.	Intel. Cur.	Enc. Chall.	3.36	2.17	2.17	2.11	1.81	Diff. Bel.	Material Base	Res. Money	0.00	0.00	0.00
Birch	Energy Agency	Enc. Chall.	Energy Agency	Intel. Cur.	Guidance	3.20	2.83	2.35	2.35	2.12	Equality	Material Base	Res. Money	0.01	0.01	0.01
YYYoung	Hospitality	Pract. Help	Understanding	Pract. Help	Effect Change	3.45	3.12	2.33	2.24	2.01	Energy Agency	Resp. Priv.	Independ.	0.00	0.01	0.01
Unclassified	Guidance	Positivity	Pride Admir.	Work Tog.	Mut. Interest	4.48	3.86	2.29	2.29	2.21	Resp. Priv.	Resp. Priv.	Loyalty	0.00	0.00	0.00
Nelson2020	Open. Vuln.	Agreeableness	Resp. Priv.	Energy Agency	Kind. Warm	2.23	2.18	2.09	2.02	1.85	Open. Vuln.	Equality	Diff. Bel.	0.00	0.00	0.00
GreifOld	Res. Health Fit	Res. Health Fit	Mut. Interest	Work Tog.	Res. Network	4.16	3.71	2.75	2.35	1.70	Trust Conf.	Trust Conf.	Res. Attract	0.01	0.00	0.01
GreifAdult	Agreeableness	Support Gen.	Independ.	Proximity	Energy Agency	3.42	2.19	1.71	1.66	1.52	Res. Attract	Res. Attract	Independ.	-0.40	-0.03	0.12
Pahl2000	Effect Change	Accept	Resp. Priv.	Pat Pea	Virtue	2.50	2.37	2.36	1.91	1.87	Diff. Bel.	Diff. Bel.	Pat Pea	0.00	0.07	0.08
Medium	Humility	Accept	Support Gen.	Pat Pea	Positivity	2.65	2.24	2.20	1.99	1.80	Diff. Bel.	Diff. Bel.	Material Base	0.00	0.00	0.00
RobertsGriffin	Fun Humour	Trust Conf.	Support Gen.	Res. Content	Intel. Cur.	4.12	4.00	3.57	2.83	2.51	Pat Pea	Agreeableness	Virtue	0.00	0.00	0.00

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