Spring 5-2022

Self-Referent Pronouns, Self-Focus, and Depressive Symptoms in Adolescence

Olivia F. Petersen

SELF-REFERENT PRONOUNS, SELF-FOCUS, AND DEPRESSIVE SYMPTOMS IN

ADOLESCENCE

by

Olivia F. Petersen

A Thesis Submitted in Partial Fulfillment
of the Requirements for a Degree with Honors
(Psychology)

The Honors College

University of Maine

May 2022

Advisory Committee:
Rebecca Schwartz-Mette, Associate Professor of Psychology, Advisor
Robert Glover, Associate Professor of Political Science & Honors
Jordan LaBouff, Associate Professor of Psychology & Honors
Laura Rickard, Associate Professor of Communication and Journalism
Mollie Ruben, Assistant Professor of Psychology

ABSTRACT

Youth with elevated depressive symptoms tend to engage in self-focusing behaviors, such as rumination and conversational self-focus. Past adult research also suggests that these self-focusing behaviors relate to depressive symptoms and may further be related to behavioral, implicit self-referent word use. Specifically, adults with higher depressive symptoms typically use more self-referent pronouns (e.g., 'I,' 'me,' 'my'). The current adolescent study ($N = 186$, M = 15.68 years) utilized Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2015) software to test whether depressive symptoms, rumination, and conversational self-focus related to self-referent pronoun use during an observational task. Results indicated that higher levels of depressive symptoms and rumination were linked with more self-referent pronoun use, but these associations were only marginally significant. In contrast to expectations, self- and friend- reported conversational self-focus was not associated with increased self-referent pronoun use. Implications and future directions for research are discussed.

Dedicated to Judith Salisbury, my loving, beautiful, and courageous grandmother, for being a truly exceptional example of what it means to be a woman, and for destigmatizing going to therapy before going to therapy was even really a thing.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

<u>Depressive Symptoms and Their Significance in Adolescence</u>

Adolescence is a developmental period characterized by rapid emotional, social, and cognitive changes, which can leave youth at an increased risk for the development of depressive symptoms (Merikangas et al., 2010). A recent meta-analysis found that the global rate of elevated self-reported depressive symptoms for adolescents between 2001 and 2020 was 34%, and that this rate increased from 24% in 2001 to 37% in 2010, suggesting an increasing trend for adolescent depression (Shorey et al., 2021). Depressive symptoms have a wide range of considerable impacts on adolescents. For example, one study found that teens with greater depressive symptoms had more social, physical, family, and academic struggles, and that these factors were related to an increase in depressive symptoms over time (Jaycox et al., 2009). The same study also found that depressive symptoms in adolescence predicted elevated depressive symptoms in adulthood. Depression in adulthood has serious implications: it contributes to some of America's most deadly diseases, such as cardiac disease, cancer, and diabetes (Cassano & Fava, 2002), as well as imposing a substantial economic burden on society (Fostick et al., 2010). Given that adolescents with elevated depressive symptoms face more challenges than their non-depressed peers and are more likely to experience depression in adulthood, it is especially important to understand how it emerges and is maintained in this developmental period.

The Role of Self-Focused Attention and Behavior in Depressive Symptoms

Of myriad risk factors for depression, one identified cognitive risk factor is self-focused attention. Self-focused attention is defined as "an awareness of self-referent, internally generated information that stands in contrast to an awareness of externally generated information derived through sensory receptors" (Ingram, 1990, p. 156). In other words, self-focused attention involves thinking about features of the self, such as one's physical appearance, thoughts, or behaviors, as opposed to focusing on facets of the external environment. Self-focused attention can be both positive and negative in valence, meaning that an individual can focus on either negative or positive components of the self. Negative and positive self-focused attention may have different impacts on mood. Focusing on the negative aspects of oneself is related to a negative impact on one's mood, while focusing on positive aspects of oneself has the opposite effect and is associated with positive mood (Mor & Winquist, 2002). These findings are consistent with the central tenets of the theory of compensation, which proposed that the valence of the focus of one's attention is related to the valence of one's mood (Wood & Dodgson, 1996).

One type of negative self-focused attention is rumination, which is well-established as a correlate of depression in the literature for both adults and adolescents (e.g. Nolen-Hoeksema, 1991; Treynor et al., 2003). Rumination is an intrapersonal behavior that involves focusing on and speculating about one's depressive symptoms (Nolen-Hoeksema, 1991, p. 569). Those with a ruminative response style repetitively think about their symptoms of distress (e.g.,"I feel so tired") and the consequences of this distress (e.g., "I will never achieve my goals").

Rumination is thought to be comprised of two major subtypes: brooding and reflection. The brooding component of rumination, which involves attending passively and self-critically to a negative mood, is associated with increased depressive symptoms and unhealthy coping strategies in adolescents (e.g., avoidance, denial, fleeing; Birkwell & Shirk, 2007). The reflective component of rumination, which involves constructive reflection on feelings and possible solutions, is associated with a decrease in depressive symptoms and healthy coping mechanisms in adolescents (e.g., problem solving, cognitive restructuring; Birkwell & Shirk, 2007; Treynor et al., 2003).

Both components of rumination occur within the individual but may be paralleled in the social setting. For instance, an individual that engages in the maladaptive brooding subtype of rumination may be likely to engage in a similar manner in the interpersonal context. They may passively focus on the negative aspects of the self without working towards a constructive solution, through behaviors such as excessive reassurance seeking and negative feedback seeking during a conversation with a friend. Alternatively, an individual that tends to respond more reflectively to low mood may engage in a more constructive conversation with a friend about their own depressive symptoms, through behaviors such as self-disclosure.

Studies on adolescents have found that rumination is a strong correlate and predictor of depressive symptoms. Burwell & Shirk (2007) conducted a longitudinal study with adolescents ($N = 166$) and found that rumination predicted increased depressive symptoms over time. Furthermore, Abela and Hankin (2011) conducted a study with adolescents ($N = 382$) and found that rumination not only predicted the onset and perpetuated the length of a major depressive episode, but also moderated the

association between the occurrence of negative events and the development of depressive symptoms and major depressive episodes. Said otherwise, an individual's tendency to ruminate may determine whether their response to a negative event involves increased depressive symptoms and/or a major depressive episode. Considering rumination's strong link to depressive symptoms, it is critical to examine how rumination (i.e., negative self-focused attention) may manifest beyond an intrapersonal cognitive setting. For example, self-focused attention may manifest in social or conversational settings between friends.

Individuals who tend to ruminate may exhibit certain self-focused interpersonal behaviors as a manifestation of their internal negative self-focus. Adolescents, in particular, may see conversations with friends as an appropriate venue to voice their internal negative dialogue. This is consistent with recent literature on adolescents' emotion regulation, which suggests that problems with intrapersonal emotion regulation (e.g., use of unsuccessful strategies like brooding rumination) may lead to attempts to regulate emotions in the interpersonal context (e.g., with friends). Initial work suggests that these interpersonal attempts may be similarly maladaptive. For example, Schwartz-Mette and colleagues (2021) found that difficulties with intrapersonal emotion regulation were linked to adolescents' engagement in maladaptive interpersonal emotion regulation strategies (see Timmons & Joiner, 2008) such as excessive reassurance seeking (e.g., repeatedly requesting assurances that one is cared for), negative feedback seeking (e.g., seeking negative commentary from others about the self), and conversational self-focus (e.g., focusing conversations on one's own problems and concerns). Conversational self-focus, in particular, is conceptualized as an interpersonal manifestation of negative self-focused attention that is linked with rumination (Schwartz-Mette & Rose, 2009) and

depressive symptoms in adolescents (Schwartz-Mette & Rose, 2016) and college students (Dueweke & Schwartz-Mette, 2018).

<u>Conversational Self-Focus as a Behavioral, Interpersonal Manifestation of Rumination</u>

Given its conceptual connection to negative self-focused attention and its empirical connection to rumination and depressive symptoms, conversational self-focus is an important behavior to further explore. Conversational self-focus (CSF) occurs in the context of friends discussing problems and is defined as "the tendency of one person to redirect conversations toward the self and away from others" (Schwartz-Mette & Rose, 2009, p. 1). There are several ways that individuals may exhibit CSF. The self-focused individual may respond to a friend's problem by talking about their own, vaguely related experience (e.g., "Oh yeah, something like that happened to me once, it was crazy …"). They may also attempt to 'one-up' their friend by sharing their own, more significant experience with the friend's problem (e.g., "You think that's bad? When it happened to me, I …"). They may also explicitly change the subject to a topic more relevant to their own experience.

Friends of self-focused adolescents appear to perceive conversational self-focus as negatively impacting the quality of their friendships (Schwartz-Mette & Rose, 2016). Reciprocity is a norm in egalitarian relationships, like friendships (Hall, 2012). As such, friends expect to receive equal attention and support when discussing a problem, which is something that self-focused individuals may not be willing to or capable of providing.

Unfortunately, adolescents with depressive symptoms may be among those youth who could benefit most from high-quality friendships, but behaviors such as CSF make it challenging to retain these relationships. This may capture depressed, self-focused

adolescents in a problematic cycle of depressive symptoms and rejection (Schwartz-Mette & Rose, 2016). The current study aims to identify new ways of understanding and identifying CSF in hope of informing prevention and/or intervention efforts that may provide self-focused individuals with alternative coping mechanisms that are not detrimental to their friendships.

At present, conversational self-focus has been studied using self-report and friend-report scales (Dueweke & Schwartz-Mette, 2018), as well as observationally, using a validated coding system established by Schwartz-Mette and Rose (2009). This coding system used a combination of macro- and micro-level coding approaches, which allowed coders to account for factors such as flow of conversation and context of specific statements. In this approach, CSF was operationalized using two indicators. First, each individual was assigned a global score reflecting the degree to which the individual directed conversation towards the self. Second, a proportion score was calculated that compared the number of self-focused utterances to the total number of utterances made by each partner in an adolescent friendship dyad, as an index of how much an individual dominated a conversation.

In addition to these measures, the precise speech patterns of individuals scoring high on the two aforementioned scales was examined. Specifically, researchers analyzed how highly self-focused adolescents responded each time their friend made a statement about a problem that they had. Adding their own experiences in a distracting, dominating way and changing the subject altogether were common responses to friends' problem statements by highly self-focused adolescents. However, briefly identifying with friends' problem statements in a non-distracting way did not distinguish highly self-focused

adolescents from those who were low or average in conversational self-focus. The current study aims to extend past work by tracking CSF using a behavioral linguistic measure.

Self-Referent Pronouns: Overlap with Depressive Symptoms and Potential Index of CSF

Tracking natural language use as an indicator of individual characteristics has been applied to many areas of research, including racial bias (e.g., Hagiwara et al., 2017) and attachment styles in romantic relationships (e.g., Dunlop et al., 2020). Consistent with theory regarding the central role of rumination in the development and maintenance of depression (Ingram & Smith, 1984; Pyszczynski & Greenberg, 1987; Smith & Greenberg, 1981), research demonstrates that first-person singular pronoun use in conversation (i.e., use of "I," "me," "my") is a fundamental linguistic marker of depression (Brockmeyer et al., 2015; Rude et al., 2004; Zimmerman et al., 2017; for a review, see Edward & Holzman, 2017). Given the connection between first-person singular pronoun use and ruminative depression, and the theoretical connection between ruminative depression and the construct of conversational self-focus, the present study aims to determine whether a connection between CSF and first-person singular pronoun use exists.

Tracking CSF linguistically would be beneficial in multiple ways. First, natural language use is a behavioral and implicit measure, making it a potentially more reliable and consistent method of measurement. Second, this method of tracking CSF would reduce the need for human-coding, which is more resource intensive. This may also reduce coding error and rater bias, and may streamline the analysis process. Third, identifying a linguistic marker for CSF could help clinicians quickly and easily identify this maladaptive behavior in patients.

7

<div align="center">The Current Study</div>

The current study aims to test links of self-referent, first-person pronoun use with rumination, depressive symptoms, and conversational self-focus. The following research questions are addressed:

1. What is the association between adolescents' rumination scores and self-referent pronoun use during conversation with a friend?

2. What is the association between adolescents' self- and friend-reported conversational self-focus scores and self-referent pronoun use during conversation with a friend?

3. What is the association between adolescents' depressive symptoms and self-referent pronoun use during conversation with a friend?

    1. What is the concurrent association between adolescents' depressive symptoms and self-referent pronoun use during conversations with a friend?

    2. Does the level of self-referent pronoun use in conversations with a friend impact adolescents' depressive symptoms over time?

Consistent with the theories of conversational self-focus, self-focused attention, and depressive symptoms, the following hypotheses are proposed:

1. Higher rumination scores will be related to a higher self-referent pronoun use in conversation with a friend.

2. Higher levels of self- and friend-reported conversational self-focus will be related to a higher self-referent pronoun use in conversation with a friend.

3. Higher depressive symptom scores will be concurrently related to a higher self-referent pronoun use during conversation with a friend.

4. Higher self-referent pronoun use during conversation with a friend will predict increases in depressive symptom scores three and six months later.

METHOD

Participants and Procedures

Data for the current study were collected from a larger project, the Maine Adolescent

Peer Project (MAPP), which examined social factors contributing to adolescent health. In

total, there were 93 adolescent friendship dyads ($N = 186$; $M = 15.68$ years; $SD = 1.49$;

Age range: 12-19). Of these, 69.9% identified as female and 30.1% identified as male.

Participants self-reported the following ethnic and racial identities: 87.6% White, 4.3%

Black/African American, 3.2% Hispanic or Latino(a), and 1.6% American

Indian/Alaskan Native. These demographics reflected those of the surrounding

geographic area.

Adolescents were recruited from rural communities surrounding a mid-sized New

England public university through print and social media advertisements, as well as in-

person at community and school events. Interested adolescents identified one same

gender identifying, close friend with whom to participate. Parental consent was obtained

for each youth under 18 years old. Participants were then scheduled for an in-person lab

visit at the university.

Upon arrival at the lab, participants over the age of 18 provided consent to

participate, and those under 18 years of age provided assent. Dyads were separated to

complete initial self-report questionnaires measuring social and emotional adjustment and

then were reunited to complete a "plan a party" conversational task, which was not a

focus of the current study. Next, youth were separated to complete additional self-report

measures on current mood, and they also identified a current problem that they were

comfortable discussing with their partner. Youth were next reunited for a video-recorded

and transcribed observational "problem talk" task (Rose et al., 2014). After the problem talk task, they were separated to complete additional surveys about their mood. Follow-up risk assessments for youth were administered if they self-reported suicidal thoughts or behaviors, non-suicidal self-injury, or depressive symptoms above pre-established clinical thresholds. Three and six months after the initial lab visit, participants completed follow-up self-report questionnaires online or by mail. Participants were compensated $40.00 and a UMaine water bottle for the initial lab visit, and $10.00 in Amazon gift cards for each follow-up survey.

Measures

Demographics. Participants self-reported demographic information including age, gender, racial, and ethnic identities.

Depressive Symptoms. The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used to assess how often within the last week participants experienced depressive symptoms. Participants responded to 20 items and rated each on a 4-point Likert scale ranging from 0 *(rarely or none of the time)* to 3 *(most or all of the time)*, reflecting the frequency with which a participant experienced a given item in the past week. Participants responded to statements such as: "I felt that everything I did [in the past week] was an effort." Internal consistency of this sample was excellent (Time 1 α = .90, Time 2 α = .92, Time 3 α = .93).

Conversational Self-Focus. Conversational self-focus was measured using a six item questionnaire assessing the degree to which the participant was prone to redirect and dominate problem-focused conversations (Schwartz-Mette & Rose, 2009). Responses were measured on a 5-point Likert scale ranging from 1 (*Not at all true)* to 5 *(Very true).*

Participants' scores were the mean of all ratings at each time point (Time 1 a = 0.80).

Participants also used the same measure to report on their friend's tendency to engage in

conversational self-focus (Time 1 a = 0.88).

Rumination. The Rumination Questionnaire, which is a version of the Responses

to Depression Questionnaire (Nolen-Hoeksema & Morrow, 1991), revised for youth

(Rose, 2002), was used to assess the degree to which participants dwelled on negative

affect when they felt down, sad, or depressed. Participants responded to 21 items

assessing rumination and 10 items assessing the tendency to distract themselves when

feeling depressed. Only rumination items were used in this study to create the rumination

score. Each item was rated on a 4-point Likert scale, ranging from 1 (*Almost never*) to 4

(*Almost always*), reflecting the frequency of engagement in the behaviors described.

Internal consistency of the rumination items in this sample was excellent (Time 1 α =

.92).

Coding of Pronouns

Linguistic analyses were based on transcriptions of the observational "problem-

talk" task (Rose et al., 2014; Schwartz-Mette & Rose, 2009). The problem talk task lasted

for approximately 15 minutes in which participants were prompted to discuss a problem

that they had previously identified during an earlier section of the lab visit. The video

recordings were transcribed by research assistants and each dyad member was labeled

"A" or "B." After transcriptions were complete and rechecked for accuracy, the files

were split into two files each, representing participant A's speech and participant B's

speech production, respectively. Each separate document was checked for accuracy

before being evaluated using the Linguistic Inquiry and Word Count program (LIWC;

Pennebaker et al., 2015). The LIWC program is based on an algorithm that counts words and word stems in a given text and assigns them to categories as defined by its internal dictionaries. The current study examined the first-person singular pronoun category dictionary, which includes words such as: 'I' (subjective form), 'me' (objective form), and 'my' (possessive form). Each participant was assigned a proportional first-person pronoun use score reflecting the number of first-person pronouns relative to the total number of words they used during the problem talk task.

Data Analysis Approach

The current study utilized SPSS version 27.0 to conduct regression analyses to test primary hypotheses. Some participants had missing data. Data were missing completely at random (MCAR), as evidenced by the non-significant Little's test, X^2 (87) = 84.50, $p = 0.56$. As such, all missing data were imputed using an expectation maximization (EM) procedure in SPSS, and all cases were retained for analyses.

RESULTS

Descriptive Statistics

Means and standard deviations were calculated for all study variables (see Table 1). On average, self-reported depressive symptom scores were similar to those presented in other adolescent community research (e.g., Prinstein et al., 2001; Schwartz-Mette & Rose, 2016) and were stable over time. Rumination scores were moderate, similar to scores found in other studies with adolescent and child community samples (e.g., Rose, 2002). The conversational self-focus measure used in the current study has not previously been used with an adolescent population; however, one study with a college student sample reported similar conversational self-focus scores (Dueweke & Schwartz-Mette, 2018). Friend-reported scores of conversational self-focus were slightly lower than self-reported scores of conversational self-focus.

To the author's knowledge, no other study has used LIWC to examine dyadic self-referent pronoun use in an adolescent community sample. Studies have reported slightly higher rates of self-referent pronoun use with an adult clinical sample, which is to be expected given the higher level of distress in such groups (e.g., Zimmerman et al., 2017).

TABLE 1: Descriptive Statistics of Study Variables

Study Variable	Minimum	Maximum	Mean(SD)
Age	12	19	15.68(1.49)
Depressive symptoms (Time 1)	0.00	50.00	12.37(9.31)
Depressive symptoms (Time 2)	0.00	46.00	12.95(9.73)
Depressive symptoms (Time 3)	0.00	47.00	12.53(9.29)
Rumination (Time 1)	1.05	3.64	2.01(0.57)
Self-reported CSF (Time 1)	1.00	3.50	1.33(0.45)
Friend-reported CSF (Time 1)	0.00	3.00	1.27(0.48)
Self-referent pronoun use (Time 1)	3.30	14.7	7.96(1.91)

Note. CSF = conversational self-focus.

<u>Correlations</u>

Correlations among all study variables are presented in Table 2. At Time 1, depressive symptoms were positively and significantly correlated with conversational self-focus scores and rumination scores. Rumination at Time 1 was positively and significantly correlated with conversational self-focus at Time 1. Self-referent pronoun use at Time 1 was positively but not significantly correlated with rumination and conversational self-focus at Time 1. The correlation between self-referent pronoun use and depressive symptoms at Time 1 was positive and marginally significant. Self-referent pronoun use at Time 1 was not significantly associated with depressive symptoms at Time 2 or Time 3.

TABLE 2: Correlations Among Primary Study Variables

	1.	2.	3.	4.	5.	6.	7.
1. Depressive symptoms (Time 1)	-	.71***	.75***	.71***	.24***	.25***	.14
2. Depressive symptoms (Time 2)		-	.87***	.57***	.27***	.24***	.04
3. Depressive symptoms (Time 3)			-	.58***	.25***	.22***	.07
4. Rumination (Time 1)				-	.21***	.21***	.13
5. Self-reported CSF (Time 1)					-	.49***	.08
6. Friend-reported CSF (Time 1)						-	.02
7. Self-referential pronoun (Time 1)							-

Notes. ***$p \leq .001$. CSF = conversational self-focus.

Research Question 1: Rumination scores and self-referent pronoun use

First, whether adolescents' rumination scores predicted self-referent pronoun use was examined. Specifically, a regression model in which Time 1 rumination predicted self-referent pronoun use during the conversation task was tested. The main effect of rumination was marginally significant (b = .44, p = .09), indicating an association between adolescents' rumination scores and self-referent pronoun use that trended toward significance.

Research Question 2: Conversational self-focus and self-referent pronoun use

Next, a regression model in which adolescents' self-reported conversational self-focus predicted self-referent pronoun use was tested. The main effect of conversational self-focus was not significant (b = .34, p = .30), indicating that there was not a significant association between adolescents' conversational self-focus scores and self-referent pronoun use.

In terms of friends' perceptions, a model was tested in which friend-reported conversational self-focus predicted adolescents' self-referent pronoun use. The main effect of friend-reported conversational self-focus on adolescents' self-referent pronoun use was not significant (b = .06, p = .84).

<u>Research Question 3: Depressive symptoms and self-referent pronoun use</u>

Regression was also used to test whether higher self-referent pronoun use predicted higher depressive symptoms for adolescents over time. Specifically, a regression model in which self-referent pronoun use predicted depressive symptoms at Time 2 was tested, controlling for depressive symptoms at Time 1. An identical model including depressive symptoms at Time 3 in place of depressive symptoms at Time 2 was also tested. In the first model examining depressive symptoms over 3 months, the main effect of depressive symptoms was significant (b = .74, p < .001), suggesting stability in depressive symptoms from baseline to 3 months. Self-referent pronoun use did not significantly predict changes in depressive symptoms 3 months later (b = -.27, p = .34).

In the model examining depressive symptoms over 6 months, the main effect of depressive symptoms at Time 1 was significant (b = .75, p < .001), indicating stability of symptoms. However, as in the 3 month model, self-referent pronoun use did not significantly predict changes in depressive symptoms 6 months later (b = -.16, p = .54).

DISCUSSION

The current study provides novel information about the interpersonal context of adolescent depressive symptoms, specifically the ways in which self-focused attention may manifest during interactions with friends. The current study extends past research examining self-referent pronoun use in depressed adults to research with adolescents. Additionally, it explores various ways to assess conversational self-focus, a relatively new construct. Self-referent pronoun use is of particular interest as it is an implicit behavioral measure that has the potential to be exceptionally useful for both researchers and clinicians in identifying depressive symptoms and its related cognitive and behavioral processes.

First, the study aimed to document the hypothesized link between self-referent pronoun use and depressive symptoms in an adolescent sample. Past studies with adults demonstrate that self-referent pronoun use is associated with depressive symptoms concurrently (Rude et al., 2004) and that self-referent pronoun use also predicts future depressive symptoms (Zimmerman et al., 2017). The present study found a marginally significant concurrent association between depressive symptoms and self-referent pronoun use. It is possible that this association would be significant if tested with a larger sample, as some adult studies with smaller sample sizes also documented marginally significant concurrent effects (e.g., Zimmerman et al., 2017).

In contrast to the adult study by Zimmerman and colleagues (2017), the current study did not find a longitudinal association between depressive symptoms and self-referential language. Additional factors may help to explain the relatively weak concurrent association and non-significant longitudinal association observed. First, the

18

present study used a community sample rather than a clinical sample. Levels of

depressive symptoms were, on average, mild in the current sample, and self-referent

pronoun use may be more relevant at higher levels of depressive symptoms. Second, the

current study based its linguistic analyses off a conversation between friends, who were

each instructed to discuss a problem. Zimmerman and colleagues (2017), in contrast,

detected a longitudinal association based on linguistic analyses of a clinical interview.

Past research has found that the association between self-referential language and

depressive symptoms is especially strong in a negatively valenced task, such as a writing

task about an unpleasant past experience (Brockmeyer et al., 2015). The typical clinical

interview may contain more negatively-valenced content than the typical conversation

about problems between community-sample friends. Moreover, the clinical interviews

were focused on one (depressed) individual, whereas the conversations between friends

in the current study involved a focus on both friends. These design differences may in

part explain why stronger associations were not found in the current study.

Consistent with predictions, rumination was positively related to self-referent

pronoun use, although this effect was also marginally significant. This finding may lend

some support to the notion that the self-focusing components of rumination may be

related to verbal self-focusing behaviors, although it should be replicated in future

studies. A study by Brockmeyer and colleagues (2015) found that use of first-person

singular pronouns during a negative memory recall task was associated with the

brooding, but not the reflective, sub-component of rumination. Adolescents who engage

in rumination about their own concerns and problems in seclusion may view a

conversation with a friend as a context in which these negative self-focused thoughts can

be verbalized. As noted, future research should replicate this effect; with more statistical power, a significant effect may emerge. If this link does exist, it could help to further underscore self-referent pronoun use as a potential vulnerability factor for depression, as rumination is strongly linked to depressive symptoms in both adolescents and adults (Nolen-Hoeksema, 1991; Abela & Hankin, 2011; Burwell & Shirk, 2007).

It was similarly expected that self-reported conversational self-focus, assessed as a verbal tendency to self-focus in the social context, would be related to observed conversational self-referent pronoun use. This hypothesis, however, was not supported by the data in the current study. Friend-reported conversational self-focus also was not significantly correlated with self-referent pronoun use. It is possible that the self- and friend-reported measures for conversational self-focus assess a broader array of self-focusing behaviors than just self-referential speech. For example, the conversational self-focus measures ask respondents to rate how much an individual dominates conversations, turns conversations to focus on the self, and talks more about themselves than their partner, not just use of self-referential language. Additionally, conversational self-focus can include self-referential speech that is negative, but also positive and/or neutral in valence. Future studies could measure self-referent speech and the construct of conversational self-focus across a broader range of contexts (e.g., talk about problems, talk about positive topics, talk about neutral topics) to determine whether the linguistic measure of self-focus indeed tracks a more negatively valenced form of self-focused attention that is more closely associated with depressive symptoms and rumination, as opposed to the broader construct of conversational self-focus assessed with the survey measure.

It is also possible that the coding for self-referential language was limited and thus not sensitive enough to pick up on the range of conversational self-focusing behavior that was reported. The current study examined a range of self-referent speech subtypes, which may contribute to a broader and thus less sensitive measure that did not detect effects. Other studies have investigated individual self-referent pronouns. For example, one study found that objective and possessive forms of self-referent pronouns (i.e., 'me', 'my') were more strongly related to depressive symptoms than the subjective form of self-referent pronouns (i.e., 'I') (Zimmerman et al., 2017). It may be worthwhile for future studies to examine whether only certain forms of self-referent pronouns are related to depressive symptoms, rumination, and conversational self-focus.

Although not resulting from a primary aim, additional results from the current study revealed novel information about the relatively new construct, conversational self-focus. First, self-reported conversational self-focus was a strong predictor of friend-reported conversational self-focus, providing additional validation for the survey measures and suggesting that perhaps there is some overlap in adolescents' and friends' perceptions of adolescents' conversational self-focus. It may be that adolescents who self-focus in conversations are somewhat self-aware, and/or that their friends are also able to detect this. This has potentially significant implications, as research with adolescents has shown that maladaptive interpersonal attempts at emotion regulation, such as conversational self-focus, are predictive of later friend-reported friendship difficulties (Schwartz-Mette & Rose, 2016). Future research should continue to examine the concordance between adolescents' and friends' reports of interpersonal behavior and

whether those that are aware of their own and/or other's conversational self-focusing are also able to identify this behavior as something that hurts the relationship.

Additional validations for the self- and friend- reported measures were observed in the current study. Both friend- and self-reported conversational self-focus were each associated with rumination and depressive symptoms. The current study adds to a growing body of evidence suggesting that conversational self-focus is associated with both rumination and depressive symptoms (Schwartz-Mette & Rose, 2009; Schwartz-Mette & Rose, 2016). These findings fit with Coyne's theory (Coyne, 1976) that depression gives rise to self-focused behavior and the theory about conversational self-focus, suggesting that rumination (i.e., intrapersonal self-focus) may manifest interpersonally as conversational self-focus as a way of coping with negative feelings.

Limitations and Future Directions

This study provided rich observational data of adolescent friendship dyads and natural spoken language, which is relatively challenging to obtain. However, certain aspects of the study design may be changed in future research to perhaps better capture the constructs of interest. First, adolescents were asked to discuss a problem with their friend, which is a broad, relatively vague prompt. Adolescents may or may not have been highly emotionally invested in the task. Considering that the association between self-referent pronoun use and depressive symptoms may be more salient in a negatively-valenced condition (Brockmeyer et al., 2015), a more specific conversation prompt (e.g., asking youth to discuss the most upsetting aspect of their life currently) may be better suited to answer the questions raised in this study. Alternatively, researchers could use a negative mood induction to ensure that youth were experiencing sufficient negative affect

to capture a broader range of self-referent speech. Second, although the observational data collection was relatively extensive, it can only be applied to what might be observed in dyadic conversations with a best friend. It may be useful to analyze data collected from other types of interactions, such as parent-child interactions or romantically involved adolescents. Third, as noted, self-referent pronouns were not separated for individual examination. Considering that certain types of self-referential language are more strongly associated with depressive symptoms (Zimmerman et al., 2017), it is possible that the current study did not detect the full strength of the associations because the linguistic analysis lacked specificity. Researchers could replicate the current study with linguistic analysis approaches that more accurately target constructs of interest.

<div align="center">Implications</div>

Despite the need for future research, the current study may offer some information relevant to clinical intervention with depressed adolescents. Clinicians may wish to observe their depressed adolescent clients' language use to determine whether excessive self-focusing may be impacting their social interactions and relationships. Clinical interventions may target language use as a way of decreasing maladaptive behaviors that are associated with depressive symptoms. Further, if future research continues to support self-referent pronoun use as a potentially significant correlate of depressive symptoms and/or relationship difficulties, clinicians working with dyads (e.g., romantic couples, family members, etc.) may be able to observe and track self-focused speech in real time through linguistic analysis approaches. This approach is a behavioral, implicit measure, which may reduce bias and increase accuracy of reporting, particularly for those self-focused individuals with less insight into their behavior.

The current study provides some evidence that adolescents with higher depressive symptoms might be more likely to use self-referential language during conversation, which may signify underlying negative self-focused cognitions. By attending to language use, clinicians may be better able to identify a client's underlying challenges and apply appropriate and relevant treatments. Furthermore, researchers may be able to use self-referent pronoun use as an implicit, behavioral measure for tracking depressive symptoms.

REFERENCES

Abela, J. R. Z., & Hankin, B. L. (2011). Rumination as a vulnerability factor to depression during the transition from early to middle adolescence: A multiwave longitudinal study. *Journal of Abnormal Psychology*, *120*(2), 259–271. https://doi.org/10.1037/a0022796

Brockmeyer, T., Zimmermann, J., Kulessa, D., Hautzinger, M., Bents, H., Friederich, H.-C., Herzog, W., & Backenstrass, M. (2015). Me, myself, and I: Self-referent word use as an indicator of self-focused attention in relation to depression and anxiety. *Frontiers in Psychology*, *6*. https://doi.org/10.3389/fpsyg.2015.01564

Burwell, R. A., & Shirk, S. R. (2007). Subtypes of Rumination in Adolescence: Associations Between Brooding, Reflection, Depressive Symptoms, and Coping. *Journal of Clinical Child & Adolescent Psychology*, *36*(1), 56–65. https://doi.org/10.1080/15374410709336568

Cassano, P., & Fava, M. (2002). Depression and public health: An overview. *Journal of Psychosomatic Research*, *53*(4), 849–857. https://doi.org/10.1016/S0022-3999(02)00304-5

Coyne, J. C. (1976). Depression and the response of others. *Journal of Abnormal Psychology*, *85*(2), 186–193. https://doi.org/10.1037/0021-843X.85.2.186

Dueweke, A. R., & Schwartz-Mette, R. A. (2018). Social-Cognitive and Social-Behavioral Correlates of Suicide Risk in College Students: Contributions from Interpersonal Theories of Suicide and Depression. *Archives of Suicide Research*, *22*(2), 224–240. https://doi.org/10.1080/13811118.2017.1319310

Dunlop, W. L., Karan, A., Wilkinson, D., & Harake, N. (2020). Love in the First Degree: Individual Differences in First-Person Pronoun Use and Adult Romantic Attachment Styles. *Social Psychological and Personality Science*, *11*(2), 254–265. https://doi.org/10.1177/1948550619847455

Edwards, T., & Holtzman, N. S. (2017). A meta-analysis of correlations between depression and first person singular pronoun use. *Journal of Research in Personality*, *68*, 63–68. https://doi.org/10.1016/j.jrp.2017.02.005

Fostick, L., Silberman, A., Beckman, M., Spivak, B., & Amital, D. (2010). The economic impact of depression: Resistance or severity? *European Neuropsychopharmacology*, *20*(10), 671–675. https://doi.org/10.1016/j.euroneuro.2010.06.001

Hagiwara, N., Slatcher, R. B., Eggly, S., & Penner, L. A. (2017). Physician racial bias and word use during racially discordant medical interactions. *Health Communication*, *32*(4), 401–408. https://doi.org/10.1080/10410236.2016.1138389

Hall, J. A. (2012). Friendship standards: The dimensions of ideal expectations. *Journal of Social and Personal Relationships*, *29*(7), 884–907. https://doi.org/10.1177/0265407512448274

Ingram, R. E. (1990). Self-focused attention in clinical disorders: Review and a conceptual model. *Psychological Bulletin*, *107*(2), 156–176. https://doi.org/10.1037/0033-2909.107.2.156

Ingram, R. E., & Smith, T. W. (1984). Depression and internal versus external focus of attention. *Cognitive Therapy and Research*, *8*(2), 139–151. https://doi.org/10.1007/BF01173040

Jaycox, L. H., Stein, B. D., Paddock, S., Miles, J. N. V., Chandra, A., Meredith, L. S., Tanielian, T., Hickey, S., & Burnam, M. A. (2009). Impact of teen depression on academic, social, and physical functioning. *Pediatrics*, *124*(4), e596–e605. https://doi.org/10.1542/peds.2008-3348

Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., Benjet, C., Georgiades, K., & Swendsen, J. (2010). Lifetime Prevalence of Mental Disorders in U.S. Adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, *49*(10), 980–989. https://doi.org/10.1016/j.jaac.2010.05.017

Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: A meta-analysis. *Psychological Bulletin*, *128*(4), 638–662. https://doi.org/10.1037/0033-2909.128.4.638

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., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: The 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, *61*(1), 115–121. https://doi.org/10.1037/0022-3514.61.1.115

Prinstein, M. J., Boergers, J., & Spirito, A. (2001). Adolescents' and Their Friends' Health-Risk Behavior: Factors That Alter or Add to Peer Influence. *Journal of Pediatric Psychology*, *26*(5), 287–298. https://doi.org/10.1093/jpepsy/26.5.287

Pyszczynski, T., & Greenberg, J. (1987). Self-regulatory perseveration and the depressive self-focusing style: A self-awareness theory of reactive depression. *Psychological Bulletin*, *102*(1), 122–138. https://doi.org/10.1037/0033-2909.102.1.122

Radloff, L. S. (1977). The CES-D Scale: A Self-Report Depression Scale for Research in the General Population. *Applied Psychological Measurement*, *1*(3), 385–401. https://doi.org/10.1177/014662167700100306

Rose, A. J. (2002). Co-rumination in the friendships of girls and boys. *Child Development*, *73*(6), 1830–1843. https://doi.org/10.1111/1467-8624.00509

Rude, S. S., Gortner, E.-M., & Pennebaker, J. W. (2004). Language use of depressed and depression-vulnerable college students. *Cognition and Emotion*, *18*(8), 1121–1133. https://doi.org/10.1080/02699930441000030

Schwartz-Mette, R. A., Lawrence, H. R., Shankman, J., Fearey, E., & Harrington, R. (2021). Intrapersonal emotion regulation difficulties and maladaptive interpersonal behavior in

adolescence. *Research on Child and Adolescent Psychopathology*. https://doi.org/10.1007/s10802-020-00739-z

Schwartz-Mette, R. A., & Rose, A. J. (2009). Conversational Self-Focus in Adolescent Friendships: Observational Assessment of an Interpersonal Process and Relations with Internalizing Symptoms and Friendship Quality. *Journal of Social and Clinical Psychology*, *28*(10), 1263–1297. https://doi.org/10.1521/jscp.2009.28.10.1263

Schwartz-Mette, R. A., & Rose, A. J. (2016). Depressive symptoms and conversational self-focus in adolescents' friendships. *Journal of Abnormal Child Psychology*, *44*(1), 87–100. https://doi.org/10.1007/s10802-015-9980-3

Shorey, S., Ng, E. D., & Wong, C. H. J. (2021). Global prevalence of depression and elevated depressive symptoms among adolescents: A systematic review and meta-analysis. *The British Journal of Clinical Psychology*. https://doi.org/10.1111/bjc.12333

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*(3), 247–259. https://doi.org/10.1023/A:1023910315561

Wood, J. V., & Dodgson, P. G. (1996). When is self-focused attention an adaptive coping response?: Rumination and overgeneralization versus compensation. In *Cognitive interference: Theories, methods, and findings* (pp. 231–259). Lawrence Erlbaum Associates, Inc.

Zimmermann, J., Brockmeyer, T., Hunn, M., Schauenburg, H., & Wolf, M. (2017). First-person pronoun use in spoken language as a predictor of future depressive symptoms: Preliminary evidence from a clinical sample of depressed patients. *Clinical Psychology & Psychotherapy*, *24*(2), 384–391. https://doi.org/10.1002/cpp.2006

APPENDICES

Demographics and basic information

Age: _____   Birthdate: _____ / _____ / _____   Gender (check one): ___girl ___ boy

For the next two questions, check all categories that apply:

1. What is your ethnicity?

_____ Hispanic or Latino   _____ Not Hispanic or Latino

2. What is your race?

_____ American Indian / Alaskan Native   _____ Black or African American
_____ Asian   _____ White
_____ Native Hawaiian or Other Pacific Islander

3. The person who I came with today is (check one):

_____ a best friend   _____ just a friend
_____ a good friend   _____ not a friend

4. Who lives in the home that you spend most of your time in? (check all that apply)

_____ mother   _____ father
_____ step-mother   _____ step-father
_____ brother (how many? ___)   _____ sister (how many? ___)
_____ step-brother (how many? ___)   _____ step-sister (how many?___)
_____ grandmother (how many? ___)   _____ grandfather (how many? ___)

Below list anyone else who lives in your home (and explain their relationship to you):

_____

The next two questions are about your mother. If you live with your biological mother, answer these questions about her. If you live with another woman who helps to take care of you (e.g., a stepmother, a grandmother), answer these questions about her instead. If there is no woman who lives with you and helps to take care of you, skip these questions.

5. How far did she go in school?

_____   Eighth grade or less
_____   More than eighth grade but did not graduate from high school
_____   High school graduate or completed a GED
_____   Went to college but did not graduate
_____   Graduated from college
_____   Professional training beyond college (like graduate, medical, or law school)
_____   She went to school but I don't know for how long.
_____   She never went to school.
_____   I don't know if she went to school.

6. Does she work for pay?

_____ Yes

If so, what type of work does she do? _____

_____ No

If not:

Is she a homemaker?	_____ Yes	_____ No
Is she disabled?	_____ Yes	_____ No
Is she retired?	_____ Yes	_____ No

The next two questions are about your father. If you live with your biological father, answer these questions about him. If you live with another man who helps to take care of you (e.g., a stepfather, a grandfather), answer these questions about him instead. If there is no man who lives with you and helps to take care of you, skip these questions.

7. How far did he go in school?

_____ Eighth grade or less

_____ More than eighth grade but did not graduate from high school

_____ High school graduate or completed a GED

_____ Went to college but did not graduate

_____ Graduated from college

_____ Professional training beyond college (like graduate, medical, or law school)

_____ He went to school but I don't know for how long.

_____ He never went to school.

_____ I don't know if he went to school.

8. Does he work for pay?

_____ Yes

If so, what type of work does he do? _____

_____ No

If not:

Is he a homemaker?	_____ Yes	_____ No
Is he disabled?	_____ Yes	_____ No
Is he retired?	_____ Yes	_____ No

APPENDIX B: DEPRESSIVE SYMPTOMS

Depressive symptoms (Center for Epidemiological Studies-Depression Scale; Radloff, 1977)

Below is a list of ways you might have felt or behaved. Please circle the number that indicates how often you have felt this way during the past week.

1. I was bothered by things that didn't usually bother me.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

2. I did not feel like eating; my appetite was poor.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

3. I felt that I could not shake off the blues even with help from my family and friends.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

4. I felt I was just as good as other people.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

5. I had trouble keeping my mind on what I was doing.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

6. I felt depressed.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

7. I felt that everything I did was an effort.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

8. I felt hopeful about the future.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

9. I thought my life had been a failure.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

10. I felt fearful.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

11. My sleep was restless.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

12. I was happy.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

13. I talked less than usual.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

14. I felt lonely.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

15. People were unfriendly.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

16. I enjoyed life.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

17. I had crying spells.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

18. I felt sad.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

19. I felt that people dislike me.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

20. I could not get "going."

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

Conversational self-focus (Schwartz-Mette & Rose, 2004)

Answer the following questions about what YOU typically do when you talk with your friend about problems.

WHAT I DO WHEN WE TALK:
1. When my friend tells me about a problem, I often interrupt to tell her about my own problem.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

2. When my friend is talking to me about a problem, I jump in and talk about my own problems before she is finished.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

3. When my friend and I discuss our problems, I try to make mine the main focus.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

4. Even if my friend comes to me with a problem first, I bring up my own problems anyway.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

5. When we're talking about my friend's problems, I spend more time talking about my own experiences than asking questions or giving advice.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

6. When my friend and I are talking about our problems, my problems get the most attention.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

****

Answer the following questions about what your FRIEND typically does when you and your friend talk about problems.

WHAT MY FRIEND DOES WHEN WE TALK:
1. When I tell my friend about a problem, he/she often interrupts to tell me his/her own problem.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

2. When I talk to my friend about a problem, he/she jumps in and talks about his/her own problems before I am finished.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

3. When my friend and I discuss our problems, he/she tries to make his/hers the main focus.

      1   2   3   4   5

not at all true   a little true   somewhat true   pretty true   really true

4. Even if I come to my friend with a problem first, he/she brings up his/her own problems anyway.

      1   2   3   4   5

not at all true   a little true   somewhat true   pretty true   really true

5. When we're talking about my problems, my friend spends more time talking about his/her own experiences than asking questions or giving advice.

      1   2   3   4   5

not at all true   a little true   somewhat true   pretty true   really true

6. When my friend and I are talking about our problems, his/her problems get the most attention.

      1   2   3   4   5

not at all true   a little true   somewhat true   pretty true   really true

Rumination and Distraction Questionnaire (Rose, 2002; revision of Nolen-Hoeksema & Morrow, 1991)

When I Feel Bad

People think and do many different things when they feel down, sad, or depressed. What do you usually do when you feel down, sad, or depressed? Think about what you usually do, not what you think you should do.

1.   Think about how alone you feel
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

2.   Think "I won't be able to do my best at school because I feel so bad"
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

3.   Think about how tired and achy you feel
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

4.   Try to think of something good about the situation that made you feel bad or think about something you learned because of the situation that made you feel bad
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

5. Think "I'm going to do something to make myself feel better"
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

6. Help someone else with something so that you don't think about what made you feel bad
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

7. Think about how you don't feel like doing any of the things that you should do
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

8. Think about things that have happened to you recently to try to understand why you feel bad
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

9. Think about how you don't seem to feel anything any more
            1   2   3   4
      Almost Never   Sometimes   Often   Almost Always

10. Think "Why don't I have energy to do things?"

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

11. Think "Why do I always feel and act this way when I feel bad?"

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

12. Go somewhere you like and think about something besides how bad you feel

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

13. Go away by yourself and think about why you feel bad

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

14. Think "I'll think about something besides how bad I feel."

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

15. Write down what you are thinking about and try to figure out why you feel the way you do.

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

16. Do something that has made you feel better in the past

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

17. Think about something that happened recently and wish things had gone better

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

18. Think "I'm just going to have some fun."

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

19. Spend your time thinking about your schoolwork

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

20. Think "Why do I have problems that other people my age don't have?"

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

21. Think about how sad you feel

        1   2   3   4
Almost Never   Sometimes   Often   Almost Always

22. Think about how you don't do well at things and make mistakes

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

23. Do something you enjoy

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

24. Think about how you don't have the energy to do anything

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

25. Do something fun with a friend

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

26. Think about the way you are and try to understand why you feel so bad

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

27. Go someplace alone to think about your feelings

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

28. Think about how angry you are with yourself

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

29. Listen to sad music

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

30. Go away by yourself and think about the reasons why you feel sad

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

31. Try to understand the way you are by thinking about your depressed, sad, or down feelings

      1   2   3   4

Almost Never   Sometimes   Often   Almost Always

APPENDIX E: IRB APPROVAL

Application #: 2015-10-01
Title: Maine Adolescent Peer Project
PI: Rebecca Schwartz-Mette
Approval Period End Date: 9/10/2019

The Institutional Review Board for the Protection of Human Subjects (IRB) conducted its continuing review of the above
referenced project in an expedited review on 9/11/2018. The IRB approved renewal, and the new approval period end
date is noted above. The next continuing review of this project must be conducted by the IRB before the end of the
approval period. Although you will receive a request for review information approximately 6-8 weeks before that date, it is
your responsibility to submit review information before the approval period expires.

Given that you indicated data collection has been completed, a consent for for the new approval period was not
approved. If you later decide you would like to recruit additional participants, please contact the IRB.

Please remember that any proposed changes to the research must be approved by the IRB prior to implementation. If
you require a modification in the future, please follow these instructions.

Please contact me if you have any questions. Thank you.

Website for the Office of Research Compliance: https://umaine.edu/research-compliance/
--
Gayle M. Jones
Director, Office of Research Compliance
University of Maine
5717 Corbett Hall, Room 302
Orono, ME 04469-5717
Phone: 207/581-1498; Fax: 207/581-147

AUTHOR'S BIOGRAPHY

Olivia Petersen was born in Eliot, Maine on December 14th, 1999. From kindergarten to 5th grade, Olivia attended a small Waldorf School where she developed her love of art, music, and the outdoors. From 6th to 9th grade, Olivia attended Marshwood Middle and High School. In 2015, she transferred to Phillips Exeter Academy (PEA) in Exeter, NH to finish her last three years of high school. She graduated from PEA in 2018. After graduating high school, Olivia started her undergraduate education in mechanical engineering at the University of Maine. After her second year of engineering, Olivia found her true calling in psychology and went on to obtain her Bachelor of Arts in Psychology with a minor in Mathematics in May 2022. Olivia has been an undergraduate research assistant in the Peer Relations Lab (PI Rebecca Schwartz-Mette, PhD) since she switched to psychology in 2020.

Following her undergraduate graduation, Olivia hopes to continue her training in the field of child clinical psychology. This will likely consist of a few years of research and clinical work, followed by graduate school. Additionally, Olivia hopes to integrate living abroad and hiking the PCT into her plans for the near future.