

A Mixed-Method Approach to Study Friendship Quality and Well-Being

by

Maria Stepanyan

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We acknowledge and respect the lək'wəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

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Supervisory Committee

Dr. Frederick Grouzet, Supervisor

Department of Psychology

Dr. Kelci Harris, Departmental Member

Department of Psychology

Abstract

This convergent mixed-methods study investigated a three-facet conceptualization of the quality of friendship, through the lens of self-determination theory, and how this conceptualization interacted with the type of friendship and thus predicted well-being. Previous research has examined the independent relationship between psychological need support, need satisfaction, and motivation on well-being. However, this study proposes that high-quality friendships support an individual's psychological needs, satisfy an individual's psychological needs, and are engaged for autonomous reasons. Survey ($n = 306$) and interview data ($n = 19$) were collected simultaneously. Quantitative results indicated that the conceptualization of the quality of friendship is valid and associated with well-being. However, the quality of friendship is not associated with the type of friendship and there is no interaction between the two concepts and well-being. Qualitative findings revealed close friendships were of higher quality than casual friendships. This study expands the friendship literature and offers an alternative measure of the quality of friendship.

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Acknowledgments

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Dedication

To my mom, who is a reminder of what it is to persevere.

A Mixed-Method Approach to Study Friendship Quality and Well-Being

Friendships can present themselves in a variety of ways with expectations and boundaries differing from one friendship to another. These differences can not only influence the quality of the relationship but also the well-being of individuals. Unsurprisingly, higher-quality friendships have been associated with higher levels of well-being (Gillespie et al., 2015), whereas lower-quality friendships have been associated with ill-being, increased conflicts (Asher & Weeks, 2018), jealousy, rivalry, and over-protection (Dryburgh et al., 2021).

With the multifaceted nature of friendship, it can be difficult to define this type of relationship to fit everyone's perceptions. Research over the years has investigated friendship through a variety of different theoretical lenses, each defining friendship in its own way. The common theme of friendship being a dyadic, co-constructed, relationship between individuals "maneuvering personal characteristics and the characteristics of their partner, history, and circumstances", which is further "characterized by reciprocity, closeness, and intimacy" (Amichai-Hamburger et al., 2013; Parker & Asher, 1993).

A high-quality friendship can be characterized as one that offers intimacy, support, and validation, which has been linked to high relationship stability, satisfaction, and psychological adjustment (Rokeach & Wiener, 2022). Self-determination theory, and especially the relationship motivation sub-theory (Ryan & Deci, 2017), can explain the development and impact of these qualities of friendship.

We first review definitions of friendship and the different types of friends individuals may have. We then use self-determination theory (Ryan & Deci, 2000) to propose a three-facet conceptualization of the quality of friendship to understand its impact on well-being.

What is Friendship?

“We call ‘friends’ people with whom we do little more than exchange ‘good mornings’ ... while, at the same time, to call someone a mere acquaintance would generally be considered impolite.”
(Kurth, 1970, p.169)

Many relationships are often labelled as “friendships” without much thought to what a genuine friendship is. For example, people often refer to colleagues or teammates as friends but state they are “different friends” to a closer “Best Friend Forever” (BFF). This overarching use of the term “friend” can create confusion when defining relationships. There is a difference between a friend and a friendly relationship, and the difference comes down to boundaries (Blatterer, 2015) and subsequent relationship strength and quality (Bryant & Marmo, 2012). Some examples of friendship terminology include coworkers, teammates, classmates, casual friends, and close friends. Each of these relationships holds varying characteristics and boundaries however, the line between a friendly relationship and a friend remains blurred.

Coworkers and teammates lie closer to the boundary of friendships and tend to have less disclosure than close friendships. Furthermore, coworkers/teammates can transition into casual friends rather easily as the common ground has already been established. Yet without extra-organizational socializing this relationship may better be described as a context-specific friendship as opposed to a casual friendship (Sias & Cahill, 1998). Moreover, communication in context-specific friendship is more cautious to not disclose too much intimate information (Blatterer, 2015; Sias & Cahill, 1998). Context-specific friendships can be seen as a subsection of casual friendships as the relationship can present itself in a multitude of ways. This can even include family friends or friends working towards a common goal. Close friends or your “BFF”,

on the other hand, form a distinct category of friendship that consists of high levels of self-disclosure, and intimacy, and often occur in home settings (Bryant & Marmo, 2012; Hays, 1988).

To further conceptualize the expectations of different types of relationships, Bryant and Marmo (2012) conducted a Facebook study comparing the online interactions of acquaintances, casual friends, and close friends. The researchers found that close friends were more preoccupied with protecting their friend's image than less intimate friendships, possibly because close friends value one another more. Close and casual friends did not place as much importance on rules for dishonest behaviours, as their intimacy and closeness levels are higher than that of acquaintances, so they feel no need to set these rules. Intimacy allows for the clarity of mutual understanding under which dyads formulate their own rules and boundaries (Bryant & Marmo, 2012). These formed boundaries are not necessarily guided by societal expectations (Blatterer, 2015). With this increased disclosure and intimacy, a safe space is fostered for individuals to be themselves, in a friendship that accepts them for who they are (Blatterer, 2015; Hays 1989).

Researchers have highlighted the importance of conceptualizing friendships not as “states” of being but rather as “in process”, with every interaction simultaneously expressing and impacting the friendship (Hays, 1988). With this fluidity, friendships can climb up and down the continuum of friends, shifting in intimacy, disclosure, and expectations. Furthermore, from a research point of view, this fluidity can make it difficult to ensure the appropriate concept is being measured when researching friendship. In fact, even though friendship has broadly been defined in the introduction, the extent to which variability is accounted for is often overlooked. Even in researching the characteristics of various friendships, there is a lot of variability in what constitutes a close versus casual friend and thus this literature review focused on the commonalities amongst the articles.

On a surface level, the type of friendship comes down to the closeness of individuals. Kelley (1983) defined closeness as “the degree of affective, cognitive, and behavioral mutual dependence between two people, including the frequency of their impact on one another and the strength of impact per occurrence”. Research has also found strong covariance between the level of intimacy and closeness (Dibble et al., 2011), which implies that closeness can be used to ascertain which type of friendship participants are engaging in. Of course, it is difficult to pigeonhole such a relationship with a single closeness measure and thus many researchers have used a more qualitative approach to identify the type of friendship someone is a part of. Therefore, it is important to develop a deeper understanding of what is friendship today, how friendships differ, and how they influence well-being using a variety of methods.

Quality of Friendship from an SDT Framework

The quality of relationships has been explored through a variety of conceptualizations and theories. For example, Mendelson and Aboud (1997) frame the quality of friendship through the functions of the relationship that act as a set of resources to fulfill social and emotional needs (Mendelson & Aboud, 2012). The self-determination theory (SDT, Ryan & Deci, 2000, 2017) is a macro-theory that can also be used as a framework to conceptualize the quality of friendship.

SDT proposes that the quality of human relationships is intrinsically associated with three basic psychological needs that are essential for individuals’ growth: the needs for autonomy, relatedness, and competence (Ryan & Deci, 2017). When these needs are supported and satisfied, they can be reflected into autonomous forms of motivation and lead to increased well-being. Using this theoretical framework, we thus propose that quality of friendship should be defined through three interrelated facets: (1) the extent to which the friend supports an

individual's psychological needs, (2) the extent to which individual's psychological needs are satisfied in the friendship, and (3) the motivation to engage in the friendship.

Friend's Support of Psychological Needs

To support the psychological need for autonomy, a friend should be encouraging and understanding of their friend's interests, preferences, and perspectives (LaGuardia & Patrick, 2008). Furthermore, friendships in which the friend's actions are unconditional have been linked to higher well-being (Ryan & Deci, 2017). Supporting the need for autonomy in friendship not only includes respecting the other's perspective but also equality. Friendships and peer relationships demand a greater level of mutuality as opposed to parent-child or teacher-student relationships. This is important to keep in mind as it comments on the power dynamic of the relationship. A relationship with an uneven dynamic, when equality is expected, can lead to a decrease in well-being (Ryan & Deci, 2017) and thus relationship quality as the individual experiences it.

For a person to support their friend's need for relatedness, they would need to be caring, supportive, attentive, and responsive (Sparks et al., 2016). It is important to note that research on relatedness support is limited to educational contexts rather than peer relationships, which is more so prevalent in research on supporting the competence need. To support the need for competence, a friend would have to be able to communicate their expectations, help their friend when needed, and provide constructive feedback (Jang et al., 2010).

Low-quality friendships will often show signs of being controlling, which can include actions of conditional regard and inauthenticity. Conditional regard is defined as the regard of another person depending on whether one complies with the others' expectations (Kanat-Maymon, 2016). It has been found that romantic relationships with high conditional positive

regard (e.g., I only like my partner when they act a specific way) were related to less relationship satisfaction and closeness, as conditional regard decreases feelings of autonomy (Kanat-Maymon, 2016). Moreover, it was found that there is variation in need thwarting between conditional positive regard (CPR) and conditional negative regard (CNR). While CPR was found to only thwart the need for autonomy, CNR (e.g., I withhold love when my partner acts in a specific way) thwarted both the need for autonomy and relatedness. This may be due to the explicit nature of holding back affection through CNR whereas, within CPR, individuals still experience affection, but in a controlling manner.

Other common forms of controlling, and thus low-quality friendships, can be seen through superficial interactions and bullying. Superficial friendships can look like using positive aspects of the relationship to benefit the other individual (Crick & Grotpeter, 1996). This control can also be thought of as conditional regard, whereby intimacy is fostered to leverage the relationship into favours and thus promote inauthenticity, which diminishes the experience of autonomy and relatedness support (Ryan & Deci, 2017). In this way, the individual can control their “friend” by, for example, sharing a friend’s secret if that friend does not submit to the individual’s wishes.

Psychological Need Satisfaction in Friendship

Research has found that supporting the psychological needs could lead to need satisfaction (Ryan & Deci, 2017). More specifically, the need for autonomy is satisfied when an individual feels their actions are self-endorsed and authentic. When an individual’s need for autonomy is satisfied, they may be compelled to communicate more openly because they feel they can be their true selves with their friends (Ryan & Deci, 2017) and can cultivate more supportive interpersonal contexts (Knee et al., 2002). Authenticity is when an individual’s

actions work in line with their thoughts, feelings, and values (Peets & Hodges, 2018).

Authenticity can be seen as a byproduct of having the need for autonomy supported, which can lead to higher well-being, relationship quality, self-esteem, and satisfaction (Ryan & Deci 2017). Thus, the need for autonomy can be thwarted through self-concealment, whereby the individual feels the need to withhold aspects of themselves.

The need for autonomy and relatedness also work hand in hand. The need for relatedness occurs when individuals experience warmth, bonding, and care (Ryan & Deci, 2017). Satisfying the relatedness need involves perceived interactions with others as occurring autonomously, by connecting and feeling significant to others, which is associated with increased well-being (Ryan & Deci, 2017). Furthermore, Gagné, Ryan, and Bargmann (2003) found that relatedness and well-being co-fluctuated, such that when the need for relatedness was high, well-being was high and vice versa. A thwarted relatedness need can look like distancing and acting cold towards a partner (i.e., social alienation), which has been found to independently cause distress and ill-being in individuals who feel they are being excluded (Eisenberger et al., 2003).

In a study on romantic partners, the need for relatedness was found to be the strongest predictor of personal and relationship well-being and effective conflict management (Patrick et al., 2007). It is also the best predictor of a secure attachment style in friendship (LaGuardia et al., 2000). Secure attachment is linked to increased well-being (Marrero-Quevedo et al., 2019), so the findings of Patrick and colleagues (2007) may apply to friendship as well, suggesting that satisfying the need for relatedness can indicate higher quality friendships, as low-quality relationships lead to increased conflict (Asher & Weeks, 2018).

In the context of relationships, the need for competence is satisfied when romantic partners provide the necessary scaffolding for their relational exchanges (LaGuardia & Patrick,

2008). While the role of competence in friendship has not been researched a lot, the literature suggests that when individuals satisfy their need for competence, they feel that they can satisfy the rest of their needs (Ryan & Deci, 2017). Furthermore, the need for competence is satisfied when the dyad can emotionally regulate and navigate one another's emotional highs and lows (LaGuardia & Patrick, 2008).

The inability to provide support in a partnership can thwart the need for competence. The need for competence can also be thwarted by general criticality and making derogatory remarks (Ryan & Deci, 2017). For example, gaslighting occurs when an individual manipulates another individual into questioning their reality, memory, and perceptions (Johnson et al., 2021). This manipulation can be argued to thwart the individual's need for competence. In this case, the victim's competence is put into question.

Whilst the three psychological needs have been presented independently, they are mutually supportive. For example, the concealment of the authentic self in a relationship can have a domino effect on the needs for relatedness and competence because without displaying their authentic selves, an individual is unable to be accepted fully by their dyad member (Uysal et al., 2010).

Autonomous (vs. Controlled) Motivation Towards Friendship

Autonomy within relationships is closely tied to the underlying motivation. Motivation serves as a guiding force in determining people's actions. SDT offers a motivation framework that places intrinsic and extrinsic motivation on a self-determination continuum. Intrinsic motivation, driven by inherent satisfaction, is the most self-determined and beneficial (Ryan & Deci, 2017). Extrinsic motivation can be categorized as external regulation, introjected regulation, and identified regulation, with varying degrees of autonomy (Ryan 1995). External

and introjected regulation are externally influenced and less autonomous, with external regulation being less autonomous than introjected regulation. Identified regulation signifies acceptance of external reasons as one's own rationale, making it more autonomous. Thus, well-being is not solely reliant on intrinsic motivation but is positively correlated with feeling autonomous in one's actions (Ryan & Deci, 2017).

For optimal friendship benefits, all members should be autonomously motivated to participate. Autonomously motivated individuals are driven by internal desires, while controlled motivation stems from external factors. Externally regulated relationships are driven purely by external incentives, such as rewards or societal pressures. Introjected regulation involves internalized external pressures and actions performed out of guilt, shame, or ego. Identified regulation occurs when external reasons align with personal values and goals. Intrinsic motivation stems from a natural need for personal growth and satisfaction. Autonomy within a friendship enhances the relationship's quality (Ryan & Deci, 2017).

An example of the effects of low-quality friendship, because of the type of motivation can be when individuals believe their friends have ulterior motives, like seeking party invitations or social status. Such friendships can be labelled as superficial and transactional, hindering the need for relatedness and causing individuals to feel objectified and used (Ryan & Deci, 2017). Superficial friendships can thus be labelled as engaged in for introjected or external reasons.

Another example is from a study conducted by Mishna et al. (2008) on children facing bullying from their friends, demonstrating that these children still consider their bullies as friends despite the controlling nature of the friendship. Victimized children may have limited friendship options, leading them to endure victimization within friendships. Such involuntarily engaged

friendships are not autonomous, negatively affecting well-being. These actions further inhibit the need for autonomy, limiting individuals' choices in selecting their friends.

Overall, these three-facets of quality of friendship has been linked either independently or interdependently to the outcome of well-being. Well-being can be discussed in either its subjective or eudaimonic form. Subjective well-being is related to the person's happiness and satisfaction with life (Diener, 1984). Eudaimonic well-being, however, refers to living a meaningful life filled with self-acceptance, vitality, growth, and fulfillment (Ryan & Deci, 2001).

Current Research

The present research aims to develop a deeper understanding of friendship by first defining this type of relationship, and the potential difference between casual and close friendship, and then testing our proposed exhaustive conceptualization of the quality of friendship as a predictor of well-being. Our three-facet conceptualization of quality of friendship includes (1) whether friends support each other's psychological needs, (2) whether friends have their psychological needs satisfied (rather than thwarted), and (3) whether friends' motivation to engage in friendship is more autonomous than controlled. Thus, we hypothesize that:

1. Quality of friendships is higher when friends support psychological needs (vs. being controlling), have their psychological needs satisfied, and show autonomous (vs. controlled) motivation for engaging in the relationship.
2. Quality of friendship is higher in close friendship than in casual friendship.
3. Quality of friendships is positively associated with subjective and eudaimonic well-being.

4. The relationship between the quality of friendship and well-being is moderated by the type of friendship. Specifically, individuals' well-being is less impacted by the quality of friendship in a casual friendship than in a close friendship.

Due to the complexity of friendship, we adopted a mixed-method approach that combines quantitative and qualitative methods to enhance understanding (Creswell & Clark, 2018). This approach integrates and logically frames both forms of data. Using a convergent mixed-method design with data collected from a larger, multi-year study on post-pandemic well-being, we conducted interviews to explore what friendship is and how close and casual friendships differ in respect to the three-facets of quality of friendship, and used survey data to assess the link between the quality of friendship and well-being in close versus casual friendship. More specifically, after reporting their well-being, university students were invited to report the quality of their friendship with a close or a casual friend that they identify. Some of them were then invited to an interview to provide more detailed information about their friendship with a close and a casual friend, the quality of these friendships and their well-being.

We acknowledge that while participants' gender, age, and ethnicity can influence friendships, this study did not focus on exploring these demographic effects. The universality of the quality of friendship and well-being is rooted in the universality of the three psychological needs (Ryan & Deci, 2017).

Quantitative Methods

Participants

A total of 378 undergraduate students were recruited for the purpose of research on well-being post-pandemic. The mean age was 21.3 years ($SD = 5.13$, Range = 16-57 years).

Participants predominantly identify (on an open-ended question) as female (80.4%; with 16.1% males; 2.9% cisgender and non-binary). When offered options from Statistics Canada, participants also predominantly identified as White (68.4%; with 8.2% mixed, 5.2% South Asian, 4.2% Chinese, 2.6% South Eastern Asian, 2.4% Latin American, 2.1% Indigenous).

Based on G*Power analysis, the optimal sample size for a medium effect size ($f = 0.25$) was 210 participants. We first excluded data from participants who withdrew before completing the survey ($n = 8$), as well as data from participants who completed the survey in less than 20 minutes ($n = 28$). Then, because of the focus of the study (i.e., friendship among students), we have selected only data from youth as defined by Statistics Canada, which is 15-29 years old (Government of Canada, 2019) and excluded data from participants who were outside the age range of 15-29 ($n = 19$). We also excluded data from participants who did not enter a name for their friend ($n = 1$) and those who provided with illogical values for the date they first met their friend and the date they first considered that person a friend ($n = 13$) (*see Procedure*). Lastly, data from participants who did not complete at least one well-being measure and at least one quality of friendship conceptualization measure were excluded ($n = 3$).

After the selection criteria were applied, participants included 306 undergraduate students mean age of 20.4 years ($SD = 2.18$, Range = 16-29 years). Participants predominantly identified to female (66.9%; with 11.6% males, 2.1% cisgender and non-binary) and White (68.6%; with

8.5% mixed, 5.2% South Asian, 4.2% Chinese, 2.0% South Eastern Asian, 2.3% Latin American, 2.3% Indigenous).

Procedure

A between-participants experimental design was used for the survey sample. Participants completed a questionnaire on Survey Monkey, which began with questions about their well-being. Next, participants were randomly assigned to one of two conditions, based on the Survey Monkey algorithm, where participants had a 50% chance of being asked to identify a casual friend and a 50% chance of being asked to identify a close friend. Then, participants completed a series of questionnaires in which the name or initials of the close vs. casual friend they identified were plugged into every forthcoming question about friendship.¹

Measures

Manipulation Check

Participants were first asked to check four statements including “I spend time with this person outside of where we met (e.g., work, school, sports),” “I expect this person to be there for me during tough times”, “I talk to this person about my personal life,” and “I have a lot of things in common with this person.” Participants were also given the option to select “None of the above”. A score out of 4 was then used to assess friendship closeness. Participants were also asked to indicate on a slider scale from ‘not close at all’ (0) to ‘extremely close’ (100), how close their friendship is.

Quality of Friendship

The three-facet quality of friendship included measures of the extent to which (1) the friend supports the individual’s psychological need for autonomy, need for relatedness (via

¹ Other questionnaires not related to the present study were included in the survey.

involvement), and need for competence (via providing structure), (2) the individual's psychological needs are more satisfied than thwarted (i.e., relative need satisfaction), and (3) engagement into friendship for more autonomous than controlled motivation (i.e., relative autonomous motivation).

Friend's Support of Psychological Needs. The extent to which a friendship supports the individual's psychological need for autonomy was assessed with the Friendship Autonomy Support Questionnaire (FASQ; Deci et al., 2006). Using a response scale ranging from 1 (strongly disagree) to 7 (strongly agree), participants rate 10 items such as "I feel that my friend provides me with choices and options" and "My friend listens to my thoughts and ideas". To measure the extent to which a friendship is controlling, a modified version of the Perceived Control Scale – Youth Self-Report (PCS-YSR; Barber, 1996) was used. This is a 16-item measure where participants rate statements from 1 (strongly disagree) to 7 (strongly agree). Sample items include "My friend is a person who ... often interrupts me", "... tells me that I am not a loyal or good friend", and "...is always trying to change how I feel or think about something". To balance the two sides of the support for autonomy construct, only 10 items of the PCS-YSR were used.

We measured the extent to which the need for competence and the need for relatedness were supported in friendship using adapted structure and involvement items, respectively, from the Rochester Assessment Package for Schools – Student Self Report Scale (RAPS-SE; Wellborn & Connell, 1987). Participants rated 7 statements on a scale from 1 (strongly disagree) to 7 (strongly agree). Sample structure items include "My friend doesn't think I can do very much" and "I don't know what my friend wants from me." Sample involvement items include

“My friend doesn’t seem to have enough time for me” and “My friend doesn’t seem to know how I feel about things.”

After identifying and removing 19 multivariate outliers using Mahalanobis distance test, an EFA was conducted on these measures of autonomy support, structure and involvement. The KMO (.92) and Bartlett’s test of sphericity ($\chi^2 = 1772.99$, $df = 136$, $p < .001$) indicated that the data was suitable for factor analysis. An examination of the scree plot showed 3 factors, which aligned with the hypothesized model. The resulting three-factor model (using ML extraction and Oblimin rotation) showed multiple cross-loadings (see Table 1), which was confirmed by a relatively low reliability score. Indeed, while Cronbach’s alpha for the autonomy support items was .88, it was .69 for the controlling items, .56 for the structure items and .59 for the involvement items (which could also be explained by the few number of items for these last two constructs). However, the factorial placement of the items and the low reliability coefficient on subscales for need support should not impact the average score for this facet of quality of friendship.

An autonomy support score was calculated by averaging autonomy support and controlling items, and then averaged with the involvement and structure scores to form a Need Support score. A higher score indicated a higher support of the psychological needs by the friend.

Table 1*Factor Loadings for Oblimin Rotated Two-Factor Solution for 18 Need Support Items (n=287)*

	Factor		
	1	2	3
I feel able to share my feelings with_____	0.86		
I am able to be open with... when we hang out.	0.76		
I feel understood by_____	0.63		0.23
I feel that_____ accepts me.	0.52		0.24
I feel a lot of trust in_____	0.46		0.27
_____ handles my emotions very well.	0.46		0.40
_____ never has enough time to hear about what happens in my life.	-0.41	0.30	
_____ doesn't seem to know how I feel about things.	-0.35	0.26	
_____ doesn't seem to have enough time for me.		0.59	
_____ doesn't think I can do very much.		0.48	-
I don't know what_____ wants from me		0.38	0.33
I never know what_____ is going to do.		0.26	
_____ is fair with me.			0.63
I feel that_____ provides me with choices and options.			0.54
_____ tries to understand how I see things before suggesting a new way to do things.			0.53
_____ listens to how I would like to do things.			0.48
I feel that_____ cares about me as a person.	0.22		0.47

Psychological Need Satisfaction and Thwarting. Need satisfaction and thwarting were measured using the Basic Psychological Need Satisfaction and Frustration Scale (BPNSNF; Chen et al., 2015). The questionnaire was adapted to friendship by asking participants to rate each statement keeping their experiences with their friendship in mind. The questionnaire includes 8 items that assesses the satisfaction of the need for autonomy (e.g., “When I am with my friend, I feel a sense of choice and freedom” and “When I am with my friend, most of the things we do I feel like ‘I have to’”), 8 items that assesses the satisfaction of the need for relatedness (e.g., “I feel that my friend cares about me” and “When I am with my friend, I feel excluded”), and 8 items that assesses the satisfaction of the need for competence (e.g., “When I am with my friend, I feel confident that I can do things well” and “When I am with my friend, I feel insecure about my abilities”). Participants rated the items from 1 (strongly disagree) to 7 (strongly agree).

After identifying and removing 31 multivariate outliers using Mahalanobis distance test, two EFAs were conducted (one for need satisfaction items and one for need thwarting items) using ML extraction method and Oblimin rotation. The KMO (.91 and .88) and Bartlett’s test of sphericity ($\chi^2 = 1682.88, df = 66, p < .001$; $\chi^2 = 1234.33, df = 66, p < .001$) indicated that the data was suitable for these factor analyses. An examination of the scree plots showed 3 factors for each EFA. While the need thwarting items loaded on the autonomy, competence and relatedness factors as expected, the EFA for need satisfaction items showed more cross-loadings (see Table 2 and 3). For example, “When I am with my friend, I feel my choices express who I really am” and “When I am with my friend, I feel a sense of choice and freedom in the things I undertake”. However, the reliability coefficients for the 6 subscales were satisfactory (autonomy

Table 2

Factor Loadings for Oblimin Rotated Two-Factor Solution for 12 Need Satisfaction Items (n=275)

When I am with ...	Factor Loading		
	1	2	3
I feel competent to achieve my goals.	0.84		
I feel confident that I can do things right.	0.79		
I feel capable at what I do.	0.71		
I feel I can successfully complete difficult tasks.	0.65		
I feel a sense of choice and freedom in the things I undertake.	0.43		0.22
I feel close and connected with them		-0.89	
I experience a close bond.		-0.88	
I experience a warm feeling.		-0.77	
I feel that they care about me.		-0.74	
I feel I have been doing what really interests me.		-0.36	
I feel that my decisions reflect what I really want.			0.73
I feel my choices express who I really am.			0.72

Table 3

Factor Loadings for Oblimin Rotated Two-Factor Solution for 12 Need Thwarting Items (n=275)

	Factor Loading		
	1	2	3
I have the impression that they dislike me.	0.75		
I feel that they are cold and distant towards me.	0.69		
I feel excluded by them.	0.66		
I feel the relationship is just superficial.	0.66		
I feel insecure about my abilities.		-0.75	
I feel disappointed with many of my achievements.		-0.79	
I feel like a failure because of the mistakes I make.		-0.72	
I have serious doubts about whether I can do things well.		-0.54	
I feel forced to do things I wouldn't choose to do myself.			0.78
I feel pressured to do too many things.			0.69
I feel obliged to do a lot of things.			0.51
most of the things I do feel like "I have to".			0.38

satisfaction = .76; autonomy thwarting = .76; relatedness satisfaction = .89; relatedness thwarting = .78; competence satisfaction = .84; competence thwarting = .84).

A need satisfaction average score and need frustration average score were calculated for each psychological need. Then, the need frustration scores were subtracted from the need satisfaction scores before averaging them to form a Relative Need Satisfaction score, where higher scores indicated more need satisfaction than need thwarting.

Friendship Motivation. The motivation to engage in friendship was measured using the Friendship Self-Regulation Questionnaire (SRQ-F; Soenens & Vansteenkiste, 2005). The SRQ-F is a 20-item scale that measures intrinsic motivation, identified, introjected and external regulation by asking participants why they are in a particulate friendship. Sample items include “because being friends with them helps me feel important” and “because I would feel guilty if I withdrew from the friendship”. Participants would then rate these items from 1 (strongly disagree) to 7 (strongly agree).

After identifying and removing 11 multivariate outliers using the Mahalanobis distance test, an EFA was conducted to assess this study’s conceptualization of autonomous motivation. The KMO (.87) and Bartlett’s test of sphericity ($\chi^2 = 2107.35$, $df = 190$, $p < .001$) indicated that the data was suitable for factor analysis. An examination of the scree plot showed 3 factors. However, a two-factor solution of autonomous and controlled motivations was generated as it made more sense theoretically. All 20 motivation items loaded on the factors as expected (see Table 4) apart from one introjected item, “because being friends with them helps me feel important”, that cross-loaded onto autonomous motivation. The reliability was computed for autonomous motivation ($\alpha = .86$) and controlled motivation ($\alpha = .80$) measures.

To assess participants' motivation, we averaged items measuring intrinsic and identified regulation to create an autonomous motivation score and averaged items measuring introjected and external regulation to create a controlled motivation score. We then calculated a Relative Autonomous Motivation score by subtracting the controlled motivation score from the autonomous motivation score. Higher scores indicated higher autonomous motivation towards friendship than controlled motivation.

Table 4

Factor Loadings for Oblimin Rotated Two-Factor Solution for 20 Motivation Items (n=295)

	Factor Loading	
	1	2
Because it is fun spending time with _____	0.81	
Because I really value spending time with my friend.	0.77	
Because I really value getting to know my friend better.	0.71	
Because I feel a lot of freedom and personal satisfaction in our friendship.	0.71	
Because it's interesting and satisfying to be able to share like that.	0.69	
Because I enjoy the numerous crazy and amusing moments that we share.	0.64	
Because _____ is someone I really enjoy sharing emotions and special events with.	0.60	
Because my commitment to _____ is personally very important to me.	0.55	
Because I believe it is an important personal attribute to live up to my promises to a friend.	0.53	
Because I really enjoy following through on my promises.	0.41	
Because being friends with _____ helps me feel important.	0.36	0.27
Because _____ would be upset if I ended the relationship.		0.83
Because I would feel guilty if I withdrew from the friendship.		0.82
Because I would feel guilty if I did not.		0.61
Because _____ would get mad at me if I didn't.		0.59
Because _____ really wants me to be a friend.		0.52
Because I think it is what friends are supposed to do.		0.46
Because _____ praises me and makes me feel good when I do.		0.44
Because it would threaten our friendship if I were not trustworthy.		0.38
Because I would feel bad about myself if I didn't.		0.32

A (three-facet) quality of friendship score was then calculated using average standardized scores for Need Support, Relative Need Satisfaction, and Relative Autonomous Motivation.

Additional Measures of Quality of Friendship

Perceived Quality of Friendship. Participants were first asked to indicate the perceived quality of their friendship on a slider scale from “very low quality” (0) to “very high quality” (100).

McGill Friendship Measure. The participants completed the McGill Friendship Measure (Mendelson & Aboud, 1999) which has been previously used in the literature to assess the quality of friendship. The McGill Friendship measure includes a 16-item subscale that assesses the respondent’s affection towards their friend (e.g., “I am happy with my friendship with ...” and “I hope... and I will stay friends”) and a 30-item subscale that assesses the friend’s functions (e.g., “My friend makes me feel smart” and “My friend helps me when I need it”). Participants rate the items from “strongly disagree” (1) to “strongly agree” (7). After identifying and removing 47 multivariate outliers using Mahalanobis distance test, an EFA was conducted to assess the validity of the McGill Friendship Measure. However, the EFA did not converge because the sample size ($n=306$) was smaller than what is the required number of items, which is 460 for 46 items (Osborne & Costello, 2004). The Cronbach’s alpha coefficients for both subscales were .96.

Subjective Well-being

Subjective well-being was measured using the Scale of Positive and Negative Experience (SPANE; Diener et al., 2009) questionnaire and the Satisfaction with Life Scale (SWLS; Diener et al., 1985) questionnaire. SPANE contains 12 items to assess positive and negative feelings. Participants rate how often they felt joyful, unpleasant, happy, angry etc., on a scale of 1 (very

rarely or never) to 5 (very often or always). The SWLS is a 5-item measure to assess global life satisfaction. Participants rate statements, such as “In most ways, my life is close to my ideal”, on a scale of 1 (strongly disagree) to 7 (strongly agree). Subjective well-being was thus calculated by subtracting the negative affect SPANE items from the positive affect items to calculate a balanced affect score (SPANE-B; Diener, 2009). The SPANE-B score was then added to the average of the SWLS scores for the total subjective well-being (Diener, 2009). The Cronbach’s alpha for the SPANE scale was calculated for both the positive affect ($\alpha = .87$) and negative affect ($\alpha = .78$) constructs. The SWLS also had an $\alpha = .85$.

Eudaimonic Well-Being

The Questionnaire for Eudaimonic Well-Being (QEWB; Waterman et al., 2010) was used in conjunction with the Flourishing Scale (Diener et al., 2010) to assess psychological well-being. The QEWB is a 21-item scale where participants responded on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items include “I believe I have discovered who I really am” and “When I engage in activities that involve my best potential, I have this sense of really being alive.” The Flourishing Scale is an 8-item scale where participants rate statements on a scale of 1 (strongly disagree) to 7 (strongly agree). Sample items include “I lead a purposeful and meaningful life” and “I am engaged and interested in my daily activities”. The Cronbach’s alpha for the QEWB scale was .88². The flourishing scale also had a good internal consistency ($\alpha = .89$). To calculate eudaimonic well-being and flourishing scores, the scales were averaged, respectively, to allow for two separate regressions to be conducted. The flourishing scale was also adjusted, for the analysis, to exclude two need satisfaction items (“My

² A Mahalanobis distance test was conducted on the following well-being items to identify and remove any multivariate outliers: SPANE, SWLS, QEWB, and the flourishing scale. The test revealed 5 cases of outliers.

social relationships are supportive and rewarding” and “I am competent and capable in the activities that are important to me”). This was important because the independent variables also contained need satisfaction items. Therefore, another reliability score was calculated for the adjusted 6-item flourishing scale ($\alpha = .86$).

Qualitative Methods

Researcher Subjectivity and Positionality

I aim to further the social psychology field's understanding of friendship and its impact on well-being from a constructivist lens. Whilst my cultural heritage is Eurasian, my education has been from a Western lens. However, because I am aware of these cultural differences and because of my exposure to both cultures, it should not pose a major problem. I thus acknowledge that the coding of interviews may be impacted. Although I am using an a priori coding manual that mirrors the SDT framework (a theory of universal psychological needs), certain cultures may have differing thresholds for what they consider to be controlling or supportive (Ryan & Deci, 2017), a nuance that is not accounted for in the coding scheme. I also bring to this study personal experience with friendships of various degrees of quality and closeness.

Participants

A subsample of 36 survey participants volunteered to be interviewed, but only 19 interviews were used for the analysis because 4 participants were over the age of 29, 10 participants provided very short answers to the questions, two participants could not think of a friend who was not their romantic partner, and one participant withdrew after completing the interview. The final sample of interview participants had a mean age of 20.47 years ($SD = 2.99$, Range = 18-28 years). Seventeen participants identified with she/her pronouns, one identified with he/him, and one with they/them. The subsample participants were predominantly European American (73.68%), Chinese (10.53%), South Asian (5.26%), Jewish (5.26%), and mixed (5.26%).

To determine the number of participants needed, previous qualitative interview research was referenced, which revealed an optimal sample size of 12 (Braun & Clarke, 2013). However,

this study aimed for 24 participants to account for potential missing data (e.g., participant withdrawal, incomplete responses, etc.). Interviews were conducted for two weeks in September. When participants signed up for an interview, they were told they would be asked questions about their relationships and well-being, post-pandemic. The actual aim of the interviews was to develop a deeper understanding of friendship in university students. Specifically, the types of friendships students engage in and what makes up high- or low-quality friendships.

It was ensured that the researcher and research assistants had no prior relationship to the interview. That is, if an interviewer identified having a prior relationship with the participant, the participant was assigned a different interviewer, with whom they had no relationship. This ensured that the content of the participants' answers was not impacted by their relationship with the interviewer.

Procedure

Interviews were conducted on Zoom and held for 22 to 70 minutes, with an average interview time of 32.6 minutes. Due to the length of the interviews, participants were given a 5-minute break halfway through the interview, which is included in the reported length of the interviews.

The one-on-one structured interviews, conducted by the researcher and trained assistants, aimed to ensure consistency, and reduce bias. Using a within-participants design, all participants answered questions about both close and casual friends, with randomization to address order effects. The interview covered types of friendship, current friendship experiences, and well-being (see questions in Table 5).

Table 5*Interview Questions*

Topic	Concept	Question
Friendship	Definition	What is a friend to you?
	Types of Friendship	How would you distinguish a casual friend from a close friend?
		Are there other types of friends, for example, work friends? Can you list some examples aside from work friends?
Within Conditions	Condition 1	Do you consider those friends that you listed to be different from casual friends? Could you think about someone you consider to be a close friend, not a casual friend, and tell me their first name? If you like, you may use a made-up name for your friend.
	Condition 2	Could you think about someone you consider to be a casual friend, not a close friend, and tell me their first name? If you like, you may use a made-up name for your friend.
Motivation Need Satisfaction	Motivation	Why are you friends with this person now?
	Autonomy Satisfaction	When you are with your friend to what extent do you feel that your friend cares about you like you do them? Do you feel close and connected with your friend, or do feel excluded when you are with them?
	Relatedness Satisfaction	When you are with your friend to what extent do feel a sense of choice and freedom in the things you undertake? Do you feel that your decisions reflect what you really want and who you are, or do you feel like you are obliged to do things for your friend?
Need Support	Competence Satisfaction	When you are with your friend do you feel confident, or do you have serious doubts that you can do things well? To what extent do you feel competent to achieve your goals?
	Structure	When you are faced with a challenge or new opportunity, how does your friend support you, if at all?
	Autonomy Support	Can you describe a time when you and your friend had differing opinions about something, and how you both handled it?
	Involvement/Structure	Can you tell me about a time when you wanted to spend time with your friend, but they were

		unavailable, and how did you both handle the situation?
	Involvement	Can you tell me about a time when you needed emotional support from your friend, and how did they respond to you?
Subjective Well-Being	Happiness	How would you describe your overall happiness currently?
	Life Satisfaction	How would you describe your overall life satisfaction currently?
Eudaimonic Well-Being	Vitality	How would you describe your overall energy levels?
	Personal Growth	To what extent do you feel you felt a sense of personal growth or self-discovery? Please give example(s).
	Self-Acceptance	In general, to what extent do you feel at ease with who you are? Please give example(s).
	Purpose in Life	To what extent do you feel you lead a purposeful life? Please give example(s).

Qualitative Analytic Strategy

The interview analysis employed a thematic approach, which involves identifying and interpreting repeated patterns in the dataset (Willig & Stainton-Rogers, 2017). A deductive approach was used, guided by a priori codes based on SDT (see Appendix A), facilitating seamless triangulation. The analysis followed a realist epistemological approach, linking participants' language to their experiences, motivations, and meanings.

The thematic analysis began with the transcription and familiarization of the collected data (Braun & Clarke, 2006). Transcripts were generated, checked for accuracy, and any participant-identifying information was replaced with codes. The researcher primarily conducted transcription, with a trained research assistant assisting in some cases to prevent interviewers familiar with a participant from handling their data during this phase. The transcripts were then carefully reviewed multiple times, and initial ideas were noted.

Next, the a priori coding manual guided the initial round of coding, capturing the overall impression of the transcript, regardless of code contradictions. Subsequently, the research question was used to collate codes across the dataset, ensuring the coding manual comprehensively addressed the research question. Sub-themes, which are themes within themes, were utilized to break down complex themes and depict the data set's hierarchical meaning structure.

Thereafter, a thematic map (see Fig. 1 and 2) represented the final themes and facilitated a comprehensive review of the dataset to construct a narrative of how the themes worked together. Lastly, a separate document was created for each of the interviewed participants, synthesizing the themes into a narrative that answered the research question, with supporting

quotes. The coded transcripts were also shared with a fellow researcher who was well-versed in SDT, to provide consensus (or lack thereof) with the identified codes.

Figure 1
Thematic Tree of Quality of Friendship Themes.

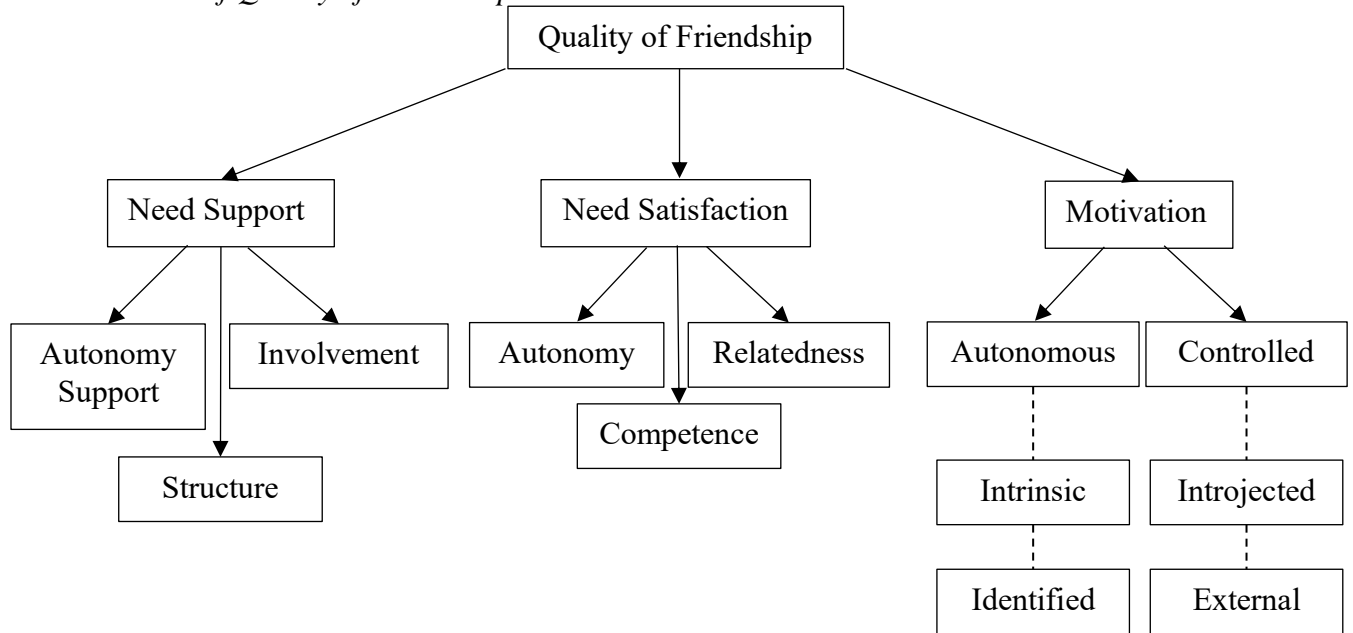
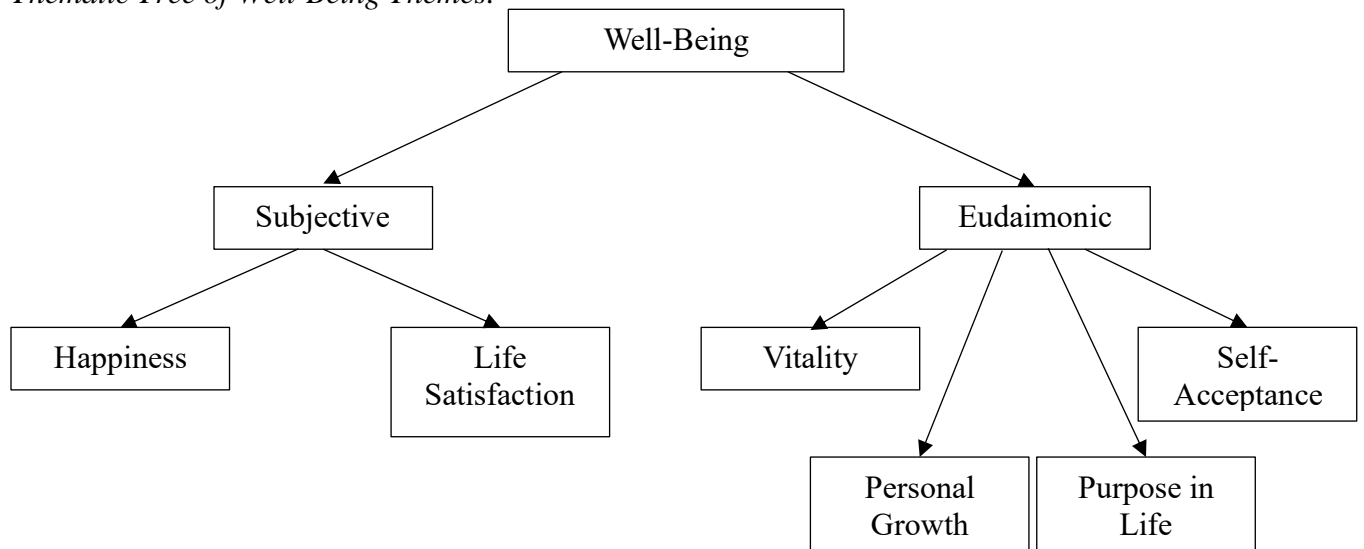


Figure 2
Thematic Tree of Well-Being Themes.



Mixed Methods

Mixed-Method Analytic Strategy

After separate analysis of quantitative and qualitative data, a narrative approach integrated the findings by aligning the quantitative regression results with thematic analysis results based on corresponding topics. For example, the quantitative regression results of the effects of high-quality friendships on well-being were presented first, followed by the qualitative thematic analysis results on the same topic, in the form of quotes. A commentary was then made on how the qualitative data confirms or disconfirms the regression results.

The objective was data integration, but it was hindered because participants sometimes referred to different friends in the interview than the one from the survey, or they labelled their "casual friend" as a close friend during the interview. This discrepancy made direct score comparisons challenging. As a solution, we created a joint display table to clarify the comparisons between the quantitative and qualitative data.

Quantitative Results

Data Screening

Prior to executing any inferential analyses, assumptions tests for linearity, independence, homoscedasticity, and normality were conducted to assess the data's distributions, which confirmed the use of a parametric regression. Beyond the identified and removed multivariate outliers ($n = 67$), three univariate outliers were removed as they deviated by three standard deviations (Kline, 2016) on the quality of friendship score and the three well-being measures (subjective well-being, eudaimonic well-being, and flourishing).

Manipulation Check

First, the score on the closeness slider item was significantly higher for participants who were referring to a close friendship ($M = 88.40$, $SD = 14.77$) than for participants who were thinking of a casual friendship ($M = 82.06$, $SD = 19.17$), $t(252) = 2.97$, $p = 0.034$. Similarly, the friendship closeness score was significantly higher in the close friendship condition ($M = 3.70$, $SD = 0.64$) than in the casual friendship condition ($M = 3.50$, $SD = 0.81$) $t(254) = 2.19$, $p < .001$.

Type of Friendship and Quality of Friendship

A linear regression was conducted to test the difference of quality of friendship between close and casual friendship. The non-significant effect of the type of friendship on the quality of friendship ($\beta = 0.09$, $SE = 0.10$, $p = .155$) indicates that the quality of friendship is not significantly different in close friendship ($M = 0.07$) versus casual friendship ($M = -0.08$).

The Effect of Quality of Close versus Casual Friendship on Well-Being

Results from multiple regressions showed a significant main effect of quality of friendship on subjective well-being ($\beta = 0.36$, $SE = 0.22$, $p < .001$), eudaimonic well-being ($\beta = 0.48$, $SE = 0.08$, $p < .001$), and flourishing ($\beta = 0.42$, $SE = 0.09$, $p < .001$), indicating that higher

quality of friendship was associated with higher well-being. However, these effects were not moderated by a significant interaction between the quality of friendship and the type of friendship, which means that the effect of the quality of friendship on well-being did not vary depending on the type of friendship (see Table 6).³

Table 6
*Regression Analysis Summary for Quality of Friendship*Type of Friendship Predicting Well-Being (n=255).*

Variable	B	95% CI	β	t	p
Subjective Well-Being					
(Constant)	5.93	[5.58, 6.28]		33.40	<.001
Quality of Friendship	0.93	[0.51, 1.36]	0.36	4.31	<.001
Type of Friendship	-0.42	[-0.90, 0.06]	-0.10	-1.74	0.083
Quality X Type of Friendship	0.04	[-0.56, 0.64]	0.01	0.13	0.900
Eudaimonic Well-Being					
(Constant)	4.81	[4.68, 4.93]		74.21	<.001
Quality of Friendship	0.46	[0.30, 0.61]	0.48	5.78	<.001
Type of Friendship	-0.15	[-0.33, 0.02]	-0.10	-1.72	0.087
Quality X Type of Friendship	-0.16	[-0.38, 0.06]	-0.12	-1.44	0.152
Flourishing					
(Constant)	5.59	[5.44, 5.74]		74.61	<.001
Quality of Friendship	0.46	[0.28, 0.64]	0.42	5.08	<.001
Type of Friendship	-0.18	[-0.38, 0.02]	-0.10	-1.76	0.080
Quality X Type of Friendship	-0.07	[-0.32, 0.18]	-0.05	-0.55	0.583

³ Despite the existence of a partially significant effect of type of friendship on well-being (which becomes significant when the analysis includes univariate and multivariate outliers), this result cannot be interpreted because well-being was assessed before the randomization to the close versus casual friendship conditions. While the probability that a situation like this happens is very low, it could happen.

The Three-Facet Quality of Friendship and Perceived Friendship

The three-facet conceptualization of quality of friendship was examined in relation to a single-item measure of perceived quality of friendship. The correlation between the single-item perceived quality of friendship measure and the three-facet quality of friendship was significant, $r = 0.43$, $p < .001$, indicating a moderate positive correlation between the two measures. Then, we conducted a hierarchical regression analysis to compare these two measures to predict well-being while controlling for the type of friendship. Results showed that while perceived quality of friendship significantly predicts subjective well-being ($\beta = 0.16$, $SE = 0.01$, $p = 0.010$), eudaimonic well-being ($\beta = 0.12$, $SE = 0.00$, $p = 0.064$), and flourishing ($\beta = 0.12$, $SE = 0.00$, $p = 0.055$), these effects became non-significant (or only partially significant) (i.e., for subjective well-being, $\beta = 0.01$, $SE = 0.01$, $p = 0.08$; for eudaimonic well-being, $\beta = -0.08$, $SE = 0.00$, $p = 0.238$; and for flourishing, $\beta = -0.06$, $SE = 0.00$, $p = 0.352$) when we introduced the three-facet quality of friendship in the equation. However, the unique contribution of the three-facet quality of friendship was significant for subjective well-being ($\beta = 0.35$, $SE = 0.24$, $p < .001$), eudaimonic well-being ($\beta = 0.52$, $SE = 0.09$, $p < .001$), and flourishing ($\beta = 0.45$, $SE = 0.10$, $p < .001$).

The Three-Facet Quality of Friendship and the McGill Friendship Questionnaire

The three-facet conceptualization of quality of friendship was also examined in relation to an existing measure of friendship, that is the McGill Friendship Questionnaire. The correlation between the three-facet conceptualization of the quality of friendship and the McGill Friendship Questionnaire was significant, $r = 0.62$, $p < .001$, indicating a strong positive correlation between the two measures. Then, we conducted a hierarchical regression analysis to compare these two measures to predict well-being while controlling for the type of friendship. Results showed that

while the McGill Friendship Questionnaire significantly predicts subjective well-being ($\beta = 0.14$, $SE = 0.27$, $p = 0.037$), eudaimonic well-being ($\beta = 0.23$, $SE = 0.10$, $p < .001$), and flourishing ($\beta = 0.03$, $SE = 0.14$, $p < .001$), these effects became non-significant (i.e., for subjective well-being, $\beta = -0.10$, $SE = 0.34$, $p = 0.220$; for eudaimonic well-being, $\beta = -0.61$, $SE = 0.12$, $p = 0.443$; and for flourishing, $\beta = 0.30$, $SE = 0.14$, $p = 0.370$) when we introduced the three-facet quality of friendship in the equation. However, the unique contribution of the three-facet quality of friendship was significant for subjective well-being ($\beta = 0.39$, $SE = 0.29$, $p < .001$), eudaimonic well-being ($\beta = 0.55$, $SE = 0.11$, $p < .001$), and flourishing ($\beta = 0.39$, $SE = 0.12$, $p < .001$).

Post-Hoc Analyses

Post-hoc analyses entailed the separation of the conceptualization into its three independent facets to see how they individually predict well-being. A multiple regression analysis, controlling for the type of friendship, indicated that relative autonomous motivation and need support do not significantly predict subjective well-being ($\beta = 0.08$, $SE = 0.12$, $p = 0.195$; $\beta = 0.02$, $SE = 0.30$, $p = 0.763$, respectively), eudaimonic well-being ($\beta = 0.09$, $SE = 0.05$, $p = 0.175$; $\beta = 0.10$, $SE = 0.11$, $p = 0.223$, respectively) and flourishing ($\beta = 0.01$, $SE = 0.05$, $p = 0.829$; $\beta = 0.08$, $SE = 0.13$, $p = 0.299$, respectively) (see Table 7). However, relative need satisfaction significantly predicted subjective well-being ($\beta = 0.34$, $SE = 0.14$, $p < .001$), eudaimonic well-being ($\beta = 0.30$, $SE = 0.05$, $p < .001$), and flourishing ($\beta = 0.37$, $SE = 0.06$, $p < .001$).

Table 7*Regression Analysis Summary for Post-Hoc Analysis (n=255)*

Variable	B	95% CI	β	t	p
Subjective Well-Being					
(Constant)	2.48	[-0.39, 5.35]		1.70	0.090
Relative Autonomous Motivation	0.16	[-0.08, 0.40]	0.08	1.30	0.195
Need Support	0.09	[-0.50, 0.68]	0.02	0.30	0.763
Relative Need Satisfaction	0.61	[0.34, 0.88]	0.34	4.40	<.001
Eudaimonic Well-Being					
(Constant)	3.04	[1.98, 4.09]		5.66	<.001
Relative Autonomous Motivation	0.06	[-0.03, 0.15]	0.09	1.36	0.175
Need Support	0.14	[-0.08, 0.35]	0.10	1.22	0.223
Relative Need Satisfaction	0.20	[0.10, 0.30]	0.30	3.83	<.001
Flourishing					
(Constant)	3.62	[2.42, 4.82]		5.94	<.001
Relative Autonomous Motivation	0.01	[-0.09, 0.11]	0.01	0.22	0.829
Need Support	0.13	[-0.12, 0.38]	0.08	1.04	0.299
Relative Need Satisfaction	0.28	[0.16, 0.39]	0.37	4.81	<.001

Qualitative Results

What is Friendship?

Given that a constructivist lens partially guided this research, the participants were given the freedom to define the concepts of friends, close friends, and casual friends, for themselves. When asked “What is a friend to you?”, participants identified a friend as someone they can rely on to be there for them and talk to through the good and bad times. They also highlighted that a friend is someone they can share interests, secrets, and emotions with, and be themselves around.

“A friend to me is someone who I can rely on to have good times with but also to share hard times with. Um and someone that just kind of understands me and is there for me and I'm there for them.”

Lastly, some participants highlighted that the relationship is mutual as seen in the following quote, “I would say that someone who's a friend to me is someone that um respects me and cares for me and that respect and kindness is mutual between us.” Interestingly, most participants described a close friendship for the general prompt. This was unveiled in the next question when participants were asked “How would you distinguish a causal friend from a close friend?”

Participants distinguished a close friend as someone that you tend to hang out with and talk to more than a casual friend.

“I would say that a casual friend is someone that you don't see that often or maybe don't think about or talk to that often but you still, um, think of them as a friend and then a close friend is someone that is kind of more up to date with your life and you're talking to them all the time and hanging out more frequently.”

A close friend was also someone participants could share their private lives and secrets with “A close friend I will talk about with them is those things like my emotions, my relationship

to others and my secrets and my, my daily life”. Some even specified that the sharing of information should be reciprocal, because of a mutual level of trust “I trust that person with information and how much I also feel that person trusts me with information and also how much we are able to rely on each other.” Due to this mutual trust, participants felt they could go through the highs and lows of life with close friends, as a close friend is someone you are comfortable being around and let go of any filters “I mean, also like a close friend would be somebody who I can really, like, be myself with and not be like holding parts of myself back and, yeah, and somebody I can, like, talk to about my personal stuff. Without, like, fear of judgment”.

On the other hand, a casual friend is someone participants felt they could only talk to about surface-level topics and just have fun with, without sharing any secrets and personal problems “a casual friend is just someone that you share like the big things for. It’s not someone that you really get into like why you feel that way or how you’re feeling lately with. You’re just like, oh, hey, like how are you- like kind of like surface level”. This also connected to how one participant felt they couldn’t rely on their casual friends as much as their close friends. Casual friends are also limited in how often participants would see them “I would say that a casual friend is someone that you don’t see that often or maybe don’t think about or talk to that often but you still, um, think of them as a friend”. Some participants even specified that they wouldn’t see their casual friends outside of the context where they met (e.g., class, team sports) “a casual friend I might see in circuit certain, um, like settings or contexts like school, someone I talk to in class but not necessarily seeing frequently, um, outside of where we met”.

Quality of Close Friendship

Friend's Support of Psychological Needs

The way in which the participants' close friends supported their psychological needs was frequently discussed, with the most common way of supporting their autonomy being through non-pressuring language and taking perspectives. Non-pressuring language was identified through the friend being flexible, open-minded, and responsive in communication. Examples of this included when an 18-year-old female stated "When we have differing opinions it'll come down to something like 'that's your opinion. I don't agree with it, but I respect it,' is usually the mindset I would say that the two of us have." This statement also highlighted another aspect of autonomy support – acknowledging negative affect. In the case of the 18-year-old, her friend listens to her with understanding and respect. Another example of the use of non-pressuring language was from another 18-year-old female stating:

"Even sometimes she might not understand or like for her, she wouldn't choose this thing, but she never forced to like- puts her opinion or anything on it. She sees like, me for me."

This quote also highlights that due to the participant being non-pressuring, the participant feels they can be their authentic selves, which is an indication of having the need for autonomy satisfied. To support autonomy through taking perspective entailed the friend to be inviting of the participant's input, being in sync with the participant, and being aware of the participant's needs. This can be seen when an 18-year-old female said:

"Understanding that, you know, everyone's allowed to have their own opinions and that if you, that, that's ok, like you can still be super close, like you're not gonna always have

every person in your life that agrees with you, and you shouldn't because you need like those friends that um kind of push you.”

Another example of being aware and inviting of the participant's wants would be from a 19-year-old female who said “I don't like doing that kind of stuff. Um And she was like, yeah, you know, I hear you. I understand and we just, um, we didn't go to- we went somewhere else” in response to a question on dealing with differing opinions.

Another sub-theme that is present under need support is the presence of involvement. Involvement supports the need for relatedness through care, awareness, support, and conversation. In the context of close friendship, there were several examples provided of a friend being caring, such as when a participant highlighted that just because the two close friends are not always available to one another “doesn't mean we don't- we care any less for the person”. Another example of care is seen when a 19-year-old female stated:

“If I need anything or what I do need, um, and if I do need something and tell her she'll do it and, um, like new opportunity, like a good thing. She'll, like, tell me that. Like, she's proud of me.”

This quote also shows the participant's friend being aware and willing to provide support when needed, which is another aspect of involvement. The aspect of support can further be seen when another 19-year-old female stated her friend was there for her and “listened to what I had to say and, kind of just told me everything would be OK.” By telling the participant everything was going to be okay, the friend offered a form of encouragement for the participant to persevere through the problem she was facing.

The last need to be supported is competence. The need for competence can be supported through providing structure, under which there are the three elements of guidance, clear

expectations, and constructive feedback. For a friend to provide guidance in a way that effectively supports the competence need, the guidance should be provided when needed by the participant, otherwise, it can be interpreted as being critical. For instance, a 19-year-old female recounted a time she needed emotional support and her friend “talked me through it and kind of made me realize that I, in a, in a very kind way, he made me realize that I was more in my head than the situation actually was. And we uh kind of decided how to approach the situation.”

Another example is when an 18-year-old female stated that her friend would “try to help out” if there was something she could do.

Structure can also be provided through constructive feedback. In the case of friendship, this can look like offering a path forward or providing improvement-enabling insights. For example, one participant’s close friend tries to “look for resources or provide resources if she knows there are ones that exist”, to help the participant when she is faced with a new challenge or opportunity. Another participant stated that their friend was a lot like them in the sense that when being faced with a challenge or new opportunity, the friend is there to provide “colour-coded pros and cons lists and wheels and posters and lots of writing everywhere.” Lastly, friends can communicate what their expectations are for the friendship to provide structure. One 21-year-old female said her friend “always asks like what she can do for me, which I think is nice, um because she wants to make sure that she can really help”, the same participant also stated that “we’re never um putting huge expectations on hanging out because we have huge like busy schedules”, which implies an agreed upon expectation of the relationship.

The interviews also revealed some instances of a lack of need support. In terms of a lack of autonomy support, between close friends, one participant recounted times when they had disagreements with their friend and would thus spend two months not talking. This implies a lack

of involvement, through a level of contingent affection, as well as a lack of autonomy support through non-verbal pressuring.

Psychological Need Satisfaction in Friendship

All participants felt that they, overall, had their needs satisfied with a close friend and few participants recalled instances when they felt their needs had been thwarted. In terms of the need for autonomy, participants felt that they could be themselves and have the freedom to make decisions. One participant stated “I can completely say my opinions and what's on my mind. Uh, I don't have to like shelter or kind of keep myself in a little box. I feel like, yeah, my decisions when I'm with her reflect who I really am or what I really want” and another participant similarly noted:

“I feel a strong sense of choice and freedom in the things that we do together because I know that if we were going to do something that I'm uncomfortable with, she wouldn't do it or she wouldn't make me do it with her.”

Most participants also felt like they were not obliged to do things for their close friends with the quote “I don't feel like I'm obliged to do things for them” being mirrored across participants. However, others felt like they were obliged because of their own personal values related to what it means to be a friend:

“I feel my, like my decisions reflect like what I want and who I am a lot more. Um, but then I still feel obliged to do things for Haley just because like, since we are friends, I want her to feel like we're doing what she likes. So, in that sense, I still feel obliged, but I guess just in a different way.”

When it came to the need for relatedness, a similar trend of all participants feeling like their relatedness need was satisfied, apart from one that hinted at some level of relatedness

thwarting. Participants who had their need for relatedness satisfied felt like they had formed close emotional bonds and were connected in warm relationships, as evidenced by a participant saying, “I feel like [my friend] cares about me in the exact same way...Um, I feel like it's quite obvious and then um I always feel close and connected with her.”

“I definitely feel like she cares about me the same way that I care about her. And yeah, she's very, I don't know the word for it, but she's always kind of like making me know that she cares about me, which is nice.”

This further displays the level of care the two friends feel for one another. However, the participant who experienced some relatedness thwarting stated “I have felt excluded, but I don't think it was necessarily her fault. She just, we have another friend that's very close as well and they're extremely close. So, I think it was more just me feeling a bit left out, but I don't think that's anything to do with her.” This highlights feelings of isolation, which is an aspect of thwarting the need for relatedness.

Regarding the need for competence, responses varied. Some participants linked their competence satisfaction to their close friends' actions, while others stated that their friend's actions were not the determining factor in whether their competence needs were met. For example, where one participant stated “I always feel confident when I'm with the, I feel like when I'm with her, I feel even more confident and like confident to achieve my goals than I do like by myself” another (male, 28) stated “I feel confident in the way that I'm able, able to do well and I feel I'm confident in the way I'm not in where it's, uh, I, I think I feel the same way with anyone. Uh, it doesn't matter if she's a close friend or close friend.”

Another example is when a participant (female, 18) responded with: “More confident and we kind of like boost one another up? So, like, if I'm like, nervous about something she might

like, make me feel more confident about that. Um, so, yeah, with her, I think I feel like pretty confident to achieve my goals or at least not, like, less confident than I otherwise would.” This response was regarding a question on the extent the participant felt confident and competent when with their friend.

Autonomous Motivation Towards Friendship

Reasons to engage in a close friendship were all highly autonomous with all participants having a coding of intrinsic motivation. This means that all participants recounted being in a close friendship because they have fun together. One 28-year-old male participant stated:

“We're friends because she's just always there for me and I always make sure I'm there for her and we just, we have tons of fun times together.”

Others relayed a similar message of “We’re comfortable in each other’s company”, said a 34-year-old male, “I really enjoy spending time with her”, said a 21-year-old female, and “We have similar passions”, said a 23-year-old non-binary individual. Overall, it seems that close friendships exuded intrinsic motivation, such that the participants are close friends with these people out of the sheer satisfaction of being together.

Quality of Casual Friendship

Friend’s Support of Psychological Needs

Need support from casual friends was present but in a different way. Specifically, participants stated that they rarely go to their casual friends for emotional support, for example, one participant said they don’t really tell [their friend] about my... like my more serious problems”, but rather for support on smaller things and/or support in the context that they met their casual friend. For example, one participant stated:

“I don't think that we've really gotten to that point in our friendship. It's more of a casual friendship. Um, but with small challenges, she's always been very, like, supportive and just talk through things and willing to listen.”

Whilst this highlights the support of the need for relatedness through involvement, a divide is drawn between what is discussed with a close friend and a casual friend. This can further be seen in the examples participants used for autonomy support.

“I think a few times I've needed emotional support from my anxiety at school and she responded by um sharing her experiences as well and just making me feel like it was OK to feel what I felt.”

A 19-year-old female recounted a time when she went to her casual friend, whom she met in school, for emotional support, in the context of school. From the quote, we can see the friend is able to take the participant's perspective and support the need for relatedness by being caring and aware of what the participant may have needed in that moment. The same participant also mentioned that her friend “gives her options” when it comes to challenges or new opportunities, which highlights support for the need for competence and autonomy through providing guidance and choices, respectively. Another example of supporting the need for relatedness through involvement is from an 18-year-old female stating:

“If I talk to her about it since they were like casual friends, not like super close, I don't go to her. But like often like little challenges or opportunities but when there are like even things...um she's always like, very like, happy for me and, you know, wish me the best.”

Psychological Need Satisfaction in Friendship

The extent to which participants felt their psychological needs were satisfied showed more variability within their casual friendships. With the need for autonomy, participants stated

they do not feel obliged to do things for their casual friend, an aspect of satisfying the need for autonomy but, they felt like they could not disclose as much information about themselves or otherwise. For example, one participant (female, 21) stated: “I feel like because she's a casual friend, I'd be more likely to not express my opinion if she said something that I disagreed with”, and another (female, 21) stated:

“I can mostly be myself around her. I definitely think that there's some parts that I just try to be like more simple when I'm with her just because like, we haven't gotten to the point where we have really learned about each other.”

The action of withholding parts of the self can be interpreted as a lack of authenticity, which is a part of thwarting the need for autonomy. This was further exemplified by one participant (female, 19) feeling like their casual friend “might be judging me”.

Participants also highlighted that because the friendship is only casual, they haven't been in a situation where they would question their autonomy. For example, one participant (female, 19) stated:

“I don't think because it's a casual friendship. I don't think we've ever been in a position that really needs to, that asks for something that would make it, that I would have to kind of go out of the way or put one of us in an uncomfortable situation.”

This was further corroborated when a participant (female, 19) said: “I don't think like being around her impacts um that [choice and freedom] at all.” There were however still participants who felt their need for autonomy was satisfied as seen when a 18 year-old female stated, “I feel that um there is nothing that's standing in the way of choice and freedom in the things I do with her. Um I think that I'm pretty truthful in who I am”.

The need for relatedness tended to be partially satisfied in casual friendships as participants felt they could not fully agree to label the relationship as “close and connected”. For example, one participant stated:

“I wouldn't say close and connected would be the wording I would use for our relationship either we, whenever we have a conversation, we generally uh just touch the surface about everything.”

Another participant confirmed that the reason they are not as close and connected is that “the conversations we have aren't very like deep or anything” and because “I haven't known her as long”, says another participant. Whilst this lack of connection may not directly be caused by something the casual friend is actively doing, and thus cannot be fully considered as need thwarting, it does allude to dissatisfaction of the need for relatedness, through neglect. A more explicit example of thwarting the need for relatedness is seen in the following quote:

“If we're in larger groups, it tends to feel a bit more, uh, exclusionary. Um, but when we're just seeing each other one-on-one, feels a lot closer.”

The need for competence was generally satisfied as participants felt effective in their environment but, similarly to competence satisfaction in close friends, participants felt that their satisfaction was not contingent on the casual friend. For example, an 18-year-old female stated,

“I feel confident. I don't have any doubts. Um, there's really no place to have any doubts or not feel confident because what we do isn't really, it wouldn't provide that opportunity. Um So when I'm with her, I do feel confident to achieve a goal.”

Despite, the participant feeling that their friend does not get the opportunity to help satisfy their need for competence, there is an implication that the friend is also not doing anything to thwart the need for competence. Another example to corroborate this finding is when

a participant (female, 21) said “When I'm with [my friend], I feel the same level of confidence and um the ability to achieve my goals as I do when I'm not with her”.

Autonomous Motivation Towards Friendship

Whilst the motivation to be in a casual friendship was entirely autonomous, citing reasons like the friend being “a fun person” and “I like talking to her”, which implies more intrinsic motivation, there was a larger portion of casual friendship engaged in for identified reasons. Identified reasons included “It's nice to be able to have someone to sit with in class and to help with if we're struggling um to help with the homework or something like that”, from a 19-year-old female. This exemplifies the “means to an end” core of an identified motivation. Whilst the motivation is still autonomous, it highlights a shift in the reason why people engage in close versus causal friendships. Other examples include “I think she's a very hard-working student and we can be friends and to, to achieve our same goals, I guess”, from another 19-year-old female, and “I'm friends with her just because it's nice to have somebody to go about your day, like chatting with um and just kind of somebody to talk to um instead of sitting by yourself could feel quite isolating”, from a 21-year-old female.

Well-being

Many participants reported experiencing moderate to high feelings of subjective well-being and eudaimonic well-being. Subjective well-being was broken down into happiness and life satisfaction whilst eudaimonic well-being was broken down into vitality, personal growth, self-acceptance, and purpose in life. For the subjective well-being questions, participants often opted to respond on a scale of one to ten, with responses ranging from five to ten out of ten and other responses ranging from “I'm pretty happy” to “I'm pretty stressed” to “my happiness fluctuates a lot”. For the eudaimonic well-being responses, over ninety percent of individuals

responded with indications of high feelings of personal growth “I have felt like I had a lot of personal growth over the last year. Like it's a big um transition to move out and to go to university. And I feel like I learned more about who I was and about finding friends”, high feelings of self-acceptance “I do feel at ease with who I am. I think that's because um I know because I've learned more about myself, I know what I want and I know like the things that I prioritize in life”, and high feelings of purpose in life “I like to believe that I do live a purposeful life when I feel like I'm living a purposeful life is when I'm giving back.”. The theme of vitality had some variability as some participants echoed the statements of “I would describe my overall energy levels as maybe sufficient” whilst others mirrored the statement of “I always have low energy at the start of school just I studied all summer, so maybe a little bit of burnout”.

When comparing participant’s well-being to three facets of need support, need satisfaction, and motivation there was no clear pattern of how participants’ well-being fared in relation to the conceptualization. Whilst the data could be theoretically linked in the manner of participants having high levels of well-being and eliciting strong themes of need support, need satisfaction, and autonomous motivation the same can be said for high levels of well-being and themes of lack of need support and need thwarting, no matter the type of friendship. This is because participants tended to attribute their feelings of well-being to factors like school stress, family disputes, financial strain etc. Therefore, in the scope of purely qualitative findings, it would be speculative to ascertain a relationship that was not commented on by the participants.

Mixed-Data Results

To compare the quantitative and qualitative data side-by-side, a joint display table was created (see Table 8). The quantitative analysis indicated reliable and valid conceptualization. Qualitative data supported this, as interview themes successfully analyzed transcripts. The quantitative and qualitative results also partially converged concerning the quantitative finding of the type of friendship predicting well-being. The results partially converged because interviewees did not explicitly connect their well-being to their friendships, but it was implied through psychological need frustration and thwarting. The qualitative findings provided evidence for close friendships being experienced as higher quality and thus implying greater well-being. Finally, the quantitative and qualitative data partially converged concerning the quality of friendship predicting subjective well-being and eudaimonic well-being. As such, where the quality of friendship positively predicted subjective and eudaimonic well-being in the quantitative data, the qualitative data lacked explicit evidence of the connection between the quality of friendship and well-being. However, based on the numerous examples of need satisfaction that interviewees presented, theoretically, that need satisfaction may have impacted their subjective and eudaimonic well-being.

Table 8

Joint Display Table of the Quantitative and Qualitative Results.

Hypothesis	Survey	Interview	Exemplar Quote
Three-Facet Conceptualization of Quality of Friendship	Need support, need satisfaction, and motivation satisfied internal reliability and validity calculations	Need support, need satisfaction, and motivation themes were present and expressed by participants.	<p>“When we have differing opinions, it'll come down to something like ‘that's your opinion. I don't agree with it, but I respect it’.”</p> <p>“I feel my- like my decisions reflect like what I want and who I am a lot more”.</p> <p>“We have tons of fun times together”.</p>
Close vs. Casual Friends	N/A	Casual friendships tended to offer fewer opportunities for need satisfaction, implying neglect if not thwarting. Participants engaged in all friendships for autonomous reasons but leaned towards more identified reasons in casual friendships.	<p>“Since they were like casual friends, not like super close, I don't go to her.”</p> <p>“I really enjoy spending time with her”.</p> <p>“I think she's a very hard-working student and we can be friends and to, to achieve our same goals, I guess”.</p>
Interaction between quality and type of friendship	No significant interaction between type of friendship and quality of friendship.	Participants experienced higher quality close friendships, in terms of need support, satisfaction, and motivation, than in casual friendship.	<p><i>Close Friend</i></p> <p>“I don't have to like shelter or kind of keep myself in a little box.”</p> <p><i>Casual Friend</i></p> <p>“I feel like because she's a casual friend, I'd be more likely to not express my opinion if she said something that I disagreed with”</p>
Quality of Friendship and Subjective Well-Being	Quality of friendship significantly predicted subjective well-being.	There was no clear relationship between the quality of friendship and subjective well-being as participants attributed lower feelings of subjective	<p>“I've been pretty stressed about school and work um and money”.</p>

		well-being to school, financial pressure etc.	
Quality of Friendship and Eudaimonic Well-Being	Quality of friendship significantly predicted eudaimonic well-being.	There was no explicit relationship between quality of friendship and eudaimonic well-being. However, some participants did mention being able to pick more authentic friends and feeling comfortable.	“I know what I want, and I know like the things that I prioritize in life. So, I know things that are important to me. So, um family and friends are important to me.” “I feel like I learned more about who I was and about finding friends”
Quality of Friendship and Flourishing	Quality of friendship significantly predicted flourishing.	N/A	N/A

Discussion

The objective of the present study was to first define friendship and then to test the proposed conceptualization of the quality of friendship, which includes (1) whether friends support each other's psychological needs, (2) whether friends have their psychological needs satisfied (rather than thwarted), and (3) whether friends' motivation to engage in friendship is more autonomous than controlled. Next, we examine how the quality of friendship predicts well-being in general, and specifically in close versus casual friendship.

Overall, we found that the (three-facet) quality of friendship positively predicts well-being, no matter if it is in a close or casual friendship, and beyond the individual's subjective perception of friendship quality and other measures of quality of friendship like the McGill Friendship Questionnaire. In addition, close friendships tend to be higher in quality than casual friendships when directly compared to each other (like in the interviews). The following discussion first explores the students' perspective on friendship and then delves into the significance of friendship quality and its influence on well-being. Finally, we discuss how and why close and casual friendship contribute differently to the quality of friendship and its connection to well-being.

What is Friendship?

Based on the interviews, friendship seems to be a mutual relationship of respect and understanding that offers support through the good and bad times. When students were asked about close versus casual friends, close friends are described as offering a more intimate and frequent relational experience whereas casual friends offer a more surface-level and withheld relational experience, regarding how much individuals divulge about their true selves. These

findings are in line with previous research that also highlighted the reciprocal and intimate nature of friendship (Amichai-Hamburger et al., 2013; Parker & Asher, 1993).

What is Quality of Friendship?

Using SDT as a theoretical framework, we define the quality of friendship in terms of how friends support each other's psychological needs, fulfill those needs within the relationship, and engage in friendship for autonomous reasons. Whilst previous studies have established the positive relationship between need support, need satisfaction and autonomous motivation, the concepts have been used separately (LaGuardia & Patrick, 2008). However, this quality of friendship conceptualization enables a sequential interpretation, starting with the friend supporting the individual's psychological needs, the individual experiencing need satisfaction, and considering reasons for the individual engaging in the friendship. This holistic approach encompasses the factors that shape an individual's perception of the quality of friendship. Our conceptualization also provides an objective assessment of the quality of friendship while considering the individual's subjective perception of their own friendships.

This conceptualization offers a theoretically grounded understanding of the quality of friendship. The conceptualization provides a structured, interrelated framework for assessing and improving the quality of friendships, which can in turn be used to inform interventions and future research. The conceptualization's interrelated facets of the relationship between supporting psychological needs, satisfying the needs, and engaging in friendships for autonomous reasons, can also be considered in its impact on well-being.

Quality of Friendship in Close versus Casual Friendship

Quality of friendship differs between close and casual friendships, in terms of how the types of friends supported their friend's needs, experienced need satisfaction, and motivation

behind engaging in the friendship. In casual friendships, there are fewer opportunities to experience need support from the casual friends as people usually do not turn to casual friends for emotional support, unless it is within the confines of the setting where individuals met said friend. When individuals experienced need support in all three areas aforementioned areas, need satisfaction was also reported, mirroring the intensity of the need support, no matter the type of friendship. This link between need support and need satisfaction has been made in several studies (Kaplan & Madjar, 2017; Wang et al., 2021; Zhang et al., 2011).

Similarly, when need support was lacking, individuals tended to experience need frustration in at least one of the three needs. Often, need frustration was seen in casual friendships as people felt they could not be their authentic selves, an aspect of the need for autonomy, and were hesitant to label the relationship as close and connected, a core aspect of the need for relatedness. This was further represented in the tendency for casual friendships to be engaged in for identified reasons. This is not to say that casual friendships were not engaged in for intrinsic reasons. Rather, whilst both intrinsic and identified regulation remain autonomous motivations (Ryan & Deci, 2017), casual friendships had more of a means to an end disposition as individuals either felt like they had the same goals and could thus work together to achieve said goals or did not want to experience classes alone.

In contrast, close friendship allows friends to anticipate each other's needs, provide support by allowing friends to be themselves and offer guidance when necessary, showing care and involvement by knowing when to be there for their friend. This high level of need support leads to increased satisfaction of the needs for autonomy, relatedness, and competence. Although, whilst close friendships tended to have the need for competence satisfied in direct relation to the friendship, many individuals felt like their need for competence was solely

dependent on them. Yet, this can also be interpreted as friends not actively engaging in actions to thwart the need for competence, which, in itself, is a positive. Close friendships also tended to be engaged in for more intrinsic motives, out of sheer enjoyment and fun.

In analyzing the quantitative and qualitative datasets, it became apparent that participants reported on a casual friend in the survey but named the very same friend as a close friend in the interview. On one hand, this can easily be attributed to user error but on the other, this emerging finding can be interpreted as a reflection of the complexity of friendship. The disparity suggests that individuals may not categorize close and casual friendships in strict boxes, but rather highlight the fluidity of the closeness of a relationship over time (Dibble et al., 2012) as it may be contextually dependent. More broadly, this emerging finding emphasizes the value of mixed-method research in capturing the richness and nuances of friendships.

Impact of Quality of Friendship on Well-Being

The conceptualized quality of friendship positively predicts subjective well-being, eudaimonic well-being, and flourishing. Individuals who engage in friendships that support the needs, and thus satisfy the individuals' psychological needs for autonomy, relatedness, and competence, and for autonomous reasons, tended to experience more positive affect, life satisfaction, meaning in life, and thriving. This aligns with previous research on the importance of having your needs supported (Deci et al., 2006), having your needs satisfied (Patrick et al., 2007), and engaging in behaviour for autonomous reasons (Ryan & Deci, 2017). However, this study bolsters the importance of high-quality friendship on well-being and the conceptual framework for achieving high-quality friendship.

These findings coincided with several previous studies which found that supporting the needs, satisfying the needs, and engaging in behaviours out of autonomous motivation were

linked to well-being, whether in the context of friendship or otherwise (Ryan & Deci, 2017). However, this study builds on these established findings by treating the three facets as an interrelated unit that impacts well-being.

In addition, our three-facet conceptualization of the quality of friendship demonstrates superior predictive power, particularly in comparison with the McGill Friendship Questionnaire (Mendelson & Aboud, 1997). Indeed, when we use the McGill measure alongside our conceptualization, it diminishes the McGill measure's ability to significantly contribute to our understanding of the quality of friendship and well-being, suggesting that the McGill measure includes irrelevant aspects, not predictive of well-being.

When we examined the unique contribution of each of the three facets (i.e., need support, need satisfaction, and relative autonomous motivation), only relative need satisfaction predicted subjective, eudaimonic, and flourishing well-being, which could be explained by its broader relevance beyond friendship-specific contexts.

The Relation Between Quality of Friendship and Well-Being in Close versus Casual Friendship

We expected the type of friendship to affect the relationship between the quality of friendship and well-being but found no such impact. High-quality friendships are consistently associated positively with subjective, eudaimonic, and flourishing well-being, irrespective of friendship type, while low-quality friendships have a negative association with well-being. This highlights the strong link between the quality of friendship and well-being. Cultivating high-quality friendships promotes contentment, life satisfaction, and a fulfilling life, encompassing growth, self-acceptance, and purpose, regardless of friendship type. This study emphasizes the importance of high-quality friendships in enhancing well-being.

Limitations and Future Research

While the study makes important contributions, it also has important limitations. First, the study did not assess dyadic mutuality of the quality of friendship. As Deci and colleagues (2006) found the quality of friendship is greatest when mutuality is perceived. Second, the study cannot be generalized beyond individuals between the ages of 15 to 29. Despite these limitations, the findings expanded the literature on the quality of friendship and its impact on subjective well-being, eudaimonic well-being, and flourishing. The emergent findings also provided preliminary insights into the relationship between quality of friendship, type of friendship, and well-being.

Future research should continue to examine the nuances of friendship and its impact on well-being. More pointedly, the nuances of how the dynamic nature of the components of the quality of friendship change over time and in different relational contexts and how it interacts with different relational influences. Additionally, because the conceptualization is based on a universal theory of psychological needs, the findings can theoretically be applied across cultures. However, it would still be valuable to empirically explore how this conceptualization fares across cultural contexts.

Conclusion

This study applied an SDT lens to examine the quality of friendship, made up of need support, need satisfaction, and autonomous motivation, which positively predicted subjective, eudaimonic well-being, and flourishing. This conceptualization was found to be more robust than the McGill Friendship Questionnaire in its predictive capacity of well-being and overall accountability of factors that make up the quality of friendship. Close and casual friends were also explored and found not to affect the relationship between quality of friendship and well-being. Close friendships displayed a higher quality, characterized by greater support for psychological needs, increased need satisfaction, and more autonomous motivation. Casual friendships, on the other hand, tended to offer less support, satisfaction, and autonomous motivation. However, it is important to recognize the fluidity and contextual dependency of friendship categorization, as casual friendships have a greater independent impact on well-being. Ultimately, this study highlights the critical role of high-quality friendships in promoting well-being, regardless of the type of friendship.

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Appendix A

Qualitative Coding Manual

Code	Definition	Example
Participant talking about a close friend		
Participant talking about a casual friend		
AS: Taking perspectives	Friend is inviting of participant's input; in synch with participant; aware of participant's needs, wants, goals, emotions, preferences.	Tone of understanding. Statements of an acting force e.g., my friend does this to me...;
AS: Intrinsic motivators	Friend enjoys hanging out with participant	
AS: Explanatory rationales	Friend explains why they ask for something; identifies value/important/benefit of request.	
AS: Non-pressuring language	Friend is flexible, open-minded, and responsive in communication.	
AS: Acknowledging negative affect	Friend listens carefully, nondefensively, and with understanding to the participant; accepts complaints as valid.	"I am able to be open with **" "I feel accepted"
AS: Patience	Friend calmly waits for signals from participant.	
Providing choices	Friend provides options to the participant.	
Identified Regulation	External reasons have been accepted as a personal value that is important to the individual	Having friends to attain personal goals
C: Taking only own perspective	Friend prioritizes themselves over participant; out of synch with participant; unaware of participant's needs, wants, goals, emotions, preferences.	Tone of pressure. Friend tells me what to do;
C: Extrinsic motivators	Friend offers the participant incentives for compliance; gives participant	

	consequences for desired/undesired behaviors.	
Introjected Regulation	External pressures have been internalized and actions are often performed out of guilt or shame or to boost the individual's ego	Having friends because it would be embarrassing not to have any
External Regulation	Engaged in for purely external reasons, such as rewards or environmental pressures	Having friends to be invited to parties
C: No rationale	Friend tells participant what to do without explanation.	“** tells me to do this”
C: Pressuring language	Friend uses coercive, critical, and inflexible language on the participant; is pressuring verbally and nonverbally.	“** told me I have to/must” “** raises their voice”
C: Counters negative affect	Friend argues against participant's negative affect/complaining.	
C: Impatient	Friend intrudes into participant's life; communicates what is right and pushes participant to do it.	“** does things for me when I take too long”
Autonomy Satisfaction	Experiencing self-direction and personal endorsement in the initiation of and regulation of one's own behavior.	Sense of choice, freedom; authenticity, expressions of who I really am; doing what interests me; often I personally feel statements.
Autonomy Thwarting	An outside force takes our sense of choice away and, instead, pressures us to think, feel, behave in a prescribed way.	“I have to”; feel forced; no choice; obligations; often I personally feel statements.
Structure: Provides guidance.	Friend provides help and assistance when needed.	Friend is clear, supportive
S: Clear expectations	Friend communicates what is expected, what they want, what needs to be done.	
S: Constructive feedback	Friend provides improvement-enabling insights. Offers a path forward.	

Lack of Structure: Critical	Derogatory remarks and general criticality.	Friend is unclear in what they want from me; friend wants me to be better.
LoS: Unclear expectations Competence Satisfaction	Feeling effective in one's interactions with the environment. A desire to expand one's capacities and skills to seek/master optimal challenges and personal growth opportunities.	Feel confident; capable; able to achieve; successful.
Competence Thwarting	Feeling ineffective.	Doubts; disappointed with performance; insecure; failure.
Invl: Friendly communication	Friend is easy to talk to.	Being benevolent/kind; caring; trusting; attentive; shows warmth, concern
Invl: Showing care	Friend cares about participant.	
Invl: Showing awareness	Friend is aware of the participant's needs. Is attentive.	
Invl: Cooperation Invl: Support	Friend provides encouragement and support to the participant.	
Invl: Conversation	Showing interest in participant's life/interests.	
Lack of Involvement	Lack of interest in relationship and in devoting time and energy. Affection is contingent.	Not listened to; not cared for; friend likes others more; friend doesn't have time for me.
Relatedness Satisfaction	Having close emotional bonds and attachments with other people. A desire to be connected and emotionally involved in warm relationships.	Feel cared about; connected; feel close to people; experience warmth when with people.
Relatedness Thwarting	Feeling alone and socially alienated.	Feel excluded; feel people are cold/distant to me; feel disliked; relationships are superficial.
Happiness Life Satisfaction	Mostly happy. High satisfaction is shown by life being close to ideal.	
Vitality	Feeling alive, alert, energetic.	

Personal Growth	Maintaining learning, continuous development
Self-Acceptance	Feeling good about themselves, even when aware of their limitations.
Purpose in Life	Feeling like you have goals/aims
