

The Relationship Between Emotion Regulation and
Friendlessness in Young Adults

A Thesis Submitted to the Faculty
of the Psychology Department

of

Washburn University

in partial fulfillment of
the requirements for

MASTERS OF ARTS

Psychology Department

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April 12, 2021

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April 2021

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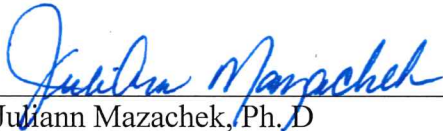
THE RELATIONSHIP BETWEEN EMOTION REGULATION AND
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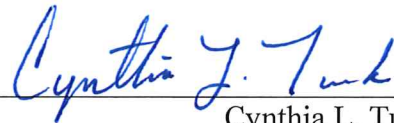
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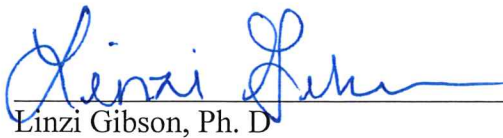
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Acknowledgements

Throughout this project, I have received a great deal of support and assistance. Firstly, I must offer my most heartfelt gratitude to my thesis committee. To my chair, Dr. Dave Provorse: thank you for consistently providing sage and patient guidance and immeasurably improving my study and manuscript. It has been a pleasure getting to work with you on this project. To my committee members, Dr. Jericho Hockett and Dr. Linzi Gibson: thank you for offering insightful feedback, providing generous support, and putting your time and effort into bettering my thesis project. I would also like to acknowledge Washburn Transformational Experience for funding my research and making this study possible. Finally, I must offer my deepest appreciation to my family. To my parents, Tim and Angela Beims: thank you for possessing an unwavering belief in my strength and capability. I am grateful that you made your resolute faith in me stronger than my self-doubt could ever be. To my husband, Drew Ukens: thank you for being my greatest comfort and my biggest fan. Your constant support and loving encouragement carried me gracefully when I would have otherwise stumbled; I would not have reached the finish line without you.

Abstract

Prior research suggests 15-20% of children experience friendlessness, or the state of having no reciprocal friends (Parker & Seal, 1996). Friendlessness tends to be chronic, as individuals who are friendless at an early age are likely to remain friendless into adulthood (Engle et al., 2011). Friendlessness is associated with significant consequences throughout childhood and adulthood (Fink & Hughes, 2019). While researchers have examined consequences of friendlessness rather extensively, potential causal or explanatory factors, such as emotion regulation, have been largely neglected. The current study directly examined the relationship between emotion regulation and friendlessness. Participants who retrospectively reported being friended in childhood scored significantly lower on the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) than participants who retrospectively reported being friendless in childhood; however, this finding must be interpreted with caution. Participants who reported being currently friendless in adulthood scored significantly lower on the Friendship Questionnaire (FQ; Baron-Cohen & Wheelwright, 2003), which measures ability to derive support and satisfaction from friendships, than participants who reported being currently friended in adulthood. There was also a significant interaction between childhood and adulthood friendship status for FQ scores, indicating chronically friendless individuals experience significantly greater struggles in this area. These findings identify how vital the early identification of friendless children could be to inform the development of prevention efforts designed to minimize the long-term consequences of chronic friendlessness.

The Relationship Between Emotion Regulation and Friendlessness in Young Adults

Friendlessness, or the state of having no mutually reciprocal friends, is a persistent and potentially debilitating issue many children face. Early research on friendship status identified that an estimated 15-20% of children are friendless (Parker & Seal, 1996). More recently, Sauter, Kim, and Jacobsen (2019) looked at friendlessness across twenty-five countries and found that 3.1%-17.5% of adolescents reported having no close friends. Moreover, friendlessness tends to be chronic, meaning an individual who is friendless at an early age is likely to remain friendless later in adolescence and beyond (Engle, McElwain, & Lasky, 2011; Pederson, Vitaro, Barker, & Borge, 2007).

Peer acceptance or rejection is one type of peer adversity that is commonly confused with friendship status. Although related, the two constructs are not the same. Peer acceptance or rejection refers to the degree to which one is liked by a group of his or her peers, while friendship exists between two people and requires a mutual liking (Bagwell, Newcomb, & Bukowski, 1998; Doll, 1996; Pederson et al., 2007). Importantly, even children who are notably disliked by their peer group (i.e., peer rejection) often have one or more close friends (Bagwell et al., 1998; Fink & Hughes, 2019; Pederson et al., 2007). Fink et al. (2015) found that 53% of group-rejected children had a reciprocated friendship; conversely, 23% of children who were rated as having high peer acceptance did not have a single mutual friend. While the concepts of peer acceptance and rejection have been well documented, the focus of this study will be on friendship status.

Friendship may be able to fulfill needs that other types of peer relationships cannot. For example, while being well-liked by one's peer group can address a child's need for acceptance, friendship can fulfill a child's need for interpersonal intimacy in a way that popularity alone

cannot (Bagwell et al., 1998). Furthermore, friends may serve as protective factors against stress and isolation, as well as provide social and emotional support (Bagwell et al., 1998).

Overall, friendship is associated with higher psychological well-being than friendlessness from childhood through late adulthood. Having many friends may not be necessary to promote improved psychological well-being, as having just one friend can foster a sense of self-worth and decreased levels of loneliness in children experiencing peer rejection (Doll, 1996; Parker & Asher, 1993). Furthermore, having a friend in childhood is a predictor of successful adult adjustment (Bagwell et al., 1998). For example, friendship status in childhood can predict a sense of self-worth as an adult. Friendless children have more positive self-perceptions as adults than those who were friendless as children (Bagwell et al., 1998).

The Impact of Friendlessness on Psychological Adjustment

Friendlessness is associated with significant consequences for children (Engle et al., 2011; Ladd & Troop-Gordon, 2003). For example, Engle et al. (2011) found that children who were friendless in kindergarten internalized problems more in first grade compared to children who had established reciprocal friendships in kindergarten. Additionally, Ladd and Troop-Gordon (2003) found that children who had been friendless in kindergarten experienced greater loneliness in fourth grade than children who had been friendless in kindergarten.

The consequences of friendlessness can be seen not only within childhood, but also throughout adolescence and into adulthood (Bagwell et al., 1998; Fink & Hughes, 2019; Ladd & Troop-Gordon, 2003). Ladd and Troop-Gordon (2003) found a significant association between chronic friendlessness beginning in childhood and internalization of problems in adulthood.

Friendlessness also appears to leave one susceptible to social isolation (as well as other types of

peer group adversity) in childhood and in later life stages (Laursen, Bukowski, Aunola, & Nurmi, 2007).

Friendlessness in childhood can also contribute to psychopathology. Most notable is the unique relationship that has been identified between friendlessness and depression (Bagwell et al., 1998; Ladd & Troop-Gordon, 2003; Parker & Asher, 1993). Research has shown a significant association between having friends and lower levels of both depression and loneliness in school-aged children compared to friendless children (Parker & Asher, 1993). Friendlessness in childhood has also been associated with depressive symptoms in adulthood (Bagwell et al., 1998).

Research suggests friendship has similar effects for children regardless of gender, but friendlessness may impact girls and boys in distinct ways. While girls and boys report experiencing friendlessness at similar rates, friendless girls are more likely to report feelings of loneliness than friendless boys (Sauter et al., 2019). Furthermore, boys who had no friends in kindergarten exhibited higher levels of externalizing behaviors in third grade than friended children, while girls who had no friends in kindergarten actually displayed significantly lower levels of externalizing behaviors in third grade than friended children (Engle et al., 2011).

The quality of one's friendships may also play an important role in a child's adjustment (Engle et al., 2011; Parker & Asher, 1993). Engle et al. (2011) compared children from kindergarten to third grade across four groups, including those having no friends, low-quality friendships, average-quality friendships, and high-quality friendships. Low-quality friendships, which are characterized by conflict and negative interactions, were associated with higher levels of externalizing behaviors (e.g., physical aggression) than other friendship categories; high-quality friendships were associated with higher social skills (Engle et al., 2011). Low-quality

friendships also appear to be associated with loneliness and depressive symptoms (Engle et al., 2011; Parker & Asher, 1993).

Friendship quality in childhood seems to be linked to relationship quality later in life. Bagwell et al. (1998) found that adults who reported experiencing quality friendships in fifth grade reported having overall higher quality relationships than adults who had been friendless in fifth grade. Furthermore, friendlessness seems to be directly associated with beliefs children hold about their peers. Friendless children appear to develop pessimistic beliefs about others (e.g., others are untrustworthy), which may hinder their ability to develop quality friendships throughout life (Ladd & Troop-Gordon, 2003). Despite these well documented negative impacts of friendlessness on psychosocial adjustment, research that could illuminate potential mediating factors and inform prevention efforts has remained a largely neglected area.

The Role of Emotion Regulation in Friendlessness

Friendlessness carries significant, long-lasting, negative consequences; therefore, it is important to examine factors that contribute to an individual becoming friendless in order to develop interventions designed to prevent these adverse outcomes. In one longitudinal study, investigators explored the relationship between friendship status and theory of mind, defined as an “awareness that people’s behavior is shaped by their inner thoughts and feelings even when these are at odds with external reality” (Fink et al., 2015, p. 3). Findings indicated that a high level of theory of mind understanding at age five was a significant predictor of friendship status concurrently at age five and later at age seven.

In addition to theory of mind, Fink et al. (2015) also examined emotion understanding, which was defined as the “detection of, and insight into, affective states such as anger, joy, or sadness” (p. 4). While these researchers found no significant correlation between emotion

understanding and friendship status, critics argued that emotion understanding alone did not adequately address the potential role of emotional competence, a broader concept defined as “the ability to recognize and express one’s emotions in ways that facilitate rather than hinder appropriate social interactions” (Blair et al., 2014, p. 567; Mizokawa & Koyasu, 2015). A strong link has been established between emotional competence and social competence (Calkins, Gill, Johnson, & Smith, 1999; Denham et al., 2003). Therefore, studying various facets of emotional competence may be important to determine whether emotional competence serves as a contributing factor to friendlessness.

A key component of emotional competence is emotion regulation. Gross (1998) defined emotion regulation as the process by which “we attempt to influence which emotions we have, when we have them, and how these emotions are experienced or expressed” (p. 224). McRae and Gross (2020) described how in emotion regulation, a person attempts to increase or decrease emotions within themselves (i.e., intrinsic regulation) or in others (i.e., extrinsic regulation). This regulatory process can occur implicitly and automatically or through conscious and purposeful effort (Blair et al., 2016; McRae & Gross, 2020).

Previous research has also identified emotion regulation as a vital factor in social development, suggesting it may be related to one’s ability to establish friendships. Conceptualized as the core of social-emotional competence, emotion regulation plays an integral role in the development of adaptive social functioning (Calkins et al., 1999; Denham et al., 2003). These researchers reported emotion regulation being positively correlated to sharing with peers and cooperating in early childhood. Well-developed emotion regulation skills can lead to improved social understanding and predict one’s ability to successfully develop and maintain peer relationships (Blair et al., 2014; Blair et al. 2016; Denham et al., 2003). Moreover, Lopes et

al. (2011) found that emotion regulation abilities were significantly negatively correlated with interpersonal conflict in young adults.

Research suggests disruptive behavior is related to emotion dysregulation (i.e., inappropriate emotions that lead to inappropriate behaviors, ineffective implementation of regulation strategies, and emotional instability; Röhl et al., 2012). For example, emotion dysregulation is associated with externalizing behaviors, such as aggression, in childhood (Blair et al., 2014; Eisenberg et al., 2000, Röhl et al., 2012). Peer difficulties in middle-childhood often emanate from aggression and anxiety in early childhood (Ladd & Troop- Gordon, 2003), suggesting a potential link between emotion dysregulation and peer difficulties.

Research also suggests a connection between disruptive behavior and friendlessness, although the direction of that correlation remains unclear. On one hand, having friends may discourage a child from engaging in the disruptive behaviors that lead one to be excluded (Boivon, Dodge, & Coie, 2007). Having friends may also increase a child's awareness of others' needs, thereby promoting the development of improved social skills (Laursen et al., 2007). Conversely, individual characteristics, including aggressiveness or inappropriateness, may decrease one's likelihood of developing friendships (Laursen et al., 2007). Early behavioral problems seem to put children at risk for friendlessness and its consequential effects later on, as disruptive behavior in kindergarten was negatively correlated with number of friends in middle childhood (Pedersen, Vitaro, Barker, & Borge, 2007). A consensus appears to exist in that children who exhibit intense negative emotions and struggle to regulate those emotions interact less skillfully with peers than children with well-developed emotion regulation abilities (Eisenberg et al., 1993).

The Present Study

Several researchers have examined the short- and long-term consequences of friendlessness in childhood, but the potential contributing etiological factors have been largely neglected. Fink et al. (2015) attempted to address this overlooked area of research and explored emotion understanding. However, as Mizokawa and Koyasu (2015) argued, research into the role of emotional competence beyond emotion understanding alone is needed to gain a more complete understanding of friendlessness. As previous research has emphasized the central role emotion regulation plays in adaptive social development, emotion regulation warrants further investigation.

Due to the chronic nature of friendlessness, an individual who did not have the necessary social skills to make friends as a child will likely continue to lack those capabilities (e.g., intimacy, collaboration) as an adult (Bagwell et al., 1998; Fink & Hughes, 2019; Pedersen et al., 2007). As Hartup and Stevens (1997) identified, studies on friendship status among adults are rare and rather limited compared to studies with children, making generalization difficult. Exploring the characteristics of friendless adults can provide crucial insight into possible “risk factors,” as the chronically friendless may share unique traits that render them unable to develop friendships throughout their lives. Gaining an understanding of the enduring qualities chronically friendless adults share may one day give professionals the opportunity to assess, develop, and provide prevention-based interventions designed to address those factors earlier in life (e.g., childhood or adolescence), thereby disrupting the pattern that leads to the significant negative consequences of friendlessness.

Existing literature suggests the topic of adult friendlessness (e.g., the connection between childhood friendship status and adult friendship status, the unique traits of friendless adults) has

been largely neglected. Emotion understanding has been studied in relation to friendlessness, but the area of emotional competence, specifically emotion regulation, warrants further investigation. The broad aims of the current study included identifying the association between childhood friendship status and adulthood friendship status, examining the relationship between ability to regulate emotions and friendship status, and examining the relationship between ability to derive support and satisfaction from friendships and friendship status.

The present study tested the following hypotheses:

1. Participants who report being currently friendless in adulthood will report having a significantly lower ability to regulate emotions than participants who report being currently friended in adulthood.
2. Participants who retrospectively report being friendless in childhood will report having a significantly lower ability to regulate emotions than participants who retrospectively report being friended in childhood.
3. Participants who report being currently friendless in adulthood will report having a significantly lower ability to derive support and satisfaction from friendships than participants who report being currently friended in adulthood.
4. Participants who retrospectively report being friendless in childhood will report having a significantly lower ability to derive support and satisfaction from friendships than participants who retrospectively report being friended in childhood.
5. Current self-reported adulthood friendship status will be significantly associated with retrospective self-reported childhood friendship status.

6. There will be a significant positive correlation between self-reported ability to regulate emotions and ability to derive support and satisfaction from friendships in adulthood.

Method

Participants

A total of 215 participants were recruited via Amazon Mechanical Turk, and 159 participants were included in data analysis. Two participants were excluded for not completing the study, and 14 participants were excluded for not meeting age criteria (i.e., 18-30 years old). After the initial data collection of 80 participants, additional recruitment took place that included a filter question to increase the sample size of friendless participants (i.e., “Select each statement that applies to you: ‘In my childhood [i.e., preschool to fourth grade], I didn’t have anybody who I would call a best friend,’ ‘Today, I don’t have anybody who I would call a best friend,’ and/or ‘Neither of these statements apply to me.’”). A further 40 participants were excluded for selecting the final option on the screener question (i.e., “Neither of these statements apply to me.”). Each participant who completed the study received \$1.81 as compensation, which was determined using U.S. federal minimum wage of \$7.25 per hour.

The age of participants ranged from 19 to 30 with a mean age of 24.97 ($SD = 2.08$). Of the total sample, 45.3% ($n = 72$) identified as female, 53.5% ($n = 85$) identified as male, and 1.3% ($n = 2$) identified as nonbinary. Regarding race and ethnicity, 30.2% ($n = 48$) of participants identified as European American/Caucasian, 7.5% ($n = 12$) identified as African American/Black, 29.6% ($n = 47$) identified as Hispanic/Latino American, and 32.7% ($n = 52$) identified as Asian/Asian American. Based on participant’s self-report, 8.2% ($n = 13$) of participants were placed in the friendless in childhood and adulthood group, 10.7% ($n = 17$) were

placed in the friendless in childhood and friended in adulthood group, 15.1% ($n = 24$) of participants were placed in the friended in childhood and friendless in adulthood group, and 66.0% ($n = 105$) were placed in the friended in childhood and adulthood group (see Figure 1).

Measures

Demographics questionnaire. The demographics questionnaire asked questions regarding age, gender, and race/ethnicity (see Appendix A).

The Difficulties in Emotion Regulation Scale (DERS). The DERS is a 36-item questionnaire created by Gratz and Roemer (2004) to assess several different aspects of emotion regulation, including use of emotion regulation strategies and the ability to behave in desired ways regardless of one's emotional experience (see Appendix B). Participants rate how often each item applies to them using a 1 to 5 scale, with 1 meaning "almost never" and 5 indicating "almost always." A total score for overall emotion regulation ability is computed by reverse scoring items 1, 2, 6, 7, 8, 10, 17, 20, 22, 24 and 34 and then summing all items. Total scores for overall emotion regulation ability range from 36 to 180, with higher scores indicating greater difficulty with emotion regulation. While the measure includes six subscales, only the total scale score was used in statistical analyses conducted in the current study. The DERS has been used in previous research that identified significant differences in emotion regulation ability in comparison groups drawn from adolescent and adult populations (e.g., Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Hill & Updegraff, 2012; Sharp et. al, 2011).

The DERS has strong psychometric properties. Gratz and Roemer (2004) found the overall DERS score to have an internal consistency as measured by Cronbach's alpha of $\alpha = 0.93$, with a remarkably similar alpha of $\alpha = 0.92$ reported by Hill and Updegraff (2012). The original test authors also reported test-retest reliability of $r = 0.88$ over a 4- to 8-week period. The DERS

also has strong construct validity. Gratz and Roemer (2004) reported that the DERS overall score demonstrated moderate convergent validity ($r = -0.69$) compared to the Generalized Expectancy for Negative Mood Regulation Scale (NMRS; Catanzaro & Mearns, 1990). Gratz and Roemer (2004) also substantiated strong divergent validity ($r = -0.23$) compared to the Emotional Expressivity Scale, a measure of general emotional expressivity.

The Friendship Questionnaire (FQ). The FQ is a 35-item questionnaire developed by Baron-Cohen and Wheelwright (2003) using a non-clinical sample of adults to measure friendship status and attitude toward friendships (see Appendix C). Three different types of items are present on the FQ. On items 1-15, 28, 29, 32, and 33, participants responded by choosing the single answer option that best matches their experience. For these types of questions, each answer receives either five or zero points, with five-point answers indicating higher ability to enjoy and appropriately utilize close friendships (e.g., “I like to be close to people.” = 5 points and “I like to keep my distance from people.” = 0 points). On items 16-27 and 31, participants responded by selecting one option from a scale (e.g., “How easy do you find discussing your feelings with your friends? 5 = very easy, 4 = quite easy, 3 = not very easy, 2 = quite difficult, or 1 = very difficult”). On items 30, 34, and 35, respondents were asked to rank the answer options. Each answer option to each question has a set number of points associated with it, and scores on the FQ are computed by summing the total number of points each participant earns. Total scores on the FQ range from 0 to 140, with higher scores signifying greater enjoyment of close friendships and increased interest in social interactions (Baron-Cohen & Wheelwright, 2003; Watson, 2012).

The FQ has been effective in identifying differences between comparison groups in previous studies to assess friendship in adolescent and adult populations (e.g., Białecka-Pikul,

Kołodziejczyk, & Bosacki, 2017; Uzieblo, Verschuere, Van den Bussche, & Crombez, 2010; Watson, 2012). For the purpose of this study, participants who endorse the answer option “I don’t have anybody who I would call a best friend” on the first item of the FQ were placed in the friendless adult group for analysis. Participants who endorsed either of the alternative answer options (i.e., “I have one or two particular best friends” or “I have several friends who I would call best friends”) were placed in the friended adult group. Participants also answered a question regarding friendship status in childhood. Participants who endorsed the answer option “In my childhood (i.e., preschool to fourth grade), I didn’t have anybody who I would call a best friend” were placed in the friendless child group for analysis, while those who endorsed either of the alternative answer options (i.e., “In my childhood [i.e., preschool to fourth grade], I had one or two particular best friends” or “In my childhood [i.e., preschool to fourth grade], I had several friends who I would call best friends”) were placed in the friended child group.

The FQ has adequate psychometric properties. Baron-Cohen and Wheelwright (2003) as well as Watson (2012) found the measure to have acceptable internal consistency, reporting Cronbach’s alphas of $\alpha = 0.75$ and $\alpha = 0.66$ respectively. The FQ also has adequate validity. Baron-Cohen and Wheelwright (2003) found moderate correlations in the expected directions with two other measures predictive of the ability to form friendships. Scores on the Autism Spectrum Quotient, which assesses autistic traits in adults of average intelligence, produced a negative relationship with the FQ ($r = -0.55$), establishing divergent validity. In contrast, a comparison of scores on the FQ and scores on the Empathy Quotient, which measures levels of empathy in adults, established convergent validity with a positive correlation of $r = 0.59$.

Procedure

Participants were recruited using Amazon Mechanical Turk and earned \$1.81 as compensation for the 10 to 15 minutes ($M = 11$ minutes and 55 seconds, $SD = 6$ minutes and 55 seconds) it took to complete the survey. Participants were provided with a link to the survey on qualtrics.com. The survey began with an informed consent page (see Appendix D), which participants were instructed to read and indicate acceptance. If the participant did not provide consent, the survey ended. If the participant provided consent, the survey continued with the following questionnaires: demographics, the FQ, and the DERS. All participants received the demographics questionnaire first with the order of the remaining two questionnaires randomized. Upon completion of the final questionnaire, participants were presented with a debriefing page (see Appendix E) which thanked them for their participation and provided contact information for the primary investigator as well as mental health resources.

Results

To test hypotheses 1 and 2, the researcher used a 2 (childhood friendship status: friended vs. friendless) x 2 (adulthood friendship status: friended vs. friendless) ANOVA to examine the effect of childhood friendship status and adulthood friendship status on the dependent variable of ability to regulate emotion. The Test of Equality of Variances was significant, indicating that homogeneity of variances for this test cannot be assumed. Therefore, results regarding the influence of friendship status on emotion regulation must be interpreted with caution. The main effect of childhood friendship status on ability to regulate emotions was significant, $F(1,155) = 11.37, p < .01, \eta_p^2 = .07$, with the friendless group having a significantly lower mean DERS score ($M = 84.37, SD = 29.25$) than the friended group ($M = 100.18, SD = 15.78$). The main effect of adulthood friendship status on ability to regulate emotions was not significant,

$F(1,155) = 0.06, p = .81, \eta_p^2 < .01$. The interaction between childhood and adulthood friendship status was not significant, $F(1,155) = 0.12, p = .73, \eta_p^2 < .01$ (see Table 1 and Figure 2).

To test hypotheses 3 and 4, the researcher used a 2 (childhood friendship status: friended vs. friendless) x 2 (adulthood friendship status: friended vs. friendless) ANOVA to examine the effect of childhood friendship status and adulthood friendship status on ability to derive support and satisfaction from friendships. The Test of Equality of Variances was not significant, indicating that homogeneity of variances for this test can be assumed, and that the results can be interpreted with confidence. The main effect of adulthood friendship status on ability to derive support and satisfaction from friendships was significant, $F(1,155) = 43.77, p < .01, \eta_p^2 = .22$, with the friendless group having a significantly lower mean score on the FQ ($M = 63.70, SD = 19.75$) than the friended group ($M = 82.26, SD = 13.62$). The main effect of childhood friendship status on ability to derive support and satisfaction from friendships was not significant, $F(1,155) = 3.46, p = .07, \eta_p^2 = .02$. There was a significant interaction between childhood and adulthood friendship status, $F(1,155) = 6.28, p = .01, \eta_p^2 = .04$ (see Table 2 and Figure 3).

A chi-square test of independence was calculated to examine hypothesis 5. The relationship between childhood friendship status and adulthood friendship status was statistically significant, $\chi^2(1, N = 159) = 8.34, p < .01$ (see Figure 1).

Finally, for hypothesis 6, researchers conducted a Pearson's bivariate correlation. Ability to regulate emotion and ability to derive support and satisfaction from friendships were not significantly correlated, $r(157) = .07, p = .36$.

Discussion

Previous research on friendlessness has provided limited insight into possible contributing factors, particularly among friendless adults (Hartup & Stevens, 1997). The current

study aimed to examine the relationships between friendship status, ability to regulate emotions, and ability to derive support and satisfaction from friendships. The researcher also aimed to identify the association between childhood friendship status and adulthood friendship status.

Results from the present study partially support the original hypotheses. Regarding the effect of friendship status on ability to regulate emotions, hypothesis 1 that focused on friendship status in adulthood was not supported. While the statistical analysis conducted to test hypothesis 2 identified significant differences in emotion regulation as a function of childhood friendship status, the means were in the opposite direction of the hypothesis. Participants who retrospectively endorsed being friendless in childhood reported significantly less problematic emotion regulation abilities compared to participants who retrospectively endorsed being friended in childhood. The results indicate that individuals who were friended as children seem to have less-developed emotion regulation abilities than those who reported being friendless in childhood. So, while these findings suggest that poor emotion regulation ability may be associated with childhood friendlessness, the results do not support the relationship hypothesized by the researcher. However, as this analysis did not meet the assumption of homogeneity of variance, these findings must be interpreted with caution.

Regarding the effect of friendship status on ability to derive support and satisfaction from friendships, hypothesis 4 that focused on childhood friendship status was not supported, but hypothesis 3 that focused on friendship status in adulthood was supported. The results show that participants who endorsed being currently friendless in adulthood reported being significantly less likely to derive satisfaction from relationships than participants who endorsed being currently friended in adulthood. In other words, friendless adults significantly struggle to obtain

positive social reciprocity and support and feelings of gratification from peer relationships compared to friended adults.

There was also a significant interaction between adulthood and childhood friendship status in regard to ability to derive satisfaction from relationships. Not surprisingly, this finding suggests that individuals who are chronically friendless (i.e., friendless in both childhood and adulthood) experience the most noteworthy difficulties in deriving support and satisfaction from friendships. However, participants who reported being friended in both childhood and adulthood did not report the highest relationship satisfaction across the four comparison groups. That distinction was found in individuals who were able to overcome a friendless childhood to become friended as adults. For those who are friendless as adults, being friended as a child produces some resilience in the form of greater relationship satisfaction compared to individuals who are also friendless as children. Most interestingly, the findings from the current study suggest that being able to “flip” one’s friendship status from being friendless in childhood to being friended in adulthood produces the greatest relationship satisfaction. In other words, being friendless in adulthood may place a ceiling on the ability to derive satisfaction from relationships, while being friended as an adult produces comparable levels of relationship satisfaction regardless of childhood friendship status. The identified interaction is consistent with the need for interventions that increase the likelihood that individuals will be able to create or maintain friendships in adulthood to derive a sense of relationship satisfaction.

Furthermore, hypothesis 5 that predicted the enduring nature of friendlessness from childhood into adulthood was also supported, which is consistent with previous findings regarding the chronicity of friendlessness (Engle, McElwain, & Lasky, 2011; Pederson, Vitaro, Barker, & Borge, 2007). As this study and previous research show, friendlessness tends to be

chronic; therefore, it is imperative that children who show early signs of struggling to establish and maintain friendships be identified early and provided with skills that will allow them to avoid the perpetuation of this difficulty into their adolescent and adulthood friendships. This finding provides additional support for the suggestion that if friendless children are able to successfully make friends before becoming chronically friendless adults, they will likely have a similar ability to obtain positive social support and feelings of gratification from their adult friendships as friended children.

Finally, hypothesis 6 was not supported, as the relationship between an individual's ability to regulate emotions and ability to derive support and satisfaction from friendships was very weak and non-significant. This finding is consistent with the uncertain and somewhat confusing conclusions drawn from the examination of the role of emotion regulation in friendship status. On one hand, findings from the current study illuminate and emphasize the important role that securing adult friendships has on perceptions of relationship satisfaction. On the other hand, findings from this study do not support development and implementation of prevention programs to improve emotion regulation as the mechanism for enhancing one's ability to obtain adult friendships.

Certain limitations exist in this study that should be considered. While the current sample is fairly diverse in regard to gender and race/ethnicity, the total number of participants is somewhat limited. Moreover, friendless participants made up a relatively small proportion (18.9%) of the current sample compared to friended participants. However, the ratio of friended to friendless persons obtained in the current sample is representative of the general population, as Parker and Seal (1996) reported that 15-20% of children are friendless. Still, future research

should aim to have equal numbers of friended and friendless participants to provide more robust statistical analysis.

The use of self-report measures is another possible limitation to this study, particularly the use of retrospective self-report to determine childhood friendship status. Ideally, future research should utilize longitudinal research designs beginning when participants are in grade school and following them into adulthood in order to more accurately determine the developmental flow of friendship patterns. In order to properly address the reciprocal component of friendship, future researchers should also employ means of assessing friendship status that involve ascertaining endorsement or disagreement from the individual(s) a participant considers a best friend before categorizing each participant as friended or friendless, rather than relying on uncorroborated self-report alone.

Despite these limitations, the present study contributes to the limited literature on friendlessness. The current study failed to confirm an important role for emotion regulation abilities in childhood as a predictor of friendship status. Future researchers should continue examining the influence of emotion regulation, as well as other potential etiological factors, regarding their ability to influence friendship status across the lifespan. One option would be to utilize the six different subscales of the DERS in addition to the total score in order to evaluate if specific components of emotion regulation have a unique relationship with childhood friendlessness. Future researchers may also wish to supplement self-report measures of emotion regulation with information obtained from more objective observers like parents, teachers, youth coaches, or club leaders. Eventually, after specific skill sets have been identified that have a positive impact on children's ability to initiate and maintain reciprocally supportive relationships, intervention programs for friendless children can be developed and implemented.

It is vital that researchers identify key traits, behaviors, skills, and attitudes that friendless children share. Doing so is clearly important to intervention, as we must pinpoint exactly which areas or skills to target to help these children make friends and avoid the significant, negative, life-long consequences that can follow a friendless childhood. However, continued research is also crucial to educate helping professionals (e.g., teachers, counselors, coaches, school administrators) on the dire consequences of experiencing a friendless childhood—especially when that childhood experience is replicated in adulthood. These professionals could fill the role of early identification, and also become involved in developing and implementing effective interventions. Through future research in this topic, psychologists can assist in teaching children and adults to be able to notice and reach out to children who are vulnerable to friendlessness in the most caring and constructive way possible.

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Table 1

DERS Total Score Means for Each Group

<u>Childhood Friendship Status</u>	<u>Friendless Adult</u>	<u>Friended Adult</u>	<u>Total</u>
Friendless Child	84.62 (<i>n</i> = 13)	84.18 (<i>n</i> = 17)	84.37 (<i>n</i> = 30)
Friended Child	98.04 (<i>n</i> = 24)	100.67 (<i>n</i> = 105)	100.18 (<i>n</i> = 129)
Total	93.32 (<i>n</i> = 37)	98.37 (<i>n</i> = 122)	97.19 (<i>n</i> = 159)

Table 2

FQ Total Score Means for Each Group

<u>Childhood Friendship Status</u>	<u>Friendless Adult</u>	<u>Friended Adult</u>	<u>Total</u>
Friendless Child	54.54 (<i>n</i> = 13)	84.06 (<i>n</i> = 17)	71.27 (<i>n</i> = 30)
Friended Child	68.67 (<i>n</i> = 24)	81.97 (<i>n</i> = 105)	79.50 (<i>n</i> = 129)
Total	63.70 (<i>n</i> = 37)	82.26 (<i>n</i> = 122)	77.94 (<i>n</i> = 159)

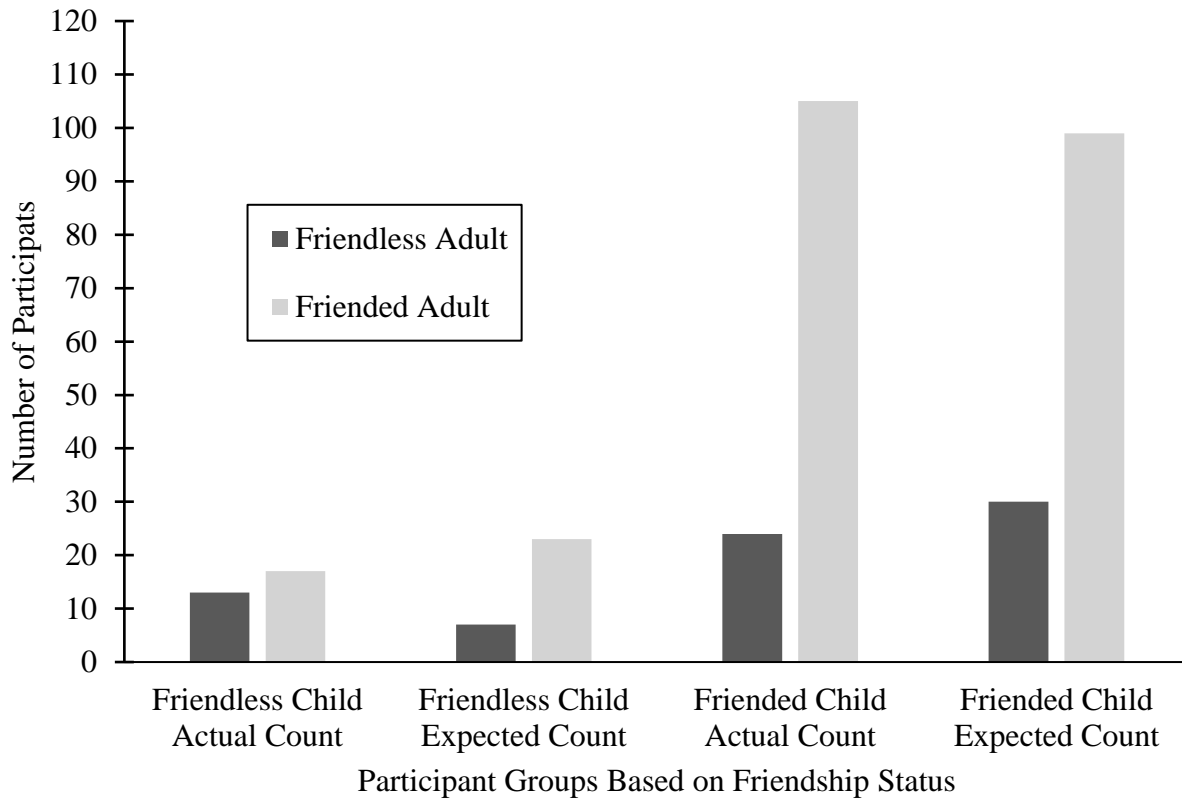


Figure 1. Actual number of participants in each group and expected number of participants (based on Chi-Square Test of Independence) in each group

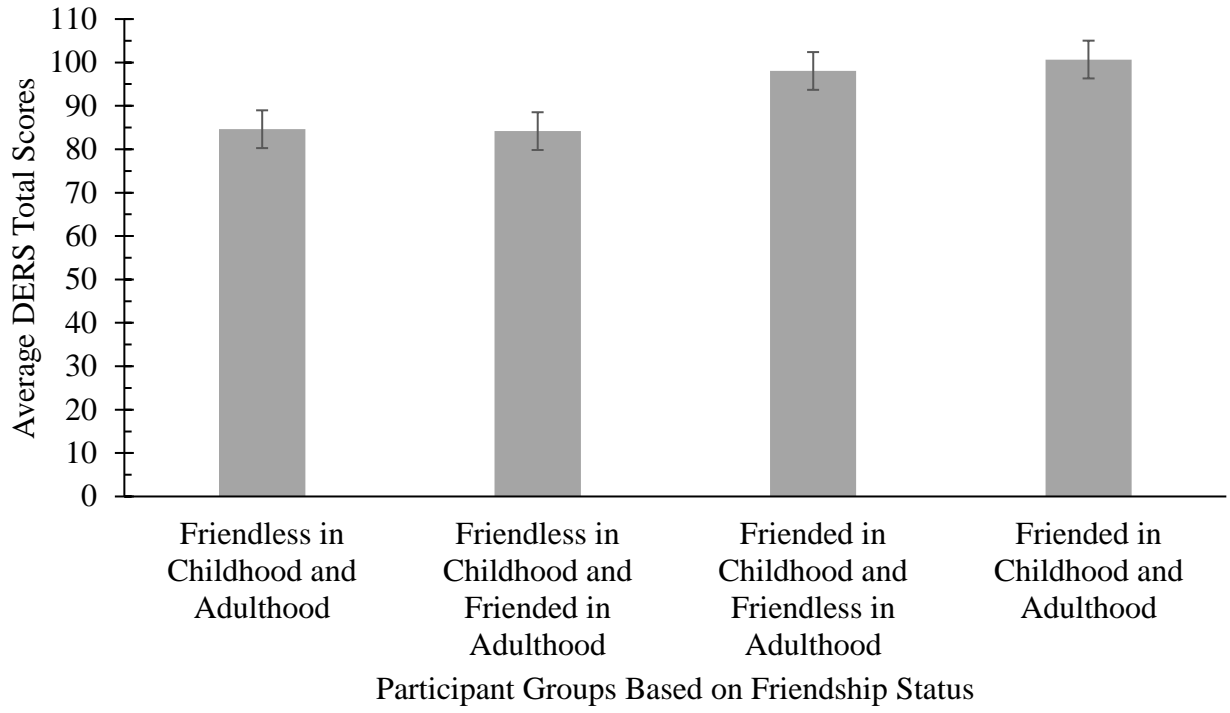


Figure 2. DERS total score means by friendship status group

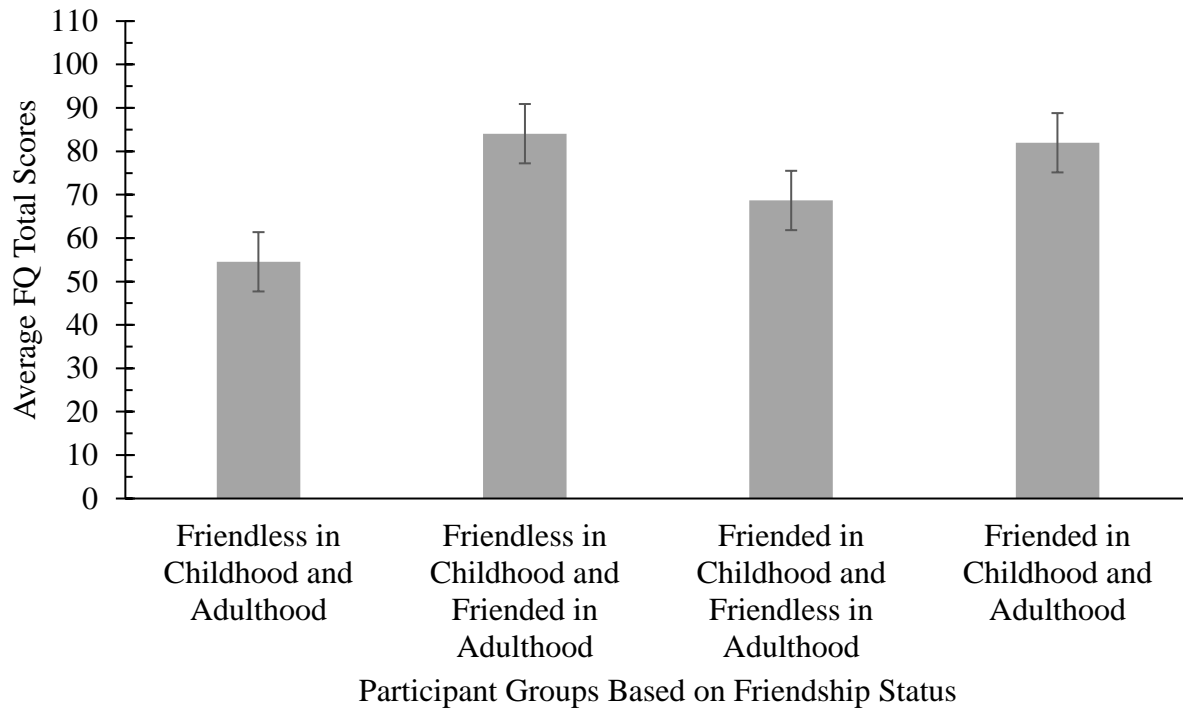


Figure 3. FQ total score means by friendship status group

Appendix A

Demographics Survey

On the items below, please indicate:

1. What is your age in years? (e.g., 18) _____
2. What is your gender?
 - a. Female
 - b. Male
 - c. Nonbinary
 - d. Not listed (please describe): _____
 - e. I do not identify in this way.
3. Ethnicity
 - a. European American/Caucasian
 - b. African American/Black
 - c. Hispanic/Latino American
 - d. Asian/Asian American
 - e. Not listed (please describe): _____
 - f. I do not identify in this way.

Appendix B

The Difficulties in Emotion Regulation Scale

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

1-----2-----3-----4-----5
 almost never sometimes about half the time most of the time almost always
 (0-10%) (11-35%) (36-65%) (66-90%) (91-100%)

- _____ 1) I am clear about my feelings.
 _____ 2) I pay attention to how I feel.
 _____ 3) I experience my emotions as overwhelming and out of control.
 _____ 4) I have no idea how I am feeling.
 _____ 5) I have difficulty making sense out of my feelings.
 _____ 6) I am attentive to my feelings.
 _____ 7) I know exactly how I am feeling.
 _____ 8) I care about what I am feeling.
 _____ 9) I am confused about how I feel.
 _____ 10) When I'm upset, I acknowledge my emotions.
 _____ 11) When I'm upset, I become angry with myself for feeling that way.
 _____ 12) When I'm upset, I become embarrassed for feeling that way.
 _____ 13) When I'm upset, I have difficulty getting work done.
 _____ 14) When I'm upset, I become out of control.
 _____ 15) When I'm upset, I believe that I will remain that way for a long time.
 _____ 16) When I'm upset, I believe that I will end up feeling very depressed.
 _____ 17) When I'm upset, I believe that my feelings are valid and important.
 _____ 18) When I'm upset, I have difficulty focusing on other things.
 _____ 19) When I'm upset, I feel out of control.
 _____ 20) When I'm upset, I can still get things done.
 _____ 21) When I'm upset, I feel ashamed at myself for feeling that way.
 _____ 22) When I'm upset, I know that I can find a way to eventually feel better.
 _____ 23) When I'm upset, I feel like I am weak.
 _____ 24) When I'm upset, I feel like I can remain in control of my behaviors.
 _____ 25) When I'm upset, I feel guilty for feeling that way.
 _____ 26) When I'm upset, I have difficulty concentrating.
 _____ 27) When I'm upset, I have difficulty controlling my behaviors.
 _____ 28) When I'm upset, I believe there is nothing I can do to make myself feel better.
 _____ 29) When I'm upset, I become irritated at myself for feeling that way.
 _____ 30) When I'm upset, I start to feel very bad about myself.
 _____ 31) When I'm upset, I believe that wallowing in it is all I can do.
 _____ 32) When I'm upset, I lose control over my behavior.
 _____ 33) When I'm upset, I have difficulty thinking about anything else.
 _____ 34) When I'm upset, I take time to figure out what I'm really feeling.
 _____ 35) When I'm upset, it takes me a long time to feel better.

_____ 36) When I'm upset, my emotions feel overwhelming.

Appendix C

Friendship Questionnaire

For each of the following questions, select the statement which most applies to you. A “best friend” is a person with whom you share your emotions and secrets, a person you turn to when you have problems, a person you would be very likely to invite to an event or place. Importantly, a best friend feels the same way about you (e.g., they share their emotions and secrets with you, they turn to you with their problems, they are very likely to accept your invitations and invite you places in return).

1.
 - a. **In my childhood (i.e., preschool to fourth grade)**, I had one or two particular best friends.
 - b. **In my childhood (i.e., preschool to fourth grade)**, I had several friends who I would call best friends.
 - c. **In my childhood (i.e., preschool to fourth grade)**, I didn’t have anybody who I would call a best friend.
2.
 - a. **Today**, I have one or two particular best friends.
 - b. **Today**, I have several friends who I would call best friends.
 - c. **Today**, I don’t have anybody who I would call a best friend.
3.
 - a. The most important thing about a friendship is having somebody to confide in.
 - b. The most important thing about a friendship is having somebody to have fun with.
4.
 - a. If I had to pick, I would rather have a friend who enjoys doing the same things as me than a friend who feels the same way about life as I do.
 - b. If I had to pick, I would rather have a friend who feels the same way about life as I do, than a friend who enjoys doing the same things as me.
5.
 - a. I like to be close to people.
 - b. I like to keep my distance from people.
6.
 - a. When I talk with friends on the phone, it is usually to make arrangements rather than to chat.
 - b. When I talk with friends on the phone, it is usually to chat rather than to make arrangements.
7.
 - a. I tend to think of an activity I want to do and then find somebody to do it with.
 - b. I tend to arrange to meet somebody and then think of something to do.
8.
 - a. I prefer meeting a friend for a specific activity, e.g. going to the cinema, playing golf.
 - b. I prefer meeting a friend for a chat, e.g. at a pub, at a café.

9.
 - a. If I moved to a new area, I would put more effort into staying in touch with old friends than making new friends.
 - b. If I moved to a new area, I would put more effort into making new friends than staying in touch with old friends.
10.
 - a. My friends value me more as someone who is a support to them than as someone to have fun with.
 - b. My friends value me more as someone to have fun with than as someone who is a support to them.
11.
 - a. If a friend had a problem, I would be better at discussing their feelings about the problem than coming up with practical solutions.
 - b. If a friend had a problem, I would be better at coming up with practical solutions than discussing their feelings about the problem.
12.
 - a. If a friend was having personal problems, I would wait for them to contact me as I wouldn't want to interfere.
 - b. If a friend was having personal problems, I would contact them to discuss the problem.
13.
 - a. When I have a personal problem, I feel that it is better to work it out on my own.
 - b. When I have a personal problem, I feel that it is better to share it with a friend.
 - c. When I have a personal problem, I feel that it is better to try and forget about it.
14.
 - a. If I have to say something critical to a friend, I think it's best to broach the subject gently.
 - b. If I have to say something critical to a friend, I think it's best to just come right out and say it.
15. If I fell out with a good friend and I thought that I hadn't done anything wrong, I would
 - a. do whatever it takes to repair the relationship.
 - b. be willing to make the first move, as long as they reciprocated.
 - c. be willing to sort out the problem, if they made the first move.
 - d. not feel able to be their close friend anymore.
16. My ideal working space would be
 - a. in an office on my own, without any visitors during the day.
 - b. in an office on my own, with an occasional visitor during the day.
 - c. in an office with one or two others.
 - d. in an open plan office.

For the next set of questions, please select the option which most applies to you.

17. How easy do you find discussing your feelings with your friends?
a. Very easy b. Quite easy c. Not very easy
d. Quite difficult e. Very difficult
18. How easy would you find it to discuss your feelings with a stranger?
a. Very easy b. Quite easy c. Not very easy
d. Quite difficult e. Very difficult
19. In terms of personality, how similar to your friends do you tend to be?
a. Very similar b. Quite similar c. Not very similar
d. Very dissimilar
20. In terms of interests, how similar to your friends do you tend to be?
a. Very similar b. Quite similar c. Not very similar
d. Very dissimilar
21. How important is it to you what your friends think of you?
a. Of no importance b. Of little importance c. Fairly important
d. Very important e. Of utmost importance
22. How important is it to you what strangers think of you?
a. Of no importance b. Of little importance c. Fairly important
d. Very important e. Of utmost importance
23. How easy do you find it to admit to your friends when you're wrong?
a. Very easy b. Quite easy c. Not very easy
d. Quite difficult e. Very difficult
24. How easy to do you find it to tell a friend about your weaknesses and failures?
a. Very easy b. Quite easy c. Not very easy
d. Quite difficult e. Very difficult
25. How easy do you find it to tell a friend about your achievements and successes?
a. Very easy b. Quite easy c. Not very easy
d. Quite difficult e. Very difficult
26. How interested are you in the everyday details (e.g. their relationships, family, what's currently going on in their lives) of your close friends' lives?
a. Completely disinterested b. Not very interested c. Quite interested
d. Very interested
27. How interested are you in the everyday details (e.g. their relationships, family, what's currently going on in their lives) of your casual friends' lives?
a. Completely disinterested b. Not very interested c. Quite interested
d. Very interested

28. When you are in a group, e.g. at work, school, church, parent group etc., how important is it for you to know the “gossip” e.g. who dislikes who, who’s had a relationship with who, secrets.
- a. Of no importance b. Of little importance c. Fairly important
d. Very important e. Of great importance
29. Do you work harder at your career than at maintaining your relationships with friends?
- a. Yes b. No c. Equal
30. How often do you make plans to meet with friends?
- a. Once or twice a year
b. Once every 2 or 3 months
c. Once a month
d. Once every couple of weeks
e. Once or twice a week
f. 3 or 4 times a week
g. More than any of the above
31. How would you prefer to keep in touch with friends?
(Please put: *1 in the box next to your most preferred method*
 2 in the box next to your second preference
 3 in the box next to your third preference)
- a. Face to face contact
b. Email/letters
c. Telephone calls
32. How easy to do you find it to make new friends?
- a. Very easy b. Quite easy c. Not very easy
d. Quite difficult e. Very difficult
33. What would be the minimum social contact you would need to get through a day?
- a. No contact – I don’t get lonely
b. Just being near to people, even if I am not talking to them
c. A casual chat, e.g., with a shop assistant or hairdresser
d. A chat with a friend
e. Two or three chats with friends during the day
f. More than any of the above
34. What would be the minimum social contact you would need to get through a week?
- a. None – I don’t get lonely
b. Being around people, even if I wasn’t talking to them
d. Casual chats, e.g. with a shop assistant or hairdresser

- e. One chat with a friend
- f. Two or three chats during the week with friends
- g. One chat every day with a friend
- h. Two or three chats every day with a friend
- i. More than any of the above

35. When talking with friends, what proportion of your time do you spend talking about the following:

*(Please put: 1 in the box next to the topic that you talk most about,
2 in the box next to the topic you talk next most about, etc, through
to
7 in the box next to the topic you talk least about.
Use each number only once i.e. there should be no ties.)*

- a. Politics and current affairs
- b. Hobbies and interests (e.g. sport, TV, music, cinema, fashion, holidays, gardening, DIY etc.)
- c. Personal matters (e.g. life choice decisions, arguments, feelings)
- d. Work
- e. Family and friends
- f. The weather
- g. What you've been doing since last time you spoke

36. At social occasions, when you meet someone for the first time, how likely are you to talk about the following.

*(Please put: 1 in the box next to the topic that you talk most about,
2 in the box next to the topic you talk next most about, etc, through
to
7 in the box next to the topic you talk least about.
Use each number only once i.e. there should be no ties.)*

- a. Politics and current affairs
- b. Hobbies and interests (e.g. sport, TV, music, cinema, fashion, holidays, gardening, DIY etc.)
- c. Personal matters (e.g. life choice decisions, arguments, feelings)
- d. Work
- e. Family and friends
- f. The weather
- g. What you've been recently

Appendix D

Informed Consent

The Department of Psychology at Washburn University supports the practice of protection for human participants in research. The following information is provided so that you can make an informed judgment about your participation in the present study. You should be aware that even if you agree to participate you are free to withdraw at any time, without penalty.

PURPOSE OF RESEARCH:

This study seeks to examine the relationship between emotions and friendship status. The data collected for this research may further our understanding of the potential factors that may contribute to an individual's ability to establish friendships.

PROCEDURES OR METHODS TO BE USED:

Participants will be asked to complete three questionnaires. All participants' responses on the questionnaires are anonymous.

LENGTH OF STUDY:

This study will take approximately 10-15 minutes.

RISKS ANTICIPATED:

There are minimal risks associated with this study beyond what would be encountered in your daily life. If any of the questions in this study produce strong emotions, you may choose to not answer the question(s) or stop participating at any time without explanation or penalty. In the event that participation in the study results in distress, discomfort, anxiety etc., resources for help will be provided at the end.

BENEFITS ANTICIPATED:

You will learn about and contribute to psychological research.

EXTENT OF CONFIDENTIALITY:

Your responses are anonymous. Your name will not be associated with your responses. No one other than the members of the research team, listed below, will have access to the data for this research. All of the data will be coded by participant number only. This form will be separated from your survey and interview responses and will not be linked to any responses you provide. The researcher and confidential assistants use the forms to analyze the data in collective form using a secure data analysis program. No personal data is accessible. Data collected will be stored in a secure location within the Washburn University Psychology Department offices.

TERMS OF PARTICIPATION:

I understand this project is research and that my participation is being solicited but is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits to which I may otherwise be entitled.

IRB INFORMATION:

IRB Number: 20-36

IRB Address/Contact:

irb@washburn.edu

Washburn University

Topeka, Kansas 66621

**PRINCIPAL INVESTIGATOR & CONTACT INFORMATION FOR ANY PROBLEMS
AND/OR QUESTIONS:**

Leyli Beims-Ukens, B.A.

leyli.beims-ukens@washburn.edu

FACULTY SUPERVISOR & CONTACT INFORMATION:

Dave Provorse, Ph.D.

dave.provorse@washburn.edu

Your participation is solicited but is strictly voluntary. Do not hesitate to ask any questions about the study. We appreciate your cooperation very much!

Please select the option below (e.g., YES, NO) that best reflects your participation in this study.

BY SELECTING:

YES - I verify that I have read and understand this consent form and willingly agree to participate in this study under the terms described.

NO - I verify that I have read and understand this consent form and do NOT agree to participate in this study. My information will NOT be used for research purposes and will be discarded.

Appendix E

Debriefing Form

Thank you for participating in this online study! This research would not be possible without your input. Please do not discuss the study with other WU101 students, as their knowledge of it could influence our results.

The present study attempts to examine the relationship between emotion regulation and friendship status. Participants' friendship status in adulthood and childhood, attitude toward friendships, and emotion regulation ability was assessed using three questionnaires.

The data collected from this study may further our understanding of potential "risk factors" for friendlessness and/or assist in developing future intervention strategies.

If you wish to find out more about this study, including its results, or make a comment or complaint about the study, please contact Leyli Beims-Ukens, the study's primary investigator, by email at leyli.beims-ukens@washburn.edu or in person at 211 Henderson Hall.

Additional information regarding campus and national resources for questions/concerns related to mental health are included below. If any of the questions in this study caused you distress, discomfort, anxiety etc., please use the following resources to seek support.

Washburn University Campus Resources

- **Counseling Services:** Provides confidential counseling services to all currently enrolled Washburn students at no cost. Washburn University faculty/staff may utilize the Counseling Services' staff for emergencies and/or referrals in the community. Available to employees to discuss options or referrals to community services.
 - Kuehne Hall Room 200
 - (785) 670-3100 (Option 2 will connect you with a counselor immediately, 24 hours a day.)
- **Psychological Services Clinic:** A treatment, research, and training clinic. Sessions are only available during the academic year (beginning of September through the end of April). The fee for intake appointments, individual therapy sessions, and group therapy sessions is \$10 each.
 - Henderson Room 111
 - (785) 670-1564

National Resources

- **National Suicide Prevention Lifeline:** Skilled, trained counselors are available 24/7 to listen to your problems and help you connect with mental health services in your area. The Lifeline provides free and confidential support for people in distress, prevention and crisis resources for you or your loved ones, and best practices for professionals.
 - 1-800-273-8255 or 1-800-784-2433
 - <http://www.suicidepreventionlifeline.org/>
- **National Hopeline:** If you are in crisis and need to speak with someone right now, calls are connected to a certified crisis center nearest to the caller's location. Staff and volunteers are trained and certified in crisis intervention.

- 1-800-442-4673 or 1-800-442-HOPE
- **Mental Health America:** For a referral to a specific mental health services or support program in your community.
 - 1-800-969-6642 or 1-800-969-NMHA
- **National Alliance on Mental Illness:** Provides support, information, and referrals.
 - 1-800-950-6264 or 1-800-950-NAMI