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Best Friends Forever and Family Ties: Continuity and Change
In Closeness with Parents and Friends Among
Australian Adolescents

McKell A. Jorgensen-Wells

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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ABSTRACT

Best Friends Forever and Family Ties: Continuity and Change In Closeness with Parents and Friends Among Australian Adolescents

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During adolescence, the need for social connection increases. Yet, fostering emotional closeness in relationships becomes more complex, as the need for autonomy also increases and social environments must adapt to become conducive to these seemingly competing needs. This complexity necessitates more research on what happens to close relationships during adolescence, so parents, scholars, and practitioners are better equipped to help individuals navigate the unique social atmosphere of adolescence. The current study draws upon multi-level modeling techniques to estimate growth models of Australian adolescents' closeness to parents and closeness to friends from ages 12-17 and examine predictors of these trajectories. Findings reveal that on average, adolescents' levels of closeness to parents exhibit a moderate decrease while remaining relatively high, and boys appear to have a closer relationship with their parents than girls throughout the period examined. Levels of closeness to friends similarly decline while remaining relatively high, with girls exhibiting both greater levels of closeness and a faster decrease than boys throughout the timeframe examined. These results are discussed in light of the current literature and recommendations for future studies are provided.

Keywords: adolescence, Australia, closeness, social relationships, self-determination theory, stage-environment fit

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Best Friends Forever and Family Ties: Continuity and Change in Closeness with Parents and Friends Among Australian Adolescents

Every human has a biological need for social belonging (Bowlby, 1969). Scholars throughout the decades have reported the importance of close relationships in many facets of individual well-being, including mental and physical health, overall life satisfaction, life expectancy, and employment satisfaction (Kansky, 2018; Pedro et al., 2015). In adolescence, the need for emotionally close relationships increases (Nickerson & Nagle, 2005), when individuals crave intimacy and gain greater capacity for meaningful social relations (Buhrmester, 1998). Yet, finding relational intimacy becomes more complex, as the need for autonomy grows (Deci & Ryan, 2012) and adolescents' social environments change (Gutman & Eccles, 2007), leading to significant changes in adolescents' relationships with parents and peers. The combination of these phenomenon result in much higher stakes for closeness within a set of complex circumstances teens may struggle to navigate.

Interpersonal relationships are a key indicator of individual well-being during both adolescence and adulthood (Badri et al., 2021; Kansky, 2018; Pedro et al., 2015), which in turn impacts important facets of societal functioning such as school/work performance, civic engagement, and community involvement (e.g., Richardson et al., 2020). Understanding relationship shifts, particularly with parents and friends, especially across cultures, may increase parents' and educators' capacity to help teens navigate these relational transitions. Thus, adolescent relationship changes constitute a key issue for family scientists, psychologists, sociologists, demographers, and economists alike. This paper examines trajectories of Australian adolescents' closeness with parents and friends from ages 12-17. I first explore the current relevant literature, then review the methods by which I conducted my study, present the results

of my statistical analysis, and discuss my findings.

Review of Literature

The Need for Close Relationships

Human beings have an innate biological need to connect with other individuals in deep, intimate ways—a notion that has become widely accepted with the emergence of attachment theory (Ainsworth, 1989; Bowlby, 1969; Hazan & Zeifman, 1999; Sroufe, 2005). The fulfillment of these emotional needs predicts individual well-being and positive behavior (Ainsworth, 1989; Bowlby, 1969), and individuals who do not experience close relationships may experience greater distress (Badri et al., 2021; McIntyre et al., 2018), more depressive symptoms (Badri et al., 2021; Werner-Seidler et al., 2017), lower life satisfaction (Blau et al., 2019; Şahin, et al., 2019), and decreased levels of societal functioning (Richardson et al., 2020).

While the need to belong remains salient from infancy to late adulthood (Sroufe, 2005), the desire for intimate connection increases during adolescence (Buhrmester, 1998). Teens experience a heightened drive to connect to others and a desire to find where they “fit” in familial, peer, and dyadic contexts (Blakemore, 2008; Somerville, 2013). Indeed, boys and girls alike describe an emerging need to connect that they did not experience during childhood (Buhrmester, 1998; Johnson, 2004; Valkenburg et al., 2011; Way, 2013). Thus, adolescents’ increased desire to foster emotional connection with others heightens the stakes for close relationships during the adolescent developmental period.

The Need for Autonomy

Self-determination theory adds that while closeness (termed “relatedness” within the SDT literature) is a core need, so too is autonomy – particularly during adolescence (Deci & Ryan, 2012). Adolescence is the period of time between the lack of freedom in childhood and

complete freedom of adulthood, essentially serving as the practice ground for how to handle that freedom during adulthood. Autonomy grants youth the freedom necessary to make their own decisions while still having their behavior monitored by parents (Li & Hein, 2019; Lionetti et al., 2019). This allows adolescents develop their identity, determining what values they uphold and what their goals are (Meeus, 2011), and leads to better personal and relational outcomes during adulthood (e.g., Oudekerk et al., 2015).

These two developmental needs may seem to be contradictory in nature. However, the need for closeness can be met – and indeed, may be more likely to be met – when relationships are egalitarian in nature, with both parties having a say in how the relationship works and determining how they act in the relationship (Nickerson & Nagle, 2005; Oudekerk et al., 2015; Zeifman & Hazan, 2008). These kinds of relationships allow for individuals' needs for closeness to be met without sacrificing autonomy and help prepare adolescents for adult relationships (Oudekerk et al., 2015). Thus, it is important for both personal and relational well-being that individuals experience close, egalitarian relationships throughout adolescence.

Stage-Environment Fit

For the growing developmental needs of closeness and autonomy to be met, adolescents must be part of an environment that neither restricts or outpaces those needs – a phenomenon scholars call stage-environment fit (Eccles et al., 1993; Gutman & Eccles, 2007). There are many external factors that influence adolescent relationships, fostering or hindering closeness and autonomy (e.g., Badura et al., 2017; Majors, 2012). Often, these are contextual influences adolescents cannot control (e.g., Grolnick et al., 2017; Majors, 2012), thus bringing complexity to the goal of finding stage-environment fit.

One of the most important contexts with the potential to hinder or foster adolescents in

these pursuits is the family. Family remains a critical part of adolescents' lives, as adolescents still live with and spend a lot of time with their family of origin (e.g., Gracia et al., 2020; Slot et al., 2019) and parent-child relationships remain a strong predictor of individual well-being (Itahashi et al., 2020; Moretti & Peled, 2004). However, as individuals' personal and relational needs change during adolescence, the family must also adapt, striking a new balance of relatedness and autonomy that honors new developments (e.g., Oudekerk et al., 2015). This can be tricky, as parents remain at the top of the hierarchy and ultimately control the adolescents' home/family environment as well as having at least some power over adolescents' lives outside the home (Boele et al., 2019; Hazan & Shaver, 1987). Most families are able to adjust positively, creating an environment conducive to adolescent needs (e.g., Benito-Gomez et al., 2020), and many adolescents report remaining close with their parents (Clayton, 2014; O'Connor et al., 2019). However, other families may struggle as parents limit their adolescent children's autonomy (e.g., Soenens et al., 2015), causing tension between teens' developmental needs and the capacity of their environment to encourage fulfillment of those needs. Teens in such circumstances often express desire for greater independence and less parental control (De Geode et al., 2009; Lionetti et al., 2019), feel less supported, and may even grow more distant from their parents (Oudekerk et al., 2015; Solomon et al., 2002), thereby struggling with both gaining autonomy and creating emotionally close relationships.

Friendships with peers typically take place in a more autonomy-friendly atmosphere, as teens often see themselves as on equal ground with their peers (Buhrmester, 1998; Crosnoe, 2000). This unique social dynamic can provide opportunities for adolescents to develop close egalitarian relationships that encourage the important adolescent task of developing autonomy in addition to fulfilling individuals' needs for closeness (e.g., Nickerson & Nagle, 2005; Oudekerk

et al., 2015). Further, friendships can provide a unique connection with individuals who live within and understand teens' daily social environment (Johnson, 2004). However, while secondary school and extra-curricular activities may create more opportunities for social interaction (Slot et al., 2019), other aspects of the adolescent social environment – such as exclusive social cliques and regular fluctuations in relationship creation/dissolution – seem to discourage creating healthy, close relationships (e.g., Majors, 2012).

Taken together, these theoretical notions and empirical findings suggest that while adolescents likely develop close relationships with both parents and peers, trajectories of closeness with parents and friends may differ due to the increasing need for autonomy and the very different social contexts parent and peer relationships are part of. With seemingly competing needs and a unique social environment that can either benefit or hinder the fulfillment of these needs, it is vital for scholars, practitioners, and parents to understand the current trends for adolescent relationships with both parents and friends. This knowledge will allow us to determine where adolescents are at in relationship development and what they need from us, allowing us to better help adolescents navigate the complex developmental needs and social environment that play such a huge role in their lives.

Potential Predictive Influences

Identifying factors that may impact their relational trajectories may also help adults understand how to aid adolescents in navigating these complex relational issues. For this reason, I also seek to expand the literature by testing factors that may substantially impact individuals' relationship trajectories. One such factor is gender. While both boys and girls form intimate relationships with parents and friends during adolescence, many empirical studies have noted that some facets of teens' interpersonal relationships vary by gender. For example, multiple

studies have noted that adolescent girls report higher levels of closeness in their friendships than adolescent boys (e.g., Erdley & Day, 2017; Johnson, 2004). These results are less likely biological sex differences but results of the social construction of gender in most Western societies (e.g., Way, 2013). Although there is little work regarding gender differences in levels of closeness with parents, the variation exhibited in the adolescent relationship literature suggests the potential for closeness to be influenced by gender as well. This study thus examines child gender's potential influence on levels of closeness.

While inherent individual characteristics such as gender often influence interpersonal relationships, it is important to acknowledge the growing complexity in family dynamics and how these factors may impact close relationships. Adolescents live in a more diverse array of household arrangements than in past decades (e.g., Bloome, 2017; Pearce et al., 2018), including voluntarily single parent families and families with a biological parent and the parent's current cohabitation partner. While empirical studies have documented the benefit of a two-parent family structure constructs such as on parenting quality and parent-child communication (for a review, see Hadfield et al., 2018), it is yet unclear whether family structure influences closeness in the same way. Given the vital role parental relationships play in adolescents' lives (Ainsworth, 1989; Bowlby, 1969), this is a significant hole in the adolescent relationship literature. My study thus explores the potential effects of family structure on adolescents' levels of closeness.

Additionally, other demographic factors such as parental education and income often influence various adolescent outcomes, noting that individuals who experience more privilege regarding these socio-economic factors typically adjusting better throughout the changes involved in adolescence (e.g., Noble et al., 2015). I will also, therefore, examine whether these

common demographic factors predict adolescent closeness with parents and friends.

Current Study

The needs for closeness and autonomy increase during adolescence, when individuals also experience significant changes in their social environment that can either foster or hinder the fulfillment of those needs within relationships. This conundrum evokes great complexity into adolescents' relationships with parents and peers at a time when the stakes for emotional need fulfillment are high. Such a phenomenon warrants significant thought and study, as greater understanding of current trends in adolescents' relationships with their parents and friends and what predicts variation within those trends may help parents, practitioners, and scholars better understand how to help adolescents navigate these complex issues.

The current study utilizes nationally representative data from Australia to examine trajectories of closeness with parents and friends across adolescence. Based in the current literature, I propose the following research questions (RQ) and hypotheses (H). RQ1: How will closeness with parents change throughout adolescence? RQ2: How will closeness with friends change throughout adolescence? RQ3: Will closeness with parents differ by gender, family structure, or other demographic factors? RQ4: Will closeness with friends differ by gender or other demographic factors? Based in the literature, I propose the following hypotheses. H1: Closeness with parents will either remain stable and high or increase throughout adolescence. H2: Closeness with friends will increase throughout adolescence. H3: Closeness with parents will differ by gender. H4: Closeness with friends will differ by gender. I offer no hypotheses regarding how demographic factors other than gender may influence trajectories of closeness to parents and friends, as the current literature in this area does not strongly suggest the direction of these potential effects. I will explore these questions and hypotheses by estimating growth

models for levels of closeness with parents and friends from ages 12-17 and subsequently examining factors that may predict the intercept and/or slope of the growth trajectories.

Methods

Participants

Participants (N = 4048) for this study were drawn from the Kindergarten cohort of the nationally representative *Growing Up in Australia: The Longitudinal Study of Australian Children (LSAC)* conducted by the Australian Bureau of Statistics, Australian Department of Social Services, and Australian Institute of Family Studies (Australian Bureau of Statistics et al., 2020). Participants were born between March 1998 and February 1999 and were interviewed biennially beginning in 2003. The current study utilized 3 later waves of data during participants' adolescent years (hereafter termed Wave 1, Wave 2, and Wave 3) collected in 2011, 2013, and 2015. Participants were 12-13 years old at Wave 1, 14-15 years old at Wave 2, and 16-17 years old at Wave 3. On average, participants' parents' highest educational attainment included some education, and monthly household income varied from \$1 to \$16650.72 (in Australian dollars) (see Tables 1 and 2 for descriptive statistics). The retention rate from Wave 1 to Wave 2 was 89.12%, from Wave 2 to Wave 3 was 87.33%, and overall from Wave 1 to Wave 3 was 78.08%.

To provide a more accurate depiction of adolescent development in this study, each wave of data was split by age, resulting in two age groups per wave. Thus, rather than having 3 timepoints each with participants of two age groups each (Wave 1 = 12/13, Wave 2 = 14/15, and Wave 3 = 16/17), the restructured data contained 6 timepoints (i.e., reshaped by age) with participants of one age group each (Wave 1 = 12, Wave 2 = 13, Wave 3 = 14, Wave 4 = 15, Wave 5 = 16, Wave 6 = 17). To control for potential differences between the two age groups, I

included a cohort variable in my analyses.

Procedure

The researchers utilized stratified cluster sampling methodology to obtain a nationally representative sample of Australian children. Researchers determined postcode as the primary sampling unit (PSU), identifying potential participants for each postcode region using records from the Health Insurance Commission's medicare enrolment database. Postcodes were then stratified by state and region (metropolitan city vs. rural area) to ensure accurate representation of the target population. Australian postcodes with fewer than 20 residential children of the target age were combined with adjacent postcodes (162 postcodes combined into 67 postcode areas). Additionally, non-residential postcodes with 10 or more children were combined with adjacent postcodes (123 post office postcodes combined into 54 postcode areas). These measures were taken to ensure inclusion of children in all residential areas. Following these measures, remaining postcodes with fewer than 20 children of the target age range were dropped ($n = 605$, comprising approximately 1% of Australian children). This procedure resulted in 1979 postcodes.

Researchers mailed the medicare card holder of selected families a letter that contained the target child's name, a letter of support from the Australian Institute of Family Studies, and a brochure about the Growing Up in Australia study, inviting them to participate in the study. Selected families were given 4 weeks to withdraw from the study. Following the withdrawal period, the researchers provided the data collection agency I-view the names and addresses of all participating cardholders. I-view then sent each family a letter stating when an interviewer would be in the area to collect data and providing a contact phone number, whereupon researchers conducted personal interviews with the participating families and target children.

Measures

Constructs were measured in response to direct questions of the interviewer or via self-report. Unless otherwise specified, measures were completed at each timepoint and responses were coded so higher values represented greater levels of the construct.

Closeness with Parents

Participants self-reported closeness with their parents using the trust and communication subscales of the People in My Life (PIML) measure (Ridenour et al., 2006). Sample items included “I trust my parents” and “I talk with my parents when I have a problem” for the respective subscales. All scale items were averaged to create a mean closeness score, which exhibited good reliability ($\alpha = .94$) and showed little difference from using a latent variable score (correlation = .99).

Closeness with Friends

Study children self-reported closeness with their friends using 8 items from the trust and communication subscales of the Inventory of Peer and Parental Attachment (IPPA) measure (Armsden & Greenberg, 1987). Sample items included “I trust my friends” and “I tell my friends about my problems and troubles” for the respective subscales. One of the items from the communication subscale was modified from “My friends listen to what I have to say” to “My friends listen to what I say” for simplicity. All scale items were averaged to create a mean closeness score, which exhibited good reliability ($\alpha = .91$) and showed little difference from using a latent variable score (correlation = .99).

Control Variables

Control variables consisted of child gender (0 = female, 1 = male), maternal education, paternal education, family structure (0 = single parent household, 1 = two parent household),

cohort (0 = younger cohort, 1 = older cohort) and net monthly household income (numeric variable reported in Australian dollars). Income was transformed logarithmically to reduce skewness.

Plan of Analysis

I first ran descriptive statistics on all variables included in later analyses (see Tables 1 and 2). Next, utilizing full information maximum likelihood (FIML) to account for missing data, I conducted measurement equivalence testing for the closeness to parents and closeness to friends measures in *Mplus* (see Figure 1 for a graphical representation). I then rearranged the data to be structured by age rather than by wave and estimated a series of separate growth models for closeness with friends and parents using multi-level growth modeling techniques. Upon estimating the unconditional models, I examined whether child gender, family structure, and other common demographic variables (parental education, income, cohort) predicted the overall levels (i.e., intercept) and/or rate of change (i.e., slope) of closeness with parents and friends throughout adolescence. These analyses were conducted in Stata, and I utilized multiple imputation (MI) with 20 imputations to account for missing data.

Results

Measurement Equivalence

According to Little's (2013) guidelines for establishing measurement equivalence (i.e., the model's CFI cannot decrease by more than .01 between each "stage" of equivalence testing), the parent closeness measure met the requirements for strong equivalence (delta CFI = .005). The friend closeness measure met weak equivalence (delta CFI = .003) but did not quite meet strong equivalence (delta CFI = .013). I thus tested for partial equivalence. Both cohorts met strong partial equivalence when the items "My friends encourage me to talk" and "My friends

are good friends” did not have constrained intercepts (delta CFI = .008).

Although the friend closeness measure did not meet strong equivalence when constraining the intercepts for each item, some scholars have asserted partial strong equivalence is adequate for growth modeling (Putnick & Bornstein, 2016). Thus, in meeting both weak equivalence and strong partial equivalence for the closeness to friends measure, I found it appropriate to proceed estimating growth models.

Multi-level Growth Models

In estimating growth models for this paper, there were 3 major statistical considerations: the nested nature of the data (observations nested within individuals), the relatively large degree of missing data, and the complex survey design (i.e., stratified, clustered random sample). The only Stata command I could find that would account for all three of these considerations was the `areg` command. This command allowed me to identify participant id as a nesting variable, essentially running a multi-level model with observations as the Level 1 variable and individuals as the Level 2 variable. `areg` was also compatible with Stata’s `MI` command, accounting for missing data. Consistent with recommendations for longitudinal analysis, I thus included 20 imputations (Little, 2013). Finally, the `areg` command was able to account for the survey design by “absorbing” the PSU of postcode (essentially treating each postcode as a separate dummy variable), creating dummy codes for each of the strata, and weighting observations via the survey’s population weights. The respective postcode and strata effects are included though not shown in every growth model.

However, while this command allowed accurate fixed effects (the average trajectory of closeness over time) to be estimated, `areg`’s unique way of handling the survey design also meant random effects (how levels of closeness varied across participant id, postcodes, and strata) could

not be provided. As my research questions focused on the fixed effects, this method of statistical analysis was appropriate. In the future, scholars who seek to examine the random effects of similar models will need to explore alternative analytical options.

Levels of Closeness with Parents

The linear unconditional growth model revealed a significant decrease in closeness with parents across time ($\beta = -.05, p < .001$). The quadratic unconditional growth model was also significant ($\beta = .01, p < .05$), indicating a that the average trajectory for parental attachment followed a negative, non-linear pattern (see Figure 2). Thus, while closeness with parents decreased from ages 12-17, this drop slowed down as time went on.

There was evidence that gender, family structure, and income was associated with the intercept of the model (see Table 3). Boys had a slight but significantly closer relationship with parents at age 12. Adolescents in two-parent families reported a slight but significantly closer relationship with parents at age 12. Adolescents in higher income families had a small but significantly closer relationship with parents at age 12. There was no evidence that any of the covariates was associated with the slope of the model, meaning that for gender, family structure, and income, there was no evidence that the difference in closeness between groups changed between ages 12-17.

Levels of Closeness with Friends

The linear unconditional growth model (see Figure 3) revealed a significant decrease in closeness with friends across time ($\beta = -.05, p < .001$). The quadratic unconditional growth model was not significant ($\beta = -.00, p = .498$), providing no evidence for a non-linear change across time. Thus, adolescents' closeness with friends declined at a steady rate.

There was evidence that both child gender and income were associated with the intercept

of this model (see Table 4). Girls had a slight but significantly closer relationship with their friends at age 12. Adolescents in higher income families had a slight but significantly closer relationship with friends at age 12. There was also evidence that gender was associated with the slope of the model. Girls' trajectories had a slight but significantly steeper decrease (see Figure 4), although follow-up simple slopes testing revealed that both girls' ($\beta = -.066, p < .000$) and boys' ($\beta = -.048, p < .000$) trajectories were significantly different from zero. However, there was no evidence that income was associated with slope, meaning it is unlikely that the differences in parent-adolescent closeness for families of different incomes changed across ages 12-17.

Discussion

The developmental needs for interpersonal connection and autonomy increase during adolescence, while individuals also experience significant changes in their social environment that can either foster or hinder the fulfillment of those needs within relationships. This phenomenon makes navigating relationships more complex for adolescents at a time when the stakes for finding closeness and autonomy are high. Understanding what currently happens in adolescents' relationships with parents and friends will likely help researchers, parents, and other youth leaders aid youth in the relational transitions of adolescence. In effort to expand the literature on adolescent development and relationships, this study utilized growth models to estimate levels of closeness with both parents and friends from ages 12 to 17. My findings revealed closeness with both friends and parents decreased throughout adolescence. Statistical results also identified factors that may predict closeness with both friends and parents. I will first evaluate the overall trends evident in the growth models, whereupon I will discuss findings related to various predictors.

Trajectories of Closeness

The overall downward trend in closeness with parents is interesting because these results contradict empirical research while upholding theory. In many empirical studies, parenting scholars have shown that adolescents' relationships with their parents remain stable and of high quality, if not showing an increase in intimacy (Clayton, 2014; O'Connor et al., 2019). Yet, extant theories uphold the notion that closeness decreases through adolescence. Attachment theory supports the idea of closeness with parents waning across time, as children become more autonomous and begin to invest more in egalitarian relationships, such as those with peers (Hazan & Shaver, 1987; Nickerson & Nagle, 2005). Self-determination theorists might suggest that parental relationships may not fulfill adolescents' need for autonomy, thereby leading adolescents to emotionally invest less in parental relationships (Deci & Ryan, 2012; Oudekerk et al., 2015; Solomon et al., 2002). The stage-environment fit hypothesis implies there are external factors at play that may be contributing to a relationship that does not fill adolescents' need for closeness (Eccles et al., 1993; Gutman & Eccles, 2007).

While the decrease was statistically significant, this effect was moderate, resulting in a roughly .25 total drop across the six years of data. Such a small effect constitutes less than half of a standard deviation, and adolescents' closeness to parents remained high throughout the period analyzed. Further, participants' initial scores were very high, implying that this drop over time could simply be attributed to the statistical phenomenon of regression toward the mean or the ceiling effect – with such a high start value, it is unlikely for scores to increase, thereby resulting in participants being much more likely to report a decrease (e.g., Little, 2013; Colman, 2015). Interestingly, the curvilinear nature of this trend adds to this notion. As participant scores became further from the “ceiling”, or highest value possible, the decrease became less

pronounced. In other words, once there was a greater statistical likelihood for an increase, scores dropped less.

The closeness with friends growth models illustrated a similar a decrease in closeness with friends. This finding is perplexing, as both research and theory suggest otherwise. The current adolescent peer empirical literature suggests friends increase in importance through adolescence (Buhrmester, 1998; Johnson, 2004; Valkenburg et al., 2011; Way, 2013). Attachment theorists have long held that individuals' relationships with peers grow in significance and intimacy between friends increases throughout adolescence (Hazan & Shaver, 1987; Nickerson & Nagle, 2005). Self-determination theory suggests that friend relationships provide a context very conducive to the development of both closeness and autonomy (Deci & Ryan, 2012; Oudekerk et al., 2015), which the stage-environment fit hypothesis would see as a likely indicator that this environment conducive to both needs allow adolescents to create thriving close relationships (Eccles et al., 1993; Gutman & Eccles, 2007).

One potential explanation is that the drastic increase in intimacy with friends occurs before the time my data addressed this construct and then begins to taper off slightly by age 12. This would make sense considering my data, because while attachment with friends decreased in my models, the overall levels started and remained relatively high. Another possibility is that adolescent romantic partnering influences closeness in other relationships sooner than scholars have anticipated. Future studies could further explore this option by specifically examining whether and how romantic involvement at one timepoint influences relationships with friends the next. It would also be beneficial to examine reports of adolescent attachment to romantic partners in tandem with parent and friend attachment, where possible.

It is important to note, however, that the effect size for this model, while statistically

significant, was again moderate and average scores high. These observations suggest the statistical phenomenon of regression toward the mean may play a role in these results. Future studies are required to determine whether this statistically significant decline in closeness with friends is practically significant as well.

Yet, it is also possible that levels of closeness are simply different for Australian and U.S. youth. Most of the extant literature on adolescent relationships is derived from U.S. samples, although at least one study has noted that adolescent peer relationships are of similar import in Australia (Gray et al., 2017). Future studies should examine whether and how social development may differ across cultures, including between Western countries such as the U.S. and Australia.

Predictors of Closeness

Regarding gender, analysis revealed that gender influenced the intercept of both models, indicating that boys had higher levels of closeness with parents than girls, and girls had higher levels of closeness with friends than boys. While few studies have examined child gender as a predictor of parental closeness, these results regarding closeness with friends are consistent with previous findings that girls consistently score higher than boys on closeness with friends (Erdley & Day, 2017; Johnson, 2004). Additionally, gender predicted the slope of closeness with friends, indicating that girls' closeness with friends declined at a greater rate than boys'. In other words, while girls continued to remain higher than boys, this gap began to close as adolescents became older. Gender did not influence the slope of parental closeness, however, suggesting that the gender difference in parental attachment remained stable throughout adolescence. Future research should examine why the slope of closeness with friends differs by gender but closeness with parents does not.

Adolescents living in a two-parent family had higher levels of closeness with parents (intercept), although the rate of change (slope) did not differ between the two groups. This finding is similar to previous studies on other relational constructs (e.g., Hadfield et al., 2018), suggesting that teens' relationships with their parents fare best when living in a stable, two-parent home. As divorce and other kinds of relational dissolution (e.g., cohabitation) rates remain high (e.g., Bloome, 2017) and constitute a contextual influence adolescents cannot control, it is concerning on individual, familial, and societal levels that these common patterns of adult romantic relationships inhibit such a strong predictor of current and future well-being for the children involved. Even during adolescence, parental relationships have the capacity to serve as individuals' relationship template, influencing relationships that may not even form for years to come (Bowlby, 1969; Hazan & Shaver, 1987). Scholars should look further into this issue, as well as explore potential avenues for ensuring adolescents in single-parent homes can benefit from similar levels of closeness with parents as adolescents in two-parent homes.

Adolescents with greater household income experienced higher levels of closeness with both parents and friends, with income discrepancies remaining stable across time. One potential explanation for this phenomenon is that household income contributes to the overall home environment, which may then influence whether developmental needs are met (Eccles et al., 1993; Gutman & Eccles, 2007). For example, parents in lower SES families may of necessity work more hours and spend less time with their children (Allan et al., 2016), resulting in a lower sense of parent-child closeness (e.g., Crouter et al., 2001). Additionally, the adolescents themselves may need to work to help provide for their family (McLoyd et al., 2009), limiting quality parent-child interactions as well as decreasing the time they can spend with friends. In contrast, teens in higher SES families may be more involved in extra-curricular activities with

peers (e.g., Theokas & Bloch, 2006), providing more time to socialize and make friends.

The potential for these and other characteristics to influence adolescents' sense of closeness regarding parents and friends is of great import, as such knowledge may help parents, teachers, peers, and others to identify adolescents who are at greatest risk of having core needs left unfulfilled. Identifying such individuals and interceding may have a substantial impact on future relationships, including those as long-lasting as adult romantic relationships. This is especially vital during the developmental period of adolescence, when individuals' need for closeness and autonomy in both familial and peer settings increases drastically (Buhrmester, 1998; Deci & Ryan, 2012; Oudekerk et al., 2015; Valkenburg et al., 2011; Way, 2013). Scholars and practitioners alike would benefit from further examination of factors that may influence adolescent closeness.

Limitations

Possibly the largest limitation of this study is the lack of overlap across time between cohorts in the cross-sequential data design. While cohort effects for closeness were not readily evident and cohort was included as a control variable, the fact remains that having data from participants in both cohorts at each age would have been ideal, as most longitudinal scholars recommend having at least one cohort of overlap (Little, 2013). Researchers intending to use a cross-sequential design to gather data on multiple ages at fewer timepoints should plan to carry out sampling and data collection in a way that guarantees overlap in ages. This can be done by either utilizing shorter lag times between points of data collection or involving more cohorts.

Additionally, this study utilized measures that, while empirically validated, may not be perfect representations of the main construct of interest (closeness). Future studies should determine whether measures commonly used for similar constructs (e.g., relationship quality,

attachment) accurately represent closeness, or new measures should be established.

Conclusion

In conclusion, my study contributed to both the adolescent development and adolescent relationship literatures by exploring levels of closeness in two vital adolescent relationships, expanding the adolescent development and adolescent relationship research to include a sample of Australian youth, and conducting rigorous analysis utilizing a large nationally representative sample. Overall findings revealed a slight but statistically significant decrease in closeness with both parents and friends between the ages of 12 and 17. Gender, family structure, and income influenced the intercept of closeness with parents; gender and income influenced the intercept of closeness with friends; and gender influenced the slope of closeness with friends. While many questions remain regarding the relationship experiences of Australian youth, the precedent for quality cross-cultural research on the topic has been set. Scholars and practitioners should continue to expand our knowledge concerning adolescent relationships, as during adolescence, the core needs of closeness and autonomy increase in importance during adolescence, yet fluctuating social environments can hinder the fulfillment of those needs. Understanding levels of closeness with parents and friends can help scholars, parents, and practitioners learn the best ways to aid adolescents in navigating these complex circumstances, which can positively impact individual lives, familial relationships, and societal functioning.

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Table 1. Descriptive Statistics for Continuous Variables

	Mean	SD
Household Income	\$2,353.74	1675.01
Closeness with Parents	2.38	0.72
Closeness with Friends	3.04	0.81

Table 2. Descriptive Statistics for Categorical Variables

	Number	Percentage
Cohort		
Younguns	2322	58.70%
Oldies	1634	41.30%
Gender		
Female	1936	48.94%
Male	2020	51.06%
Family Structure		
2 Parent home	3277	82.94%
Not 2 parent home	674	17.06%
Maternal Education		
University/trade school qualification	1029	25.41%
High school diploma	530	13.09%
Some high school	2045	50.53%
Primary school or lower	444	10.97%
Paternal Education		
University/trade school qualification	1362	43.52%
High school diploma	377	9.32%
Some high school	1464	36.16%
Primary school or lower	445	11.00%
Region		
Met	2382	60.27%
Xmet	1570	39.73%
State		
NSW	1209	30.57%
VIC	926	23.41%
QLD	852	21.54%
SA	272	6.88%
WA	408	10.32%
TAS	128	3.24%
NT	55	1.39%
ACT	105	2.65%

Table 3. Predictors of Relationship with Parents

	Coefficient	Std. Error	P value
Intercept			
Gender	.12	.02	.000
Cohort	.00	.02	.102
Family Structure	.06	.03	.047
Income (ln)	.09	.02	.000
Maternal Education	-.00	.00	.985
Paternal Education	-.00	.01	.506
Slope			
Gender	-.01	.01	.152
Cohort	-.00	.01	.790
Family Structure	.00	.01	.699
Income (ln)	.00	.00	.866
Maternal Education	-.00	.00	.838
Paternal Education	-.00	.00	.494

Table 4. Predictors of Relationship with Friends

	Coefficient	Std. Error	P value
Intercept			
Gender	-.53	.13	.000
Cohort	.03	.02	.161
Family Structure	-.00	.03	.964
Income (ln)	.07	.02	.004
Maternal Education	.00	.01	.589
Paternal Education	-.01	.00	.148
Slope			
Gender	.02	.01	.047
Cohort	.00	.01	.807
Family Structure	-.01	.01	.433
Income (ln)	.00	.01	.818
Maternal Education	-.00	.00	.853
Paternal Education	.00	.00	.875

Figure 1. Measurement Equivalence Models for Closeness Measures

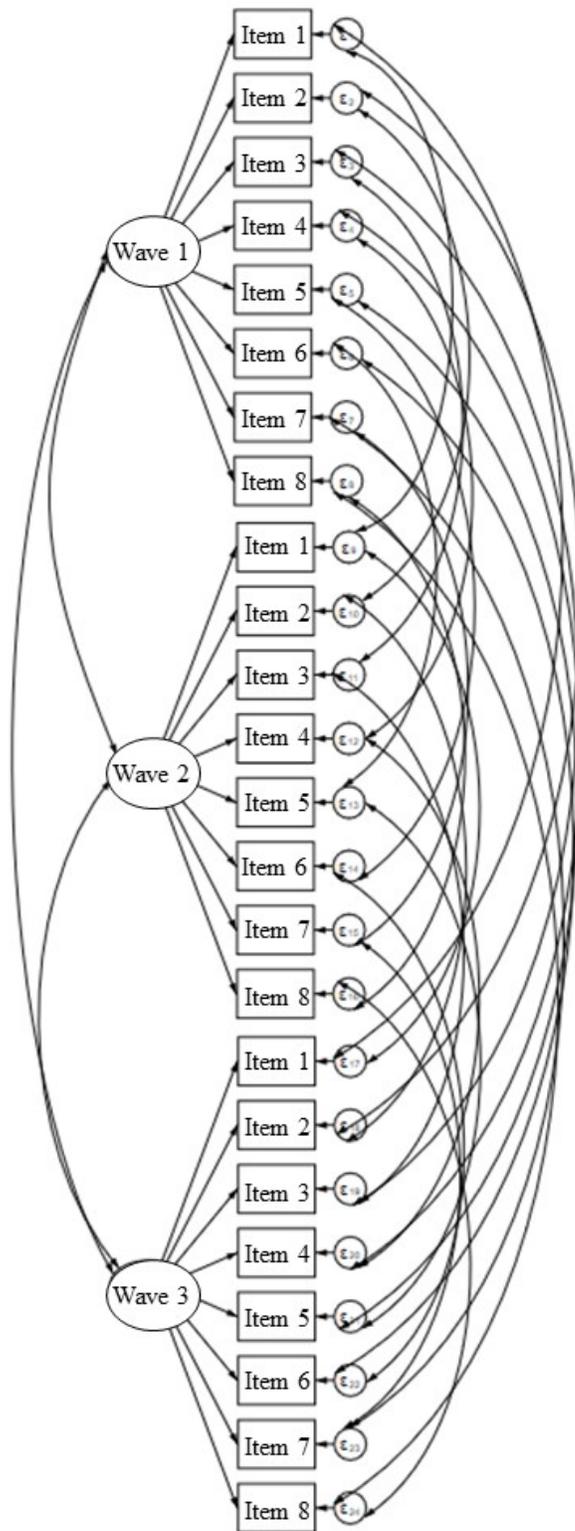


Figure 2. Unconditional Attachment to Parents Model

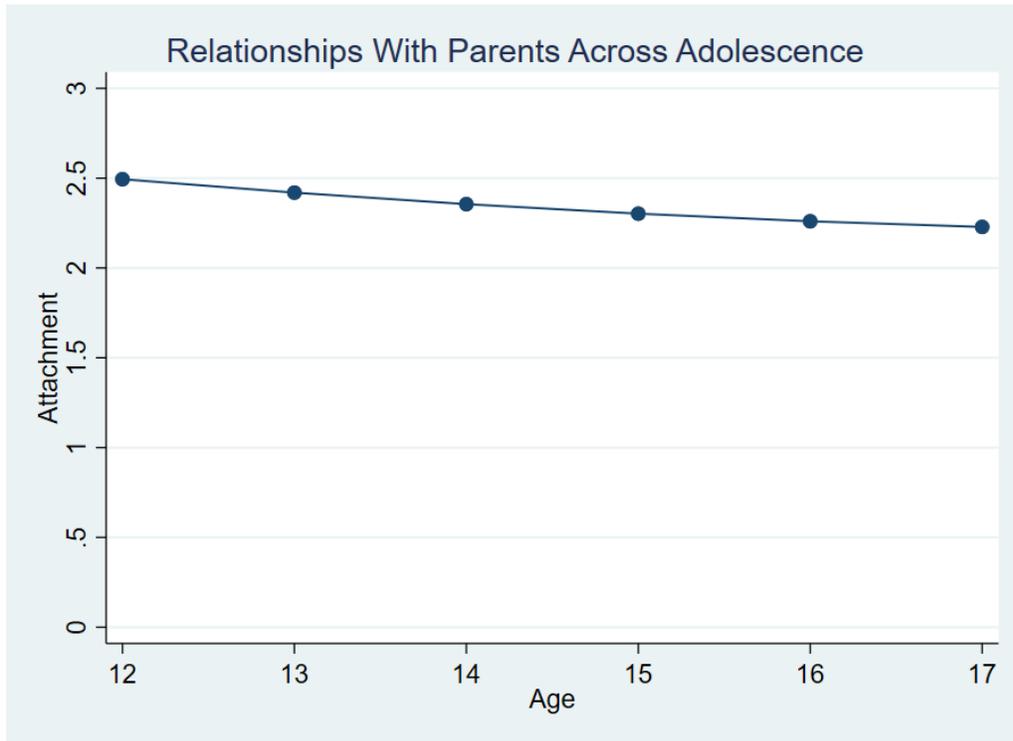


Figure 3. Unconditional Attachment to Friends Model

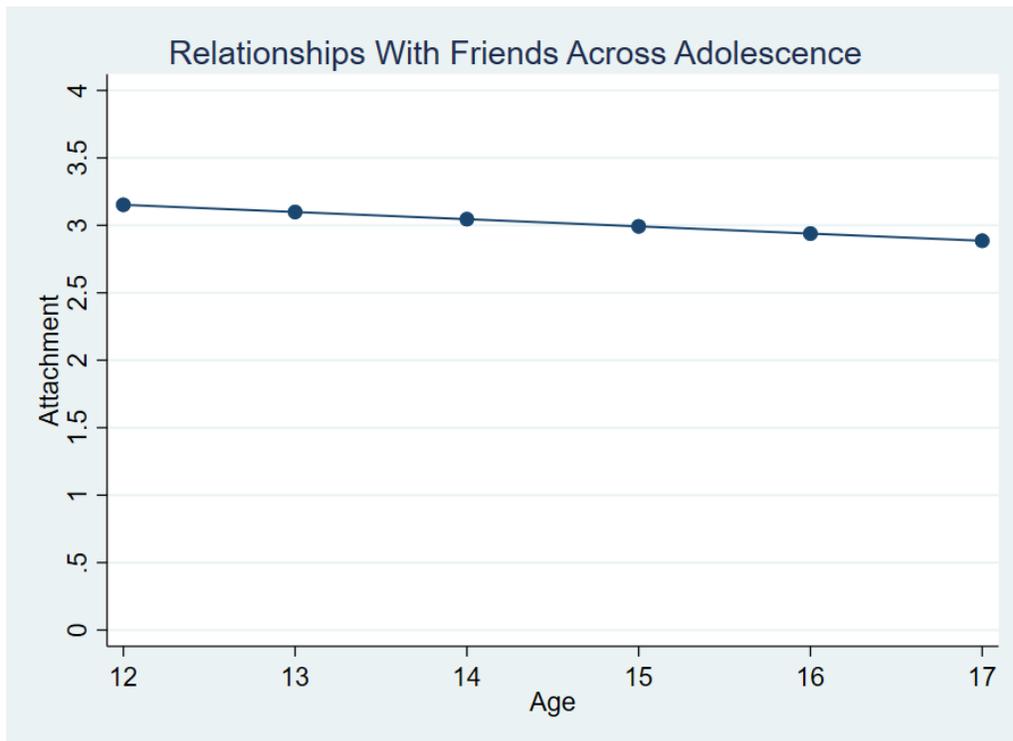


Figure 4. Gendered Difference in Slope for Friends Model

