

2023

## Race as a Predictor of Co-Rumination in Friendship Among Adolescents

Jendayi A. Stafford  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [Developmental Psychology Commons](#)

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Education and Human Sciences

This is to certify that the doctoral dissertation by

Jendayi A. Stafford

has been found to be complete and satisfactory in all respects,  
and that any and all revisions required by  
the review committee have been made.

## Review Committee

Dr. Amanda Rose, Committee Chairperson, Psychology Faculty  
Dr. Georita Frierson, Committee Member, Psychology Faculty  
Dr. Angeleque Akin-Little, University Reviewer, Psychology Faculty

Chief Academic Officer and Provost  
Sue Subocz, Ph.D.

Walden University  
2023

Abstract

Race as a Predictor of Co-Rumination in Friendship Among Adolescents

by

Jendayi A Stafford

MPhil, Walden University, 2020

MA, Brandman University, 2016

MA, Brandman University, 2016

BS, Chapman University, 2013

AA, Chapman University, 2010

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Developmental Psychology

Walden University

February 2023

## Abstract

Co-rumination refers to the excessive and extensive discussion and revisiting of problems and negative feelings within dyadic relationships. Differences in friendships concerning co-rumination have found that girls co-ruminate more than boys, however researchers have not examined the relations between the racial composition of friend dyads and co-rumination in the friendships of adolescents. Theoretical frameworks included response styles theory, and fictive kin theory. The study involved secondary analyses of an archival data set in which adolescents responded to surveys about co-rumination and their same-sex friendships. The population used for the study consisted of 265 adolescent friend dyads from a town in the Midwest. Of those 265 friend dyads, 173 identified as White (85 girls and 88 boys) and 92 identified as Black (50 girls and 42 boys). Data were analyzed using ANOVAs and t-tests. Results indicated no significant difference across racial compositions. However, results did indicate a gender by race interaction for co-rumination difference in Black-Black boy friend dyads. Based on these findings, early intervention programs tailored specifically to gender by race in boys can be used to reduce co-rumination and teach more positive coping mechanisms. Positive social change implications of early intervention with the inclusion of parent education and in-school programs, may lead to more mentally and emotionally resilient adults.

Race as a Predictor of Co-Rumination in Friendship Among Adolescents

by

Jendayi A. Stafford

MPhil, Walden University, 2020

MA, Brandman University, 2016

MA, Brandman University, 2016

BS, Chapman University, 2013

AA Chapman University, 2010

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Developmental Psychology

Walden University

February 2023

## Dedication

I graduated high school with an advanced high school diploma and a 1.7 GPA. My guidance counselor told me that I would be lucky to get accepted into a community college. I thank God that He placed people who encouraged me and spoke life into me to counteract the death that the guidance counselor spoke over me.

I dedicate this work to all of those who have struggled to get their footing and find their place. I want to encourage you to not let anyone's words dictate your level of success. Someone once told me that it did not matter how I began, but how I finish. Let this work be the example of the saying to you today.

I also dedicate this body of work to those who came before me. They paved the way for me with their blood, sweat, tears, and sacrifices. I am their prayers manifested.

## Acknowledgments

I acknowledge my Lord and Savior, Jesus Christ, with Whom none of this would be possible without His strength and guidance. I acknowledge my loving, patient, supportive husband, Jarrod Stafford without his support, I would have never begun or completed this journey. To our three children, Amaya, Aubrey, and Alden. They are my greatest legacy.

I acknowledge my parents, the late Edwin J. Sydnor, the late John F. O'Hara, Janice O'Hara, and Gail Dickson. To Pastors Randy and Fannie Dean of Mission Ministry Faith Center Mission Ministry Outreach, and Apostle Michael Mosley and First Lady, Minister Porscha Mosley of Full Life Fellowship Ministries who prayed with me and for me throughout this process.

I would like to also acknowledge Dr. Rose, thank you for guiding me on this journey. You have been encouraging, knowledgeable, and an active mentor to me during this process. I could not have completed this journey without you. To Dr. Frierson (Dr. G), thank you for serving as my second member and helping me bring alignment and clarity to my study. To Dr. Akin-Little, your support as my URR has been amazing. To Dr. Marlon Sukal, your kindness displayed to me during my course work after the passing of my father and your encouragement during my residency three helped me to continue this journey, and for that, I thank you.

Lastly, I would like to acknowledge Dr. Heather Hamilton who encouraged me and mentored me throughout this process.

To all my dear friends who encouraged me along the way, thank you.

## Table of Contents

List of Tables .....	iv
Chapter 1: Introduction to the Study.....	1
Background.....	2
Statement of the Problem.....	3
Purpose of the Study .....	4
Research Questions and Hypotheses .....	5
Research Question 1 .....	5
Research Question 2 .....	5
Theoretical Framework.....	6
Response Style Theory .....	6
Fictive Kin Theory .....	6
Nature of the Study .....	6
Significance of the Study .....	7
Assumptions, Limitations, and Delimitations.....	8
Assumptions.....	8
Delimitations.....	8
Limitations .....	9
Chapter 2: Literature Review.....	10
Introduction.....	10
Literature Search Strategy.....	11
Theoretical Foundations.....	11



Theoretical Considerations .....	11
Literature Review.....	12
The Role of Friendship in Adolescents.....	12
The Construct of Co-Rumination.....	13
Differences Between Black Adolescents’ Friendships and White Adolescents’ Friendships in Co-Rumination and Related Constructs .....	14
Gender Differences in Co-Rumination in the Friendships of Black and White Adolescents .....	16
Differences Between Adolescents’ Cross-Race Friendships and Adolescents’ Same-Race Friendships in Co-Rumination and Related Constructs .....	17
Introduction.....	19
Research Design and Rationale .....	19
Methodology.....	20
Population .....	20
Sampling and Sampling Procedures .....	20
Procedures for Recruitment, Participation, and Data Collection.....	20
Instrumentation and Operationalization of Constructs .....	22
Research Questions and Hypotheses .....	22
Research Question 1 .....	22
Research Question 2 .....	23

Data Analysis Plan .....	23
Ethical Procedures .....	25
Summary .....	25
Chapter 4: Results .....	26
Introduction.....	26
Data Collection .....	26
Results .....	27
Descriptive Statistics.....	27
Research Questions and Hypotheses .....	28
Summary .....	31
Chapter 5: Discussion, Conclusions, Recommendations.....	33
Introduction.....	33
Interpretation of the Findings.....	34
Limitations of the Study.....	36
Recommendations.....	37
Implications.....	38
Conclusion .....	39
References.....	41
Appendix A: CITI Training through the University of Missouri .....	51
Conclusions.....	41

List of Tables

Table 1. Number of Friend Dyads in Each Racial Composition Group for Female and Male Friend Dyads..... 27

Table 2. Means, Standard Deviations, and Range of Co-Rumination for Each Racial Composition Group and for Females and Males ..... 28

Table 3. Means and Standard Deviations for Co-Rumination for Each Racial Composition Group for Girls and for Boys ..... 30

## Chapter 1: Introduction to the Study

As individuals emerge into their adolescent years, friendships become an increasingly important part of social support (Borowski, et al., 2018; Bukowski, et al., 1996; Rose, 2014). However, some friends engage in a form of support referred to as co-rumination. Co-rumination is the extensive and repetitive revisiting and discussing of a problem (primarily focused on the negative feelings) within dyadic relationships (Rose, 2002). Co-rumination has been found to be associated with both an increase of positive friendship quality, as well as an increase of both anxiety and depression (Nguyen et al., 2019; Rose, 2007). While the nature of co-rumination among adolescent friendships is becoming clearer, there are still many unknown factors. These factors include differences based on race, including whether there are race differences in co-rumination based on whether the friends are both Black (Black-Black friends), both White (White-White friends) or include one Black and one White friend (Black-White friends).

In addition, previously researchers have shown that girls co-ruminate more than boys but did not consider racial differences in the gender differences found for co-rumination. Given that co-rumination is related to adjustment, this proposed study was significant in that studying race differences in co-rumination may lead to the creation of prevention and intervention programs geared toward the racial composition of the adolescents in the friendship.

Walden University is known for developing scholars who create positive social change. This study may help to add to the already existing programs being used to create

positive social relationships and adjustment among adolescents. This chapter includes the following topics:

- Background
- Statement of the Problem
- Purpose of the Study
- Research Questions and Hypotheses
- Theoretical Framework
- Nature of the Study
- Significance of the Study
- Definitions
- Assumptions, Limitations, and Delimitations
- Summary

### **Background**

Adolescence is a time when the development of friendship is a pivotal part of development and psychological experience (Shin, 2017). During this time, the behaviors within friendships influence how the adolescents feel about one another and themselves. One factor of interest is co-rumination. For almost two decades, research has been conducted to learn more about co-rumination among adolescent friends (Rose, 2002).

In 2002, Rose developed the construct of co-rumination. Co-rumination is the extensive revisiting and discussing of a problem in which the focus is on the negative, feelings, and is also characterized by speculation about problem and mutual encouragement of problem talk. Previous research on co-rumination has shown it to be

associated with positive friendship quality and feelings of closeness (e.g., Felton et al., 2018; Hall, 2007; Rose, 2002). This association may be due to the intimate and intense nature of the conversations in which the friends are participating in (Rose, 2007) Co-rumination is also associated with depressive symptoms (Stone et al., 2011). This is proposed to be caused by the persistent negative focus (Stone et al., 2011).

There is variation among adolescent friends in how much they co-ruminate. Studies have suggested that there is a significant difference in the level of co-rumination between girls and boys, with girls reporting higher levels of co-rumination than boys (Rose, 2002). However, despite the number of different studies that have been conducted on co-rumination (e.g., Borowski & Zeman, 2018; Felton et al., 2018; Lentz et al., 2016; Rose, 2002; Schneider et al., 2007; Stone et al., 2011; Taylor et al., 2016; West et al., 2017), little is known about the role of race in terms of co-rumination.

This study included Black and White adolescents participating in same-race friendship (White-White friendship or Black-Black friendship) or a cross-race friendship (Black-White friendship) and examined whether there were race differences across friendship types in co-rumination. The strength of gender differences across different racial compositions of friendships also was examined. This study was important in that it provided answers about co-rumination that were needed to create and implement early intervention programs that are appropriate for White and Black adolescents.

### **Statement of the Problem**

Many studies have been conducted regarding adolescent friendships (e.g., Felton et al., 2018; Rose, 2002; Shin, 2017), but there are still areas that warrant further

exploring. Despite current knowledge about co-rumination (Rose, 2002; Stone, et al., 2011), there is little information as to whether there are racial differences within friendships concerning co-rumination. This study helped to fill in the gaps in the research by focusing on Black and White adolescents.

The study considered friendship pairs consisting of two Black adolescents (referred to as Black-Black friendships), two White adolescents (referred to as White-White friendships), or one Black and one White adolescent (referred to as Black-White friendships). The study tested whether there were differences between Black-Black, White-White, and Black-White friendship pairs in terms of their level of co-rumination, and in the degree to which there are gender differences in co-rumination. As discussed in the limitations section, although this study focused on the racial composition of friendships, racial differences are acknowledged to often be driven by other variables associated with race (e.g., income).

In terms of applications, given that co-rumination is found to be related to adjustment, including depressive symptoms, developing programs to move youth away from co-rumination is important. Knowing whether co-rumination is more common among friendships of some racial compositions than others is important for making sure that prevention/intervention efforts reach the youth who are most in need.

### **Purpose of the Study**

The purpose of the quantitative study was to examine the relations between the racial composition of friend dyads and co-rumination in the friendships of adolescents. Secondary analyses were conducted with a previously collected data set (collected by Dr.

Amanda Rose, chair of this dissertation committee) to examine co-rumination among Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads. These data were used to test whether levels of co-rumination differ among these friendship types and whether gender differences in co-rumination differed across these friendship types.

### **Research Questions and Hypotheses**

#### **Research Question 1**

Does the level of observed co-rumination differ across Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads?

*H<sub>0</sub>1*: Observed co-rumination does not differ across adolescents in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyad.

*H<sub>a</sub>1*: Observed co-rumination differs significantly across adolescents in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads.

#### **Research Question 2**

Is there a gender by race interaction for co-rumination such that the gender difference in co-rumination differs for Black-Black, White-White, and Black-White friendship pairs?

*H<sub>0</sub>2*: There is not a significant gender X race interaction for co-rumination.

*H<sub>a</sub>2*: There is a significant gender X race interaction for co-rumination.



## **Theoretical Framework**

### **Response Style Theory**

Response style theory focuses on the idea that there are multiple ways in which individuals can respond to negative feelings or experiences, with one way being rumination (Nolen-Hoeksema, et al., 2008). Rumination involves dwelling excessively on negative feelings or experiences and is defined as a maladaptive response style associated with depression (Nolen-Hoeksema, et al., 2008). Building on response style theory and the construct of rumination, the construct of co-rumination was defined as the extensive discussion of problems or negative feelings with a relationship partner (Rose, 2002).

### **Fictive Kin Theory**

Fictive kin theory refers to the idea of perceiving close friendships as part of one's extended family (Hall, 2007). This theory is most credited to several individuals in the fields of anthropology and ethnography, and their study to kinship and social ties (Billingsley, 1992; Hall, 2007; Hollingsworth, 1999). Fictive kin theory has often been used in research studies dealing with African Americans, and other people of color, to help understand family and friendship dynamics (Stack, 1972). According to this theory, African Americans are more likely than European Americans to consider close friends as part of their family (Hall, 2007).

### **Nature of the Study**

The nature of this study was quantitative. This study focused on the racial composition of adolescents' friendships and co-rumination. The primary goal was to examine racial composition differences in mean levels of co-rumination. Also considered

was whether the gender difference in co-rumination differed based on the racial composition of the friendship. Nearly all previous studies have included primarily White youth and did not test for racial/ethnic differences (Borowski & Zeman, 2018; Felton et al., 2018; Rose, 2002; Schneider et al., 2007; Stone, et al., 2011; Taylor et al., 2016; West et al., 2017). This study extended past research by considering co-rumination among youth in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads.

### **Significance of the Study**

Co-rumination is still a relatively new construct in the field of psychology. As previously stated, Rose (2002), defines co-rumination as excessive and repetitive discussions of problems within dyadic relationships that is characterized by mutual encouragement and focuses primarily on the negative feelings about the problems.

This research added to the existing literature regarding co-rumination in adolescent friendships. Most of the existing research focused on co-rumination among White adolescents, and little was known about the role of race in co-rumination and adjustment. Only one study was identified that examined race differences in co-rumination (Lentz et al., 2016). This suggested similar levels of co-rumination among Black and White youth. However, although the total sample size was sufficient, a major limitation was the small sample size of some racial and gender groups (e.g., of the 445 boys, only about 25 were Black). If the effects are small, this study may not have had sufficient power to detect racial differences. In construct, the current study involved larger samples of Black and White adolescents.

## **Definitions**

The following definitions apply to the language used in the study:

*Adolescent*: People between 10 and 19 years of age (World Health Organization, 2014).

*Co-rumination*: Extensive revisiting and discussing of a problem in which the focus is on negative feelings (Rose, 2002).

*Race/Racial*: The sharing of similar traits of a shared ancestry or culture (Standing et al., 2007).

## **Assumptions, Limitations, and Delimitations**

### **Assumptions**

The first assumption of this study was that participants (adolescent pairs) accurately self-identified as friends. Another assumption was that the participants did not change their behavior because they were being observed. The third assumption was that the method used was the best for addressing the questions of the research.

### **Delimitations**

Delimitations of a study refers to the exclusionary and inclusionary decisions of the researcher that are made throughout the life of the study (Creswell, 2009). The current study focused on the observation of the behavior of co-ruminating. Only behavior was observed, not the adolescents' thoughts or feelings associated with the observed behavior. This study also focused on an age range specific to early and middle adolescent years, meaning the findings may not be applicable to younger or older youth. Another delimitation is that the population used for the study focused on typically developing

youth versus using a clinical population. That means that the findings of this study may not apply to youth categorized as having serious adjustment problems. This study also focused specifically on Black and White adolescents, and the findings may not apply to adolescents of a different race.

### **Limitations**

The original study consisted of approximately 600 participants (nested in friend dyads). These data were collected by Amanda Rose in 2007, 2008, and 2009 as part of a larger study (e.g., see Rose et al., 2014). The data were collected in a small University town in the Midwest. Relying on previously collected data means having to review the procedures to ensure the data were collected appropriately and ethically (e.g., in terms of parental consent forms, confidentiality). In addition to having needed to review the protocol to ensure ethical procedures were followed, other limitations included making sure that there had been no additions or changes made to the assessments. Another limitation was that the data used for this study were collected almost 15 years ago.

## Chapter 2: Literature Review

### **Introduction**

Co-rumination is defined as the repeated discussion and the revisiting of problems with another person, with the focus being on negative, self-disclosed feelings associated with the defined problem (Rose, 2002). Research has shown that females co-ruminate more than males (Rose, 2002), and research has also shown co-rumination to be related to higher positive friendship quality (Felton et al., 2018; Rose, 2002; Rose et al., 2007), and depressive symptoms among adolescents (Borowski & Zeman, 2018; Stone et al., 2011). Despite this information about co-rumination among adolescents, the role of race in terms of co-rumination was not yet well known.

The purpose of this study was to examine the role of racial compositions of friend dyads and co-rumination in the friendships of adolescents. In this study I also examined gender differences in co-rumination across the different racial composition of friend dyads. Examining the role of race in co-rumination is important given that co-rumination is related to adjustment. The study involved secondary analysis of a previously collected data set. The data were collected by Amanda Rose in 2007, 2008, and 2009.

This chapter includes the following topics:

- Literature search strategy that was used
- Responsive style theory
- Fictive kin theory
- Review of research related to co-rumination among adolescents with implications for friendship quality.

### **Literature Search Strategy**

In the process of conducting this literature review, peer-reviewed journals and books from multiple databases were utilized. The databases used include SAGE Publication, EBSCO, Social Sciences Citation Index, SocINDEX, PsychINFO, as well as the Thoreau Multi-Database search at Walden University Library. In the initial search, the topics searched included co-rumination, co-rumination and ethnicity, adolescent friendship interactions, co-rumination and friendships, race, and co-rumination. As the study progressed, the search extended to include the following topics: ethnic friendships among adolescents, ethnicity and relationships, and inter-ethnic and inter-racial friendships.

### **Theoretical Foundations**

There are two theories that were used to form the hypotheses regarding the relations between the racial composition of friend dyads and co-rumination in the friendships of adolescents, friendship quality and co-rumination. These theories include responsive style theory and fictive kin theory. Each of these theories is described in the sections below.

#### **Theoretical Considerations**

##### *Response Style Theory*

In 1991, Nolen-Hoeksema developed the Response style theory. According to response style theory, there is the possibility of multiple responses an individual can display based on negative feelings or experiences. These responses can lead to the excessive dwelling on the negative feelings or experiences, and this is known as

rumination (Nolan-Hoeksema, 1991). Rumination is defined as a maladaptive response that is often associated with depressive symptoms (Nolen-Hoeksema et al., 2008). This association with depression is likely due to consistent, repetitive negative thinking (Nolen-Hoeksema et al., 2008). The construct of co-rumination builds upon the response style theory. Co-rumination is like rumination in that it refers to focusing on problems or negative feelings (Nolen-Hoeksema et al., 2008). However, co-rumination involves the extensive discussion in which these problems or negative feelings are discussed at length with a relationship partner (Rose, 2002).

*Fictive kin theory.* Ballweg (1969) described kinship as being a symbol of the attempt to strengthen the propinquity between non-kin individuals. When looking at fictive kin theory, Shiptoll (1997) stated that fictive kinship referred to the bonds between individuals outside of the family, including seeing close friendships as part of one's extended family (Hall, 2007). When considering Black culture, there are two types of fictive kinship: those who are unrelated who identify as close friends, and those who are unrelated who are considered an extension of family, i.e. aunts, uncles, etc. (Alexakos et al., 2011; Chatters et al., 1994). Hall (2007) stated that African Americans are more likely than European Americans to refer to their close friends as members of their family.

## **Literature Review**

### **The Role of Friendship in Adolescents**

Friendships are voluntary relationships between two people with characteristics including intimacy, self-disclosure, mutual concern, equality in power, and empowerment (Grief & Sharpe, 2010; Knickermeier et al., 2002). The support and interactions between

friends, specifically in adolescence, influences both their behavior and development (Shin, 2017). Good friendships are considered to be friendships that are high in quality (Berndt, 2002; Rose, 2002), such as including disclosure of personal thoughts and feelings, self-esteem support, intimacy and loyalty (Berndt, 2002). When observing emotional transactions between high quality friendships they include confirmation, validation, trust, and a positive reward for those involved (Turner, 2002). Previous research also indicates that self-disclosure about personal problems is linked to close, high-quality friendships (Rose, 2002).

Same-sex friendships are especially common in adolescence (Bukowski et al., 1993; Rose, 2002). In these friendships, girls have reported having higher quality friendships than boys (Rose, 2002; Rose et al. 2007; Shin, 2017). Additionally, girls disclose more to same-sex friends than do boys (Rose & Rudolph, 2006). Several researchers have assessed friendship quality with the Friendship Quality Questionnaire (Parker & Asher, 1993; see Rose, 2002, for a revision), which assesses validation and caring, conflict resolution, conflict, and betrayal, help and guidance, companionship and recreation, and intimate exchange.

### **The Construct of Co-Rumination**

The construct of co-rumination was developed by Rose (2002) and is based on the construct of rumination. As noted, rumination is the excessive dwelling on negative feelings or experiences (Nolen-Hoeksema et al., 2008). Similarly, co-rumination is the extensive revisiting and discussing of a problem in which the focus is on the negative feelings. Rumination (excessive dwelling on negative feelings or experiences) has been



associated with depression and anxiety symptoms (Nolen-Hoeksema et al., 2008; Rose et al., 2014; Stone et al., 2011), and co-rumination has also been associated with depression and anxiety (Hankin et al., 2010; Rose, 2002; Schwartz-Mette & Smith, 2018).

Although there are similarities between rumination and co-rumination, there are differences as well. Unlike rumination, co-rumination involves social conversation with another individual. Co-rumination also has a potentially positive component in that it can allow individuals to connect and better process emotions related with a specific event (Hacker et al., 2016). In fact, co-rumination is related to higher quality of friendships and feelings of closeness between friends (Bukowski et al., 1994; Camarena et al., 1990; Rose, 2002; Rose et al., 2014).

### **Differences Between Black Adolescents' Friendships and White Adolescents'**

#### **Friendships in Co-Rumination and Related Constructs**

As previously discussed, the majority of the studies focusing on co-rumination among adolescents has dealt primarily with White samples (Borowski & Zeman, 2018; Felton et al., 2018; Lentz et al., 2016; Rose, 2002; Rose et al., 2014; West et al., 2017). For example, in the first study conducted on co-rumination and friendships, 87% of the participants were White while only 6% were Black (Rose, 2002). More recent studies on co-rumination have continued to have a less inclusive population in their study. Studies have included high percentages of White participants such as 76% White (Borowski & Zeman, 2018), 86.8% White (Felton et al., 2018), and 86.8% White (Miller et al, 2020).

When observing co-rumination differences in Black and White adolescents for the present study, it is hypothesized that Black adolescents will co-ruminate more than White

adolescents. According to a study conducted by Hall (2007), fictive kin are more likely to occur with relationships among Black individuals than White individuals. The concept of fictive kin theory is that close friendships within the Black community are often considered to be extended members of the family (Hall, 2007; Stack, 1972). Culturally, fictive kinship is an important part of the Black culture and is a less prevalent within White culture (Alexakos et al., 2011; Chatters et al., 1994; Gutman, 1976).

To date, only one study tested the differences between Black and White adolescents' co-rumination. Lentz et al. (2016) did not find differences between Black and White adolescents' reports of co-rumination with friends. However, the study tested racial differences for girls and boys separately and may have not had enough participants of each race to have the statistical power to detect race differences (only 22 out of 445 boys were Black and only 8 out of 432 girls were White).

Although little is known about race differences in co-rumination, differences between the friendships of Black youth and White youth have been considered for the related constructs. These studies provide mixed support for the hypothesis that Black adolescents would co-ruminate more than White adolescents. In one study (Pagano & Hirsch, 2007), self-disclosure was examined among adolescents. This study did not find race differences in self-disclosure. However, this study likely was underpowered. In the study, 43% of adolescents were Black; however there still were less than 55 Black youth included. Another study compared Black and White adolescents reports of social support in friendships (DuBois & Hirsch, 1990). This study had more power with 80 Black

adolescents (25% of the samples). In this study, there was not a race difference for girls, but Black boys did report more support from friends than White boys.

### **Gender Differences in Co-Rumination in the Friendships of Black and White**

#### **Adolescents**

In previous studies, there have been significant differences in co-rumination based on gender (Borowski & Zeman, 2018; Felton et al., 2018; Miller et al., 2020; Rose, 2002). However, these studies included predominantly White participants. These studies consistently indicated that girls co-ruminated more than boys (Borowski & Zeman, 2018; Felton et al., 2018; Miller et al., 2020).

When it comes to gender differences in co-rumination in Black samples, little information is available. In the one study that examined co-rumination among Black adolescents separately from White adolescents (Lentz et al., 2016), no tests were conducted to determine whether there was a significant gender difference for Black adolescents.

In terms of the studies of constructs related to co-rumination, in the study involving self-disclosure, Black girls and boys were shown to have similar levels of levels of self-disclosure within their same-sex friendships (Pagano & Hirsch, 2007). The study on support (DuBois & Hirsch, 1990) also found that Black girls and boys did not differ on support in their friendship. These studies suggest that gender differences in co-rumination may not be found for Black adolescents.

### **Differences Between Adolescents' Cross-Race Friendships and Adolescents' Same-Race Friendships in Co-Rumination and Related Constructs**

The current research also examined whether cross-race friendships and same-race friendships differ in terms of co-rumination. Co-ethnic friendships, defined as friendships between individuals of the same ethnicity/race, have been found to provide a more stable and higher quality level of friendship than friendships between individuals of different races; (i.e., inter-ethnic friendships; Jugert et al., 2013; McGill et al., 2012; Schneider et al., 2007). Rude and Herda (2010) concluded that cross-race friendships were less likely to remain stable throughout the school year.

Given that disclosure and support are aspects of high-quality friendships, the previous studies (Jugert et al., 2013; McGill et al., 2012; Schneider et al., 2007) suggest that co-rumination may be more common within same-race friendships (Black-Black and White-White) than cross-race friendships (Black-White). Previous research suggests that the greater stability and higher quality of same-race friendships may be due to the ability of the friends to understand one another, reducing misunderstandings and conflicts that could arise easier within a cross-race friendship (Schneider et al., 2007). Therefore, co-rumination also be greater among adolescents' same-race friendships than adolescents' cross-race friendships.

### **Gender Differences in Adolescents' Co-Rumination in Cross-Sex Friendships**

Also tested in the current study is whether there are gender differences in co-rumination in cross-race (Black-White) friendships. Previous studies (Pagano & Hirsch, 2007; Rose, 2002) consistently find gender differences in samples of predominantly

White adolescents, with girls having higher levels of co-rumination than boys. However, as discussed, gender differences are not expected in friendships between Black adolescents. As a result, it is difficult to make firm hypotheses about whether girls will co-ruminate more than boys in cross-race (Black-White) friendship dyads. By exploring co-rumination among both same-race and cross-race friendships, the proposed study will help to further explore gender differences in adolescents' friendships.

### **Summary and Conclusion**

This chapter reviewed the responsive style theory and fictive kin theory to ground this study of co-rumination based on gender and race. The literature review indicated that research has not yet examined co-rumination in Black-Black friendship dyads compared to White-White friendship dyads or in same-race versus cross-race friendships. Previous research does indicate gender differences in co-rumination in predominantly White samples, however, gender differences have not been explored and Black adolescents' friendships. Chapter Three will discuss the research method used. This will include the research design and rationale, methodology, research questions and hypotheses, data analysis plan, and the threats to validity addressing the gap in the research.

## Chapter 3: Research Method

### **Introduction**

The purpose of this study was to examine the relations between the racial composition of friend dyads, gender, and co-rumination in the friendships of adolescents. Data collected by Dr. Rose in 2007-2009 was used in this study. The study used a quantitative analysis with these previously collected data to test whether levels of co-rumination differed based on the racial composition of the friendships and whether gender differences differed for these friendship types. The analyses were completed utilizing the Statistical Package for the Social Sciences (SPSS) program.

In this chapter I describe the research design and methodology used to conduct the study. This study relied on the observations of the participants to measure the levels of co-rumination. This chapter includes a discussion of the population used for the sample, procedures for data collection, and the instruments used to conduct the study. Threats to validity are discussed along with the ethical procedures that were followed.

### **Research Design and Rationale**

Quantitative analyses were conducted to address the research questions of this study. The research questions will consider whether co-rumination was observed to differ based on the racial composition of friendships. The study also considered whether gender differences in co-rumination differed by race. A quantitative research design was the best approach for this study to test research questions using pre-existing theories to examine the relationships between the variables being assessed with instruments, such as survey measures structured observations (Creswell & Creswell, 2018). A quantitative study is

the most appropriate method used within the social sciences when examining relations between numerous variables (Creswell & Creswell, 2018).

## **Methodology**

### **Population**

As of 2019, there are approximately 41,852,838 youth between the ages of 10 and 19 in the United States (U.S. Census Bureau, 2021). Of those 41,852,838 youth, 51% identified as White, and 14% identified as Black (U.S. Census Bureau, 2021). In addition, most adolescents report having at least one friend (Rose, 2021). The target population for this study included adolescent same-sex friend dyads.

### **Sampling and Sampling Procedures**

The sample used for the research was drawn from seventh and tenth graders from the Midwestern United States. The students who were invited to participate were randomly selected from the student roster of a public school district.

### **Procedures for Recruitment, Participation, and Data Collection**

The dataset used for this study was collected by Dr. Rose in 2007-2009. The proposed study did not require recruitment of additional participants. Dr. Rose granted permission for the use of the collected data. The data was collected in Columbia, Missouri with the IRB approval being obtained from the University of Missouri.

The recruitment process consisted of sending out letters to 1,771 families (see Rose et al., 2014; Rose et al., 2016). From the 1,771 families, 937 were contacted via telephone. From those 937 families, 616 families did not choose to have their adolescent participate in the study, 362 families declined to participate in the study, and 254 families

were interested in participating in the study but did not commit to the required appointment.

There was a total of 321 youth who came to the lab with a same-sex friend to participate in the study. Of those 321 friend dyads (642 total adolescents), 7 friend dyads (14 total adolescents) were excluded from the study due to their friend not meeting the criteria of the study that the adolescents both reporting that they are “best friends” or “good friends” (Rose et al., 2014; Rose et al., 2016). After removing the 7 dyads, the remaining sample included 314 friend dyads. Of the 628 youth in these dyads, 66% reported being White and 27% reported being Black. For the current study, only youth who identified as Black or White were included in the analyses. The final number of participants included in this study were 265 friend dyads.

Adolescents participated at a laboratory at the University of Missouri. Initially, the friend dyads answered the questionnaires separately and then were brought back together in an observation room. The friends were asked to complete a warm-up task, then were separated once again, and asked to complete another questionnaire. For this questionnaire, they generated the problem that they would discuss with the friend. The friends then returned to the observation room where they were given 16-minutes to discuss problems. This problem talk interaction between friend dyads was observed over the 16-minute period and was later transcribed.



## **Instrumentation and Operationalization of Constructs**

### ***Demographics***

Participants were presented with an information sheet that provided a list of different races. The list included White/Caucasian, and Black/African American.

Participants were asked to check which race applied.

***Co-Rumination Coding.*** The Problem Talk Task was coded for co-rumination. Each dyad was assigned a score for the degree to which they co-ruminated, ranging from 1 (*Not at all/Very little*) to 5 (*Very Much*; see Borowski & Rose, in press). Based on the definition of co-rumination, in assigning scores, coders considered the degree to which the friends talked about the problem, rehashed different parts of the problem, speculated about the problem, encouraged one another to continue talking about the problem, and dwelled on negative feelings related to the problem. Interrater reliability between two coders was computed based on 25% of the interactions. The interclass correlation indicated that interrater reliability was high (ICC = .93).

## **Research Questions and Hypotheses**

### **Research Question 1**

Does the level of observed co-rumination differ across adolescents in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads?

*H*<sub>0</sub>1: Observed co-rumination does not differ across adolescents in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads.

$H_{a1}$ : Observed co-rumination differs significantly across adolescents in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads.

Dependent variable: co-rumination

Independent variable: racial composition of the dyads

### **Research Question 2**

Is there a gender by race interaction for co-rumination such that the gender difference in co-rumination differs for Black-Black, White-White, and Black-White friendship pairs?

$H_{02}$ : There is not a significant gender X race interaction for co-rumination.

$H_{a2}$ : There is a significant gender X race interaction for co-rumination.

Dependent variable: co-rumination

Independent variables: gender, race

### **Data Analysis Plan**

The data was retrieved from an Excel file provided by Dr. Rose. The data was analyzed using the most updated version of SPSS.

### **Power Analysis**

The data used for the present study consisted of a sample size of 132 friend dyads with adolescents who identified as being Black or White. A power analysis was

conducted via G\*Power version 3.1.9.7 (Faul et al., 2009). A power analysis allows for the calculation of the sample size needed to detect effects for a specific alpha and power level (Cohen, 1988). The analysis was conducted to determine the sample needed to detect medium effects with a significance criterion of  $\alpha = .05$  and power = .80. In particular, the analysis was conducted for an ANOVA with two independent variables (gender, race) that each had two levels (female, male: Black, White). The power analysis indicated that the minimum sample size needed to detect medium effects is 109. Based on the results of the G\*Power, the obtained sample size of the  $N = 132$  dyads is more than adequate to test the hypothesis.

### **Threats to Validity**

Threats to the internal and external validity are taken into consideration. Internal validity refers to the potential threats created if the testing instruments do not measure the constructs intended (Creswell, 2009). One aspect of internal validity is internal reliability (Creswell, 2009). This study used information obtained from observations. Interrater reliability was tested to ensure the coders perceived the constructs similarly. In addition, although we cannot be positive that there is internal validity, previous analyses with these data found the observed co-rumination was related to other variables in meaningful ways that fit with theory. Therefore, these previous analyses provided support for internal validity.

External validity refers to whether the findings are generalizable to Black and White adolescents beyond the participants of the study. Threats to external validity included that the sample was limited to one community, adolescents who received

parental consent, and adolescents who had a friend who also would participate. These threats to external validity will be discussed in Chapter 5.

### **Ethical Procedures**

This study used data that were previously collected by Dr. Rose in 2007, 2008, and 2009. Parental consent was obtained before data collection. As described in the consent forms, the data were kept confidential. Although the original data included names of the participants, no names were provided for the dissertation. The only information provided for the current study were gender, race, and observed co-rumination scores.

### **Summary**

In summary, this chapter provided an explanation of the research design for the study. This quantitative research design involves using structured observations to address the research questions presented in the current study. Threats to both internal and external validity were also addressed. Chapter 4 will provide a summary of the results.

## Chapter 4: Results

### **Introduction**

The purpose of this study was to examine the relations between the racial composition of friend dyads and co-rumination in the friendships of adolescents using a dataset previously collected by Rose in 2007 and 2009. In the following chapter I present the findings of the examined research questions and hypotheses.

### **Data Collection**

Data collection was conducted by Dr. Amanda Rose between 2007 and 2009. The data were collected in three cohorts over the three summers. During the collection process, participants completed a series of questionnaires including a measure assessing demographics, and the 27-Item Co-Rumination Questionnaire.

As described in Chapter 3, adolescents included in the sample were recruited from the roster of adolescents who attended the local public schools and had just completed seventh or 10<sup>th</sup> grade. Adolescents who were invited to participate were chosen at random from the roster. Adolescents who agreed to participate came to the lab with a friend. Overall, total of 628 adolescents, in 314 friendship pairs, completed the study. The participants included in this study only consisted of Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads, resulting in 530 adolescents in 265 friend dyads.

Again, as previously discussed in Chapter 3, a power analysis indicated that 109 participants were needed to detect medium effects. The dataset being used in this study consists of 530 adolescents in 265 friendship dyads, meeting the requirements for an

effective sample size. According to the U.S. Census Bureau (2021), in the United States, the ratio of White to Black Americans is 5.6 to 1. In the current study, the ratio of White to Black adolescents is 2.6 to 1.

## Results

In this section, descriptive statistics, in addition with an ANOVA was performed. Observed co-rumination served as the dependent variable and racial composition of the friendships and gender were the independent variables.

### Descriptive Statistics

Table 1 displays the number of female friend dyads and male friend dyads by racial composition.

**Table 1**

*Number of Friend Dyads in Each Racial Composition Group for Female and Male Friend Dyads*

Racial Composition of Friend Dyad	Number of Female Friend Dyads	Number of Male Friend Dyads	Total Number of Dyads
Black-Black Friend Dyads	38	25	63
White-White Friend Dyads	80	84	164
Black-White Friend Dyads	17	21	38

Table 2 displays the means, standard deviations, and ranges for co-rumination for each of the friendship types.

**Table 2**

*Means, Standard Deviations, and Range of Co-rumination for Each Racial Composition Group and for Female and Male Friend Dyads*

Racial Composition of Friend Dyad	Number of Dyads	<i>M</i> Co-Rumination Score ( <i>SD</i> )
Black-Black	63	2.40 (.66)
White-White	164	2.23 (.71)
Black-White	38	2.16 (.68)

  

Gender	Number of Dyads	Number of Male Friend Dyads
Females	135	2.47 (.73)
Males	130	2.04 (.59)

### **Research Questions and Hypotheses**

The first research question was whether the levels of observed co-rumination differed across adolescents in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads. It was hypothesized that observed levels of co-rumination would differ across adolescents in Black-Black friend dyads, White-White friend dyads, and Black-White friend dyads such that co-rumination would be greater among Black-Black dyads than White-White dyads. Black-White friend dyads were expected to score lower on co-rumination than same-race dyads.

The second research question tested was there a gender by race interaction for co-rumination such that the gender difference in co-rumination differs for Black-Black, White-White, and Black-White friendship pairs. It was hypothesized that there would be

a significant gender by race interaction for co-rumination such that the tendency of girls to score higher on co-rumination than boys would not be as strong in Black-Black friend dyads compared to the other dyads.

The two research questions were tested with a single ANOVA. An ANOVA was conducted with observed co-rumination as the dependent variable and racial composition of the friendship and gender as the independent variables. The main effect of friendship types was not significant,  $F(2, 259) = 1.36, p = .26$ .

Although the overall gender effect was not a primary research question, the effect of gender was significant,  $F(1, 259) = 16.41, p < .001$ . As presented in Table 2, girls were observed to co-ruminate more than boys. To address the second research question, the effect of the interaction between friendship type and gender was evaluated. The effect of the interaction between friend type and gender was  $F(2, 259) = 1.99, p = .14$ .

Although the  $p$  value for the interaction did not reach the traditional significance level, additional analyses were conducted given the a priori hypothesis. First, for each gender, an additional ANOVA was conducted with observed co-rumination as the dependent variable and friendship type as the independent variable. For girls, the effect of friendship type was not significant  $F(2, 132) = .04, p = .96$ . For boys, the effect of friendship type on co-rumination was significant,  $F(2, 127) = 3.86, p = .02$ . Table 3 displays the means and standard deviation for co-rumination for each friendship type for girls and for boys.



**Table 3**

*Means, and Standard Deviations for Co-rumination for Each Racial Composition Group and for Girls and Boys*

Girl Dyads (135)	Number of Dyads	<i>M Co-Rumination Score (SD)</i>
Black-Black	38	2.45 (.69)
White-White	80	2.49 (.76)
Black-White	17	2.47 (.72)

  

Boy Dyads (130)	Number of Dyads	Number of Male Friend Dyads
Black-Black	25	2.32 (.63)
White-White	84	1.99 (.57)
Black-White	21	1.90 (.54)

As can be seen in Table 3, the mean score for boys in Black-Black friend dyads was higher than the means for boys in White-White and Black-White friend dyads. Paired comparisons indicated that boys in Black-Black friendships were observed to co-ruminate significantly more than boys in White-White friendships ( $p = .03$ ) and boys in Black-White friendships ( $p = .04$ ). Boys in White-White and Black-Black friendships did not differ from one another ( $p = .23$ ).

To further test the interaction between racial composition and gender in predicting observed co-rumination, a  $t$ -test was performed. The result of the  $t$ -test for White-White friends was significant,  $t(162) = 4.76, p < .001$ . The result of the  $t$ -test for Black-White friend types was also significant,  $t(36) = 2.78, p = .01$ . These results indicated that, within White-White and Black-White friendships, girls co-ruminated more than boys. However, for Black-Black friends, the result was not significant,  $t(61) = .75, p = .46$ .

This result means that among Black-Black friendships, boys and girls co-ruminate at similar levels. A review of the means indicated that girls' and boys' co-rumination scores did not differ for Black adolescents because Black boys co-ruminated at a level that was higher than other boys and similar to girls.

### **Summary**

The aim of this study was to examine whether there were differences in co-rumination among friends in different racial composition groups and whether gender differences in co-rumination were consistent across racial composition groups. The main effect of friendship types was not significant. Although the interaction between friendship types and gender did not reach the traditional significance level, the interaction was probed given the a priori hypothesis and that the effect approached significance. First, additional analyses were conducted separately for girls and boys to explore the effect of friendship type. These results indicated no differences for girls but that boys in Black-Black friend dyads co-ruminated more than boys in the other racial composition groups.

To address the second research question, *t*-tests were performed to test whether girls and boys differed in observed co-rumination in each of the three friendship dyad types. The results indicated that there was not a gender difference for observed co-rumination in Black-Black friendships. However, for White-White friendship dyads and Black-White friendship dyads there were significant gender differences with girls co-ruminating more than boys.

In Chapter 5, the theoretical framework is reviewed, and comparisons of the current findings and previous research are considered. The limitations of the study are

discussed, and recommendations for future research are explored. Lastly, implications of the results as to how they may contribute to positive change are also discussed.

## Chapter 5: Discussion, Conclusions, Recommendations

### Introduction

The purpose of the current quantitative study was to examine the relations between the racial composition of friend dyads, gender, and co-rumination in the friendships of adolescents. Although co-rumination has received considerable empirical attention in recent years (Rose, 2021), there are still several areas that need to be explored. Specifically, research had not specifically considered co-rumination among Black youth. In addition, although past studies indicated gender differences in co-rumination in adolescent friendships (e.g., Felton et al., 2018; Rose, 2002; Shin, 2017), there had still been no research to examine the relation between gender and co-rumination in Black adolescents' friendship. Moreover, little research has considered cross-race friendships between Black and White youth, and the degree to which adolescents co-ruminate with cross-race versus same-race friends had not been examined.

The sample used for this study includes more Black adolescents than in the general population from which the sample was drawn. The overrepresentation of Blacks allowed for an examination of the differences or similarities of co-rumination among White and Black adolescents.

The current study found that there was not a significant difference in co-rumination across the racial composition. In addition, the gender by race composition interaction for co-rumination was not significant. However, given the a priori hypothesis, additional analyses were conducted and indicated that Black-Black male friend dyads displayed higher levels of co-rumination than White-White male friend dyads and Black-

White friend dyads. For girls, there were no differences in co-rumination across the different racial compositions of friend dyads.

In addition, other analyses found that there was no gender difference in co-rumination across White-White and Black-White friendship types. However, there was not a gender difference in co-rumination among Black-Black friends types, meaning that Black boys and Black girls co-ruminate at similar levels. A review of the means suggested that Black boys and girls did not differ because boys co-ruminated at a higher level than other boys, which was more similar to girls.

### **Interpretation of the Findings**

Previous studies of co-rumination used predominately White participants (Borowski & Zeman, 2018; Felton et al., 2018; Lentz et al., 2016; Rose, 2002). However, the current study included a larger number of Black participants. Therefore, this study provided new information about race and co-rumination.

The first research question addressed the levels of observed co-rumination in Black-Black, White-White, and Black-White friend dyads. It was hypothesized that there would be a significant difference in co-rumination across the different racial composition of adolescent friendship dyads. This hypothesis was based on previous theory and research (Alexakos et al., 2011; Ballweg, 1969; Chatters et al., 1994; Hall, 2007; Shiptoll, 1997). According to Fictive kin theory (Ballweg, 1969), African Americans are more likely than European Americans to be so close to friends that they are considered as members of the families. The high level of closeness among Black friends lead to the

expectation of Black-Black friends having higher levels of co-rumination than White-White friend dyads and Black-White friend dyads. The study did not find an overall significant difference in co-rumination across racial composition.

In addition, the interaction between racial composition and gender did not reach significance. However, given the a priori hypothesis that Black-Black friends would co-ruminate more than the other racial composition, the interaction was probed to test whether the racial composition groups differ within girls or within boys. The results indicated that, although co-rumination did not differ across racial groups for girls, there was a significant difference for boys. Consistent with hypotheses, boys in Black-Black friendships were observed to co-ruminate more than boys in White-White friendship types and Black-White friendship types.

These findings also addressed whether adolescents in same-race friendships co-ruminated more than adolescents in cross-race friendships. Adolescents in same-race friendships were expected to co-ruminate more than adolescents in cross-race friendships. This hypothesis was based on the idea that there would be more common ground between same-race friends, which could lead to greater co-rumination and previous findings indicating more positive qualities of same-race friendships than cross-race friendships (Jugert et al., 2013; McGill et al., 2012; Schneider et al., 2007).

The second research question addressed whether girls would be found to co-ruminate more than boys across all three racial composition friendship groups. Consistent with past research (Borowski & Zeman, 2018; Felton et al., 2018; Miller et al., 2020; Pagano & Hirsch, 2007; Rose, 2002) a significant main effect of gender indicated that

girls were observed to co-ruminate at higher levels than boys. However, boys and girls in Black-Black same-sex friendship types, shared similar levels of co-rumination, therefore the gender difference was not significant. These findings align with previous studies (Pagano & Hirsch, 2007; DuBois & Hirsch, 1990), that found that Black girls and boys reported similar levels of self-disclosure due to heightened levels of disclosure among boys.

### **Limitations of the Study**

There were several limitations of this study. The first limitation was that the data were collected in a predominately White small town in the Midwest. According to the U.S. Census Bureau (2021), most of the Midwest is comprised of White Americans. Black friendships in predominantly White towns may develop fictive kin type of relationship to create more solidarity amongst themselves in a place where they are significantly outnumbered. Therefore, these findings may not generalize to another context. For example, in communities in which the most adolescents are Black, adolescents in White-White male friend dyads may co-ruminate more than Black-Black male friend dyads. This could possibility be due to being the minority race. White adolescents would likely experience race differently than they do when they are in the majority, which may cause greater levels of co-rumination.

Secondly, the current study used data that were collected between 2007-2009. With these data, no information is provided about the impact of COVID-19 on co-rumination between friends and whether the impacts differed across the racial composition of friend dyads. The global pandemic may have led to a decrease in

communication among friends overall, therefore causing more rumination than co-rumination. The opposite could also be true, however, in that the pandemic created more challenges for adolescents that could serve as topics of co-rumination, potentially leading to higher levels of co-rumination regardless of gender or race.

Third, the study considered only seventh and tenth graders. A longitudinal study that continued through high school, into college years could provide additional information. As adolescents move beyond middle school and high school, their levels of co-rumination may change based on life experiences. For example, the communication between the friends may be influenced by whether one or both friends attend college.

### **Recommendations**

Despite the contributions of the present study, there is still a need for further research. For example, it would be helpful to address why Black boys co-ruminate more than White boys. In the United States, African Americans face social struggles pertaining to race. These racial struggles may contribute to higher levels of co-rumination among Black boys. Future could explore whether social injustices, racial bias, and discrimination are among the topics discussed.

Future research could explore the role of social media. The original data were collected between 15 and 13 years ago. Over the past 15 years, there has since been an increase in social media platforms, which may have an impact on co-rumination. Social media has recently been a place where bullying has increased. Experiencing bullying and other negative experiences online, may have led to co-rumination on these topics.



Future research also could consider friendships among adolescents of other races. Fictive kin theory may apply to other minority races contributing to family-like closeness among friends, which could contribute to greater co-rumination. If this is the case, when exploring gender and co-rumination across other racial compositions observed levels of co-rumination among friends of other minority races may be similar to levels observed in Black-Black friendships.

### **Implications**

The current research has several implications for positive social change. Educational parental training can be done to help educate parents, particularly parents of girls and Black boys, on how to help their children implement effective coping skills and problem-solving skills. This training could also be taught in specialized programs within the school systems, particularly since school is a place of peer socialization. Creating different intervention programs for girls, and for Black boys could be useful. These programs could be tailored to the types of stressors often experienced by girls and by Black boys. Ideally, these types of interventions would be conducted prior to adolescents developing their co-ruminative style.

Intervention with Black boys may require a different approach as compared to White youth. As previously suggested, co-rumination among Black boys may be led by social injustices in regard to young Black males in the United States. Creating programs that focus on how to specifically cope effectively with those social injustices may lower co-rumination among Black youth.

In addition, as suggested by fictive kin theory (Nolen Hoeksema et al., 2008), in Black culture, extremely close bonds are formed between friends, to the point where friends are seen as family (Hall, 2007; Stack, 1972). Taking that into account, the close friendships among Black adolescents may hold a meaning compared to friendships among White adolescents. Knowing this will help to create intervention programs that have a family-based approach, including a focus on ways to maintain closeness while reducing co-rumination.

Although more research is required, the previously discussed recommendations have positive implications beyond adolescence, particularly for Black adolescent boys. Early intervention with Black boys may be beneficial in helping them navigate the societal challenges they will encounter going into adulthood. Reducing co-rumination and teaching more adaptive coping skills could create a chain reaction leading to positive behavioral changes in other areas of social interaction as well. The implementation of early intervention treatments for co-rumination during adolescence could help to build more mentally and emotionally resilient adults.

### **Conclusion**

The present study examined the relations among gender, the racial composition of friend dyads, and co-rumination in the friendships of adolescents. This research adds to previously conducted studies on co-rumination (Borowski & Zeman, 2018; Felton et al., 2018, Miller et al., 2020; Rose, 2002), and add new information on the racial composition of friends and co-rumination. This study also adds to previously existing studies that examined closeness and quality in Black friendships (Alexakos et al., 2011; Chatters et

al., Gutman 1976; Hall, 2007; Stack, 1972). Importantly, the results indicated higher co-rumination among Black boys who are friends as compared to White boys who are friends or boys in cross-race friendships.

By providing additional insight into differences in co-rumination based on racial composition of friendship types, this study addresses the previous assumption that interventions for co-rumination should focus primarily on girls as compared to boys. This research suggests interventions aimed at Black boys are important as well. If effective, early intervention could lessen the negative impact of co-rumination, especially for girls and Black boys. Additionally, providing interventions could help youth develop into adults who are more effective in problem-solving and more mentally and emotionally resilient.

## References

- Alexakos, K., Jones, J., & Rodriguez, V. (2011). Fictive kinship as it mediates learning, resiliency, perseverance, and social learning or inner-city high school students of color in a college physics class. *Cultural Studies of Science Education*, 6(4), 847-870. <https://doi.org/10.5590/JOSC.2019.11.1.07>.
- Ballweg, J. A. (1969). Extensions of meaning and use for kinship terms. *American Anthropologist*, 71, 84-87.
- Berndt, T. J. (2002). Friendship quality and social development. *Current Directions in Psychological Science*, 11, 7-10.
- Billingsley, A. (1992). *Climbing Jacob's ladder: The enduring legacy of African American families*. New York: Simon and Schuster.
- Borowski, S. K., & Zeman, J. (2018). Emotional competencies relate to co-rumination: Implications for emotion socialization within adolescent friendships. *Social Development*, 27(4), 808–825. <https://doiorg.ezp.waldenulibrary.org/10.1111/sode.12293>
- Bukowski, W., Gauze, C., Hoza, B., & Newcomb, A. (1993). Differences and consistency between same-sex and other-sex peer relationships during early adolescence. *Developmental Psychology*, 29, 255-263. <https://doi.org/10.1037/0012-1649.29.2.255>
- Bukowski, W. M., Hoza B., & Boivin, M. (1994). The friendship qualities scale: Development and psychometric properties. *Journal of Social and Personal Relationships*, 11, 471-485.

- Bukowski, W. M., Newcomb, A. F., & Hartup, W. W. (1996). *The company they keep: Friendship in childhood and adolescent*. Cambridge: Cambridge University Press.
- Burley, J. T., & Thurman, D. (2019). Faith, family, and friendship: Experiences of African American women living in the margins. *Social Work & Christianity, 46*(1), 8–19.
- Camarena, P. M., Sarigiani, P. A., & Petersen, A. C. (1990). Gender-specific pathways to intimacy in early adolescence. *Journal of Youth and Adolescence, 19*(1), 19–32. <https://doi.org/10.1007/BF01539442>
- Carlucci L, D’Ambrosio I, Innamorati M, Saggino A, & Balsamo M. (2018). Co-rumination, anxiety, and maladaptive cognitive schemas: When friendship can hurt. *Psychology Research and Behavior Management, 133-144*. Retrieved from <https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=edsdoj&AN=edsdoj.f001a3f21d479689b4eacba63a5735&site=eds-live&scope=site>
- Chatters, L.M., Taylor, R. J., & Jayakody, R. (1994). Fictive kinship relations in black extended families. *Journal of Comparative Family Studies, 25*(3), 297-312.
- Cohen. J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Cole, D. A. (1991). Peer nominations of multiple competencies. *Journal of Abnormal Psychology, 100*(2), 181–190. Retrieved from <https://eds-a-ebscohost-com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?vid=2&sid=1cd3009c-21cf-4dee-8661-c0709f91494c%40sessionmgr4008>

- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (5th ed.). SAGE Publications, Inc.
- Economic Research Service (2020). Racial and ethnic minorities made up about 22 percent of the rural population in 2018, compared to 43 percent in urban areas. <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=99538>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160.
- Felton, J. W., Cole, D. A., Havewala, M., Kurdziel, G., and Brown, V. (2018). Talking together, thinking alone: Relations among co-rumination, peer relationships, and rumination. *Journal of Youth & Adolescence*, 48(4), 731–743. <https://doi-org.ezp.waldenulibrary.org/10.1007/s10964-018-0937-z>
- Griffin, M. L., Amodeo, M., Clay, C., Fassler, I., & Ellis, M. A. (2006). Racial differences in social support: Kin versus friends. *American Journal of Orthopsychiatry*, 76(3), 374–380.
- Hacker, D. S., Haywood, J. E., Maduro, R. S., Mason, T. B., Derlega, V. J., Harrison, S. B., & Socha, T. J. (2016). Reactions of African American students to the George Zimmerman trial: Co-Rumination and thought intrusions as mediators. *Journal of Loss & Trauma*, 21(6), 507–521. <https://doi.org/10.1080/15325024.2016.1157405>.
- Hall, J. C. (2007). Kinship ties: Attachment relationships that promote resilience in

African American adult children of alcoholics. *Advances in Social Work*, (1), 130.

Retrieved from <https://search->

<https://search->

<https://search->

Hankin, B. L., Stone, L., & Wright, P. A. (2010). Co-rumination, interpersonal stress generation, and internalizing symptoms: Accumulating effects and transactional influences in a multiwave study of adolescents. *Development and Psychopathology*, 22(1), 217–235. <https://doi.org/10.1017/S0954579409990368>

Hollingsworth, L. D. (1999). Symbolic interactionism, African American families, and the transracial adaptation controversy: *Social Work*, 44(5), 443-453. Inter-ethnic. 2020. In *Merriam-Webster.com*. Retrieved June 29, 2020, from

<https://www.merriam-webster.com/dictionary/hacker>

Jugert, P., Eckstein, K., Noack, P., Kuhn, A., & Benbow, A. (2013). Offline and Online Civic Engagement Among Adolescents and Young Adults from Three Ethnic Groups. *Journal of Youth & Adolescence*, 42(1), 123–135.

<https://doi.org/10.1007/s10964-012-9805-4>

Kern, M. R., Heinz, A., and Willems, H. E. (2020). School-class co-ethnic and immigrant density and current smoking among immigrant adolescents. *International Journal of*

*Environmental Research and Public Health*, 17(2). <https://doi->

<https://doi->

Knickmeyer, N., Sexton, K., & Nishimura, N. (2002). The impact of same-sex

friendships on the well-being of women: A review of the literature. *Women &*

*Therapy*, 25(1), 37–59. <https://doi->

[org.ezp.waldenulibrary.org/10.1300/J015v25n01\\_03](https://doi-)

Lentz, C. L., Glenwick, D. S., & Kim, S. (2016). The relationship of coping style and ethnicity/culture to co-rumination in adolescents. *Journal of Social and Clinical Psychology*, 35(2), 171-180.

<http://dx.doi.org.ezp.waldenulibrary.org/10.1521/jscp.2016.35.2.171>

McGill, R. K., Way, N., & Hughes, D. (2012). Intra- and Interracial Best Friendships During Middle School: Links to Social and Emotional Well-being. *Journal of Research on Adolescence*, 22(4), 722–738. <https://doi.org/10.1111/j.1532-7795.2012.00826.x>

Muttarak, R. (2014). Generation, ethnic and religious diversity in friendship choice: exploring interethnic close ties in Britain. *Ethnic & Racial Studies*, 37(1), 71–98.

<https://doi-org.ezp.waldenulibrary.org/10.1080/01419870.2014.844844>

Nguyen, D. T., Wright, P. E., Dedding, C., Pham, T. T., & Bunders, J. (2019). Low self-esteem and its association with anxiety, depression, and suicidal ideation in Vietnamese secondary school students: A cross-sectional study. *Frontiers in Psychiatry*, 10. <https://doi.org/10.3389/fpsyt.2019.00698>.

Nolen- Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100(4), 569-582.

<https://doi.org/10.1037/0021-843X.100.4.569>

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3(5), 400–424. <https://doi->



[org.ezp.waldenulibrary.org/10.1111/j.1745-6924.2008.00088.x](https://doi.org/10.1111/j.1745-6924.2008.00088.x)

- Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social 108 dissatisfaction. *Developmental Psychology*, 29(4), 611–621.
- Rose, A. J. (2002). Co-rumination in the friendships of girls and boys. *Child Development*, (6), 1830-1843 . Retrieved from [https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=edsgea&AN=edsgcl.96070731&site=eds-live&scope=site](https://search.ebscohost.com.ezp.waldenulibrary.org/login.aspx?direct=true&db=edsgea&AN=edsgcl.96070731&site=eds-live&scope=site)
- Rose, A.J. (2021), The costs and benefits of co-rumination. *Child Development Perspectives*, 15: 176-181. <https://doi.org/10.1111/cdep.12419>
- Rose, A. J., & Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys. *Psychological Bulletin*, 132(1), 98–131. <https://doi.org/10.1037/0033-2909.132.1.98>
- Rose, A. J., Carlson, W., & Waller, E. M. (2007). Prospective associations of co-rumination with friendship and emotional adjustment: Considering the socioemotional trade-offs of co-rumination. *Developmental Psychology*, 43(4), 1019–1031. <https://doi-org.ezp.waldenulibrary.org/10.1037/0012-1649.43.4.1019>
- Rose, A. J., Schwartz-Mette, R. A., Glick, G. C., Smith, R. L., & Luebke, A. M. (2014). An observational study of co-rumination in adolescent friendships. *Developmental Psychology*, 50(9), 2199–2209. <https://doi-org.ezp.waldenulibrary.org/10.1037/a0037465>

- Rose, A. J., Smith, R. L., Glick, G. C., & Schwartz-Mette, R. A. (2016). Girls' and boys' problem talk: Implications for emotional closeness in friendships. *Developmental Psychology*, 52(4), 629–639. <https://doi.org/10.1037/dev0000096>
- Rude, J., & Herda, D. (2010). Best Friends Forever? Race and the Stability of Adolescent Friendships. *Social Forces*, 89(2), 585–607. <https://doi.org/10.1353/sof.2010.0059>
- Schneider, B. H., Dixon, K., & Udvari, S. (2007). Closeness and competition in the inter-ethnic and co-ethnic friendships of early adolescents in Toronto and Montreal. *The Journal of Early Adolescence*, 27(1), 115–138. Retrieved from <https://search-ebSCOhost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=swh&AN=53053&site=eds-live&scope=site>
- Schwarzenthal, M., Juang, L., Schachner, M. K., & van de Vijver, F. J. R. (2019). “When birds of a different feather flock together” – intercultural socialization in adolescents' friendships. *International Journal of Intercultural Relations*, 72, 61. Retrieved from <https://search-ebSCOhost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=edo&AN=138154091&site=eds-live&scope=site>
- Schwartz-Mette, R. A., & Rose, A. J. (2012). Co-rumination mediates contagion of internalizing symptoms within youths' friendships. *Developmental Psychology*, 48(5), 1355–1365. <https://doi-org.ezp.waldenulibrary.org/10.1037/a0027484>

- Schwartz-Mette, R. A., & Smith, R. L. (2018). When does co-rumination facilitate depression contagion in adolescent friendships? Investigating intrapersonal and interpersonal factors. *Journal of Clinical Child and Adolescent Psychology*, 47(6), 912–924. <https://doi-org.ezp.waldenulibrary.org/10.1080/15374416.2016.1197837>
- Shin, H. (2017). Friendship dynamics of adolescent aggression, prosocial behavior, and social status: The moderating role of gender. *Journal of Youth and Adolescence*, (11), 2305-2320. <https://doi-org.ezp.waldenulibrary.org/10.1007/s10964-017-0702-8>
- Shiptoll, P. (1997). Fictive kinship. In T. Barfield (Ed.), *The Dictionary of Anthropology*. (pp. 186-188). Cambridge: Blackwell.
- Shye, D., Mullooly, J. P., Freeborn, D. K., & Pope, C. R. (1995). Gender differences in the relationship between social network support and mortality: a longitudinal study of an elderly cohort. *Social Science & Medicine*, (7), 935. Retrieved from <https://search-ebshost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=edsgea&AN=edsgcl.17425722&site=eds-live&scope=site>
- Stack, C. B. (1972). Black kindreds: Parenthood and personal kindreds among urban blacks. *Journal of Comparative Family Studies*, 3(2), 194–206. <https://doi-org.ezp.waldenulibrary.org/10.3138/jcfs.3.2.194>
- Standing, T. S., Musil, C. M., & Warner, C. B. (2007). Grandmothers' transitions in caregiving to grandchildren. *Western Journal of Nursing Research*, 29(5), 613-

631.

Stone, L. B., Hankin, B. L., Gibb, B. E., & Abela, J. R. Z. (2011). Co-rumination predicts the onset of depressive disorders during adolescence. *Journal of Abnormal Psychology, 3,*

752. Retrieved from <https://eds-b-ebshost-com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?vid=1&sid=e5becba8-a266-4bd8-b62a-504ee7742186%40pdc-v-sessmgr02>

Taylor, R. J., Chatters, L. M., Woodward, A. T., & Brown, E. (2013). Racial and ethnic differences in extended family, friendship, fictive kin, and congregational informal support networks. *Family Relations, 62*(4), 609–624. <https://doi-org.ezp.waldenulibrary.org/10.1111/fare.12030>

Turner, J. H. (2002). *Face to face: Toward a sociological theory of interpersonal behavior*. Stanford: Stanford University Press.

U.S. Census Bureau (2021). ACS demographic and housing estimates.

<https://www.census.gov/programs-surveys/acs/data.html>

Viorst, J. (1992). *Necessary losses: The loves, illusions, dependencies and impossible expectations that all of us have to give up in order to grow*. New York: Simon & Schuster.

West, T. V., Koslov, K., Page-Gould, E., Major, B., & Mendes, W. B. (2017).

Contagious Anxiety: Anxious European Americans Can Transmit Their

Physiological Reactivity to African Americans. *PSYCHOLOGICAL*

*SCIENCE, 28*(12), 1796–1806. <https://doi.org/10.1177/0956797617722551>

World Health Organization. (2014). *Recognizing adolescence*.

[https://apps.who.int/adolescent/seconddecade/section2/page1/recognizingadolescence.html#:~:text=The%20World%20Health%20Organization%20\(WHO,and%2019%20years%20of%20age.](https://apps.who.int/adolescent/seconddecade/section2/page1/recognizingadolescence.html#:~:text=The%20World%20Health%20Organization%20(WHO,and%2019%20years%20of%20age.)

Appendix A: CITI Training through the University of Missouri

