

THE RELATIONSHIP BETWEEN PERCEIVED CRITICISM AND  
PSYCHOTHERAPY OUTCOME IN A SAMPLE OF OUTPATIENT ADOLESCENTS

A Thesis  
by  
RACHEL ELIZABETH CAPPS

Submitted to the Graduate School  
at Appalachian State University  
in partial fulfillment of the requirements for the degree of  
MASTER OF ARTS

May 2018  
Department of Psychology

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## **Abstract**

### **THE RELATIONSHIPS BETWEEN PERCEIVED CRITICISM AND PSYCHOTHERAPY OUTCOME IN A SAMPLE OF OUTPATIENT ADOLESCENTS**

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Expressed emotion (EE), purportedly hostile, negatively critical, and emotionally over-involved attitudes in relationships, has been consistently implicated as a predictor of adolescent mental health outcomes (Peris & Miklowitz, 2015). An underlying construct of EE, perceived criticism (PC), subjectively assesses disapproval in relationships using the Perceived Criticism Measure (PCM; Hooley & Teasdale, 1989) and has been implicated as a predictor of clinical outcomes (Hooley & Teasdale, 1989; Masland & Hooley, 2015; Renshaw, Chambless, & Steketee, 2001; Renshaw, Chambless, & Steketee, 2003). Studies using the PCM have shown higher levels of PC predict worse psychological outcomes in adults (Renshaw, 2008). However, studies have yet to examine the PCM's ability to predict treatment outcomes in adolescents, the stability of PCM ratings over the course of treatment, and the relationship between PCM item 3 assessing upset from criticism and psychotherapy outcome. The purpose of this study is to examine these relationships in a clinically transdiagnostic sample of adolescents. Results suggest that both the level of PC and the level of upset from criticism remained stable over the course of treatment while YOQ-30 scores decreased on average over

treatment. In addition, the level of PC was not significantly related to YOQ-30 scores over treatment. Instead, results suggest the level of upset from criticism over psychotherapy predicted YOQ-30 scores with higher levels of upset relating to higher YOQ-30 scores. These findings suggest that the PCM can help identify treatment targets with adolescent samples and position PC as a potentially useful construct for predicting psychotherapy treatment response in teens.

*Keywords:* perceived criticism, PCM, expressed emotion, treatment outcome, adolescent

## **Acknowledgements**

I would like to thank Dr. Kurt Michael, my thesis chair and graduate mentor, for his guidance and support in all stages of this empirical endeavor and for encouraging me to think critically as a student, researcher, and clinician. Also, I would like to thank Dr. Twila Wingrove for her considerable help, expertise, and patience while executing and evaluating the analyses for this thesis. In addition, I would like to thank Dr. JP Jameson for his support and feedback with particular attention to the design and feasibility of this project. Finally, I would like to thank the clinicians and research assistants of the Assessment, Support, and Counseling (ASC) Center for their assistance collecting the data presented in this thesis.

## Table of Contents

Abstract .....	iv
Acknowledgments.....	vi
List of Tables .....	ix
List of Figures .....	x
Foreword .....	xi
Introduction and Literature Review .....	4
Method .....	13
Results.....	19
Discussion.....	23
References.....	37
Tables .....	43
Figures.....	52
Appendix A: Perceived Criticism Measure .....	55
Appendix B: ASC Perceived Criticism Measure.....	56
Appendix C: IRB Approval .....	58
Appendix D: Informed Consent for Clinical Services .....	61
Appendix E: Notice of Privacy Practices.....	63
Appendix F: Release of Information for Daymark Recovery Services .....	66
Appendix G: Release of Information to Ashe County Schools .....	68
Appendix H: Release of Information to Daymark Recovery Services .....	70

Appendix I: Informed Consent for Participation in Research .....	72
Vita.....	74

### **List of Tables**

Table 1. Descriptive Statistics of PCM item 2 and PCM Item 3 Scores .....	43
Table 2. PCM Item 2 Model Change in -2LL and Residual Estimate .....	44
Table 3. Parameter Estimates for PCM Item 2 Stability Model .....	45
Table 4. PCM Item 3 Model Change in -2LL and Residual Estimate .....	46
Table 5. Parameter Estimates for PCM Item 3 Stability Model .....	47
Table 6. YOQ-30 Model Change in -2LL and Residual Estimate.....	48
Table 7. Parameter Estimates for YOQ-30 Stability Model.....	49
Table 8. Parameter Estimates for PCM as a Predictor of YOQ-30 Change Model.....	51

## List of Figures

Figure 1. Mean PCM Item 2 Scores Over the Course of Treatment.....	52
Figure 2. Mean PCM Item 3 Scores Over the Course of Treatment.....	53
Figure 2. Mean YOQ-30 Scores Over the Course of Treatment .....	54

## **Foreword**

This thesis is written in accordance with the style guidelines presented in the *Publication Manual of the American Psychological Association (6<sup>th</sup> Edition)* in line with the requirements of the Department of Psychology at Appalachian State University.

The relationship between perceived criticism and psychotherapy outcome in a sample of  
outpatient adolescents

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### **Abstract**

Expressed emotion (EE), purportedly hostile, negatively critical, and emotionally over-involved attitudes in relationships, has been consistently implicated as a predictor of adolescent mental health outcomes (Peris & Miklowitz, 2015). An underlying construct of EE, perceived criticism (PC), subjectively assesses disapproval in relationships using the Perceived Criticism Measure (PCM; Hooley & Teasdale, 1989) and has been implicated as a predictor of clinical outcomes (Hooley & Teasdale, 1989; Masland & Hooley, 2015; Renshaw, Chambless, & Steketee, 2001; Renshaw, Chambless, & Steketee, 2003). Studies using the PCM have shown higher levels of PC predict worse psychological outcomes in adults (Renshaw, 2008). However, studies have yet to examine the PCM's ability to predict treatment outcomes in adolescents, the stability of PCM ratings over the course of treatment, and the relationship between PCM item 3 assessing upset from criticism and psychotherapy outcome. The purpose of this study is to examine these relationships in a clinically transdiagnostic sample of adolescents. Results suggest that both the level of PC and the level of upset from criticism remained stable over the course of treatment while YOQ-30 scores decreased on average over treatment. In addition, the level of PC was not significantly related to YOQ-30 scores over treatment. Instead, results suggest the level of upset from criticism over psychotherapy predicted YOQ-30 scores with higher levels of upset relating to higher YOQ-30 scores. These findings suggest that the PCM can help identify treatment targets with adolescent samples and position PC as a potentially useful construct for predicting

psychotherapy treatment response in teens.

*Keywords:* perceived criticism, PCM, expressed emotion, treatment outcome,  
adolescent

The Relationship Between Perceived Criticism and Psychotherapy Outcome in a Sample  
of Outpatient Adolescents

Expressed emotion (EE) is a process by which family members communicate hostile, critical, and emotionally over-involved attitudes towards other family members (Hooley, 1985, 2007). Whereas criticism reflects an objective sense of disapproval from another person (e.g., parent, spouse; Hooley, 1998), perceived criticism (PC) is defined as a subjective sense of criticism from another person (Masland & Hooley, 2015). Hostility reflects a general sense of dislike of a person (Hooley, 1998), and emotional over-involvement is the exaggerated expression of over-concern and over-protectiveness towards another (Michelson & Bhurgra, 2012). However, because hostility has been found to correlate highly with criticism, researchers have suggested that evaluating criticism is a more feasible approach to measuring related hostile attitudes that are believed to occur within families (Peris & Miklowitz, 2015).

Based on meta-analytic reviews, EE appears to be a risk factor for relapse across a variety of psychological disorders in the general clinical population (Hooley, 1998). In adolescents, EE has been cited as a key predictor for psychological and behavioral problems (Wedig & Nock, 2007). Numerous studies have found that high levels of parental EE portend a worse course for anxiety, psychotic, and mood disorders in youth (Peris & Miklowitz, 2015). EE has also been found to predict a poorer treatment response in young people with bipolar, anxiety, depressive, and eating disorders (Asarnow, Tompson, Woo, & Cantwell, 2001; Peris, Yadegar, Asarnow, & Piacentini, 2013;

Przeworski et al., 2012; Miklowitz, Biuckians, & Richards, 2006; Le Grange, Eisler, Dare, & Hodes, 1992).

### **Perceived Criticism**

As described above, PC is the subjective sense of criticism from another person, often a parent, spouse, or someone with whom the person has frequent contact (Hooley & Teasdale, 1989). Butzlaff and Hooley (1998) suggested that empirical inquiries focus primarily on the criticism component of EE because criticism is usually the factor that explains the most variance associated with high ratings of EE. In addition, most studies linking EE to poor clinical outcomes have consistently found the construct of criticism to account for the most variance associated with such poor outcomes (Hooley, 2007). Of particular importance, studies that have compared measures of PC and measures of EE as predictors of treatment outcome have implicated measures of PC as a better predictor of treatment outcome than measures of EE (Chambless & Steketee, 1999; Hooley & Teasdale, 1989). For example, in studies examining the clinical utility of parental EE with adolescent psychopathology, criticism (broadly construed) has been implicated as the most significant predictor of symptom course for adolescent self-injurious thoughts and behaviors (SITB; Wedig & Nock, 2007) and adolescent global eating disorder psychopathology (Schmidt, Tetzlaff, & Hilbert, 2015). Such findings warrant a closer examination of the criticism component in relation to adolescent psychological symptom experience.

Most of the studies that have examined the relationship between PC and relevant outcomes (e.g., treatment response, relapse) have been conducted with adults and have

utilized the Perceived Criticism Measure (PCM; Hooley & Teasdale, 1989). Designed to be more efficient for clinical practice than other methods such as the Camberwell Family Interviews (CFI; Leff & Vaughn, 1985) and the Five Minute Speech Sample (FMSS; Magaña et al., 1986), the PCM asks respondents to identify the most influential person in their lives and rate the level or amount of criticism perceived in that relationship on a scale from 1 to 10. The full version of the PCM includes four items to provide clinically relevant information, but the PCM score is only comprised of the second item, “How critical do you think \_\_\_\_\_ is of you?” However, more recent research has indicated the predictive validity of other items of the PCM (Miklowitz, Wisniewski, Miyahara, Otto, & Sachs, 2005).

In the first study to examine the predictive validity of the PCM, Hooley and Teasdale (1989) found that spousal PCM scores predicted depressive symptom relapse over nine months in an inpatient sample of adults with depression with a large effect size ( $r = .64$ ). Most importantly, Hooley and Teasdale found that PCM scores were most strongly associated with depression relapse compared to levels of EE and marital distress. When PC, EE, and marital distress variables were analyzed in terms of their contribution to relapse rates using hierarchical regression, they found that PC ratings at baseline entered first and alone predicted 38% of the total variance in depression outcome. Even when EE and levels of marital distress were entered first into the regression, PC predicted a significant proportion of the remaining variance ( $\Delta R^2 = 0.16, p < .05$ ). Hooley and Teasdale (1989) also examined the relationship between participants’ PCM scores and depressive symptoms measured with the Beck Depression Inventory (BDI; Beck, Steer,

& Brown, 1996) before treatment and found no relationship ( $r = 0.02$ ). This lack of a relationship suggests that PC is not a reflection of initial symptom severity in this particular study.

With a broader or arguably transdiagnostic perspective of the relationship between PC and treatment outcome, Renshaw, Chambless, and Steketee (2001) examined depressive symptoms in a clinical sample of adults with obsessive-compulsive disorder (OCD) or panic disorder with agoraphobia (PDA) receiving exposure therapy to treat anxiety symptoms. Following exposure therapy, Renshaw and colleagues (2001) found participants' depressive symptoms measured with the Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1994) significantly decreased. However, participants with higher pre-treatment PCM scores experienced less depressive symptom improvement at the end of treatment. In this sample, PC was the best predictor of less depressive symptom improvement compared to all three components of EE with a medium effect size ( $r_{part} = 0.33$ ).

In one of the few studies to test the stability of PCM scores, Renshaw, Chambless, and Steketee (2003) examined the relationship between PC and anxiety symptom improvement in participants with obsessive-compulsive disorder or panic disorder with agoraphobia after receiving exposure therapy based on Chambless and Steketee's (1999) dataset. Participants completed pre- and post-treatment PCM ratings for a relative with whom they lived. Using a regression analysis controlling for all three components of EE, Renshaw et al. (2003) found that a higher pre-treatment PCM score was the only significant predictor of less anxiety symptom improvement following treatment, with a

medium effect size ( $r_{semipartial} = 0.36$ ). They also found that these scores were relatively stable from pre- to post-treatment. Measures of symptom severity before and after treatment did not predict PCM ratings in this analysis, supporting the aforementioned finding that PC is not necessarily an indicator of more severe psychological symptoms (Renshaw et al., 2003).

Although the PCM score is comprised of only item two of the four-item measure, Miklowitz and colleagues (2005) demonstrated the utility of an additional item that assesses how upset the respondent becomes as a result of criticism from his or her identified perceived critic in predicting symptom severity in people with bipolar disorder. Pointing to research findings that suggest individuals with bipolar disorder are stress-sensitive, prone to processing biases in response to negative stimuli, and prone to dysfunctional attitudes, Miklowitz et al. (2005) hypothesized that individuals who became more upset due to criticism would have higher mood symptom scores and evidence fewer days in recovery. Participants in this study were adults who completed the PCM for at least one relative with whom they had at least four hours per week of contact and were involved in their health care upon entry into a longitudinal study of bipolar disorder. Miklowitz et al. (2005) found that the amount of criticism was not related to mood symptoms, but the respondents who rated being more upset as a result of criticism had more severe depressive symptoms over the follow-up period of three, six, nine, and 12 months. Similarly, ratings of the amount of criticism were not related to mania symptoms at follow-up, but the participants who reported being more upset due to criticism had more severe symptoms of mania at follow-up. When examining the

relationship between PCM ratings and number of days in recovery, no relationship was found between number of days well and the level of criticism perceived from the identified critic, the level of criticism the respondent reported directing towards the critic, or how upset the critic became as a result of the respondent's criticism (i.e., all other PCM items). However, participants who reported being more upset due to criticism had fewer days of recovery at follow-up after covarying for age, sex, baseline symptoms variables, and the number of assessments completed. These findings support the clinical importance of examining how upset the respondent becomes due to criticism in predicting symptom severity and highlights the salience of the emotional impact of criticism in predicting treatment outcomes. Further, this finding that the upset item only predicted fewer days in recovery, when taking into account such variables as participant sex and baseline symptom severity to name a few, highlights another gap in the literature warranting further examination.

### **Perceived Criticism in Adolescents**

Almost all published studies examining the relationship between PC and symptom severity and PC and treatment outcome have utilized adult samples. To date, little is known about the relationship between PC and symptom course and the relationship between PC and treatment outcomes in adolescents. Indeed, few studies have assessed PC using the PCM with adolescents. In one of the only studies examining PC in adolescents, von Polier et al. (2014) correlated PCM scores for adolescents with early-onset schizophrenia with the quality of interactions with family and peers and quality of life measures and found that higher ratings of PC were inversely correlated with poorer

family interactions, poorer peer interactions, and worse quality of life. O'Brien, Miklowitz, and Cannon (2015) examined maternal PC in a mixed sample of adolescents and adults aged 12-35 designated at clinical high risk (CHR) for psychosis when treated in Family-Focused Therapy (FFT-CHR) or Enhanced Care (EC) treatment. The researchers measured PC using a modified scale version of the PCM assessing youths' and mothers' perceptions of maternal criticism and disapproval on a composite 0-20 scale at baseline and 6-month reassessment. Youths' and mothers' ratings of perceived maternal criticism were significantly higher at baseline measurement than at reassessment for both treatment groups. Based on these findings, the researchers concluded that measures of PC are likely useful in predicting the course of psychotic symptoms in CHR youth. However, there is a need for studies to examine the standard version of the PCM well-documented in the literature to determine PC's relationship with adolescent treatment outcomes. These results also call into question the stability of PCM scores from pre- to post-treatment, which contradicts findings of pre- to post-treatment stability in the adult literature. Further study of the stability of PC with adolescents, therefore, must utilize the standard version of the PCM when examining this question to allow for more direct comparison to results from the adult population.

In addition, all of the studies examining the correlation between PCM scores and treatment outcome have been conducted with disorder-specific samples (Renshaw, 2008). Studies where the relationship between PCM scores and treatment outcome have been examined are based on samples of adults with single or discrete conditions, such as depression, anxiety disorders, bipolar disorder, substance use disorder, and schizophrenia

(Renshaw, 2008). No studies were located that examined the relationship between PC and treatment outcome in a transdiagnostic sample with a mixture of clinical problems and expected co-morbidities often observed in clinical samples.

The aforementioned gaps in the PC literature indicate a need to expand our understanding of the PCM's utility in younger samples with a mixture of psychopathological symptomatology. Likewise, more research is needed to evaluate the utility of the PCM with transdiagnostic samples of adolescents and its relationship with general treatment outcomes. In addition, the stability of PCM scores over the course of treatment must be examined to further support PC as a construct that does not merely indicate psychological symptom severity. Finally, although the PCM score consists of only one item, further studies are needed to evaluate the PCM's upset item in predicting treatment outcomes.

Although EE is a known correlate of symptom course and treatment outcomes across a variety of specific disorders (Hooley & Teasdale, 1989; Masland & Hooley, 2015; Renshaw et al., 2001; Renshaw et al., 2003), there is evidence from a number of studies that suggested that PC is perhaps the most powerful predictor among the purported components of EE (Chambless & Steketee, 1999; Hooley & Teasdale, 1989). However, the utility of PC has been demonstrated primarily in adult studies and less work has been done with younger samples. Moreover, there is a paucity of research on the relationship between PC and adolescent psychotherapy outcome. While several studies have shown that pre- to post-treatment PCM ratings are generally consistent (Renshaw et al., 2003), the stability of PCM ratings assessed over the course of a psychotherapy trial

has not been examined to date. Finally, the relationship between the amount of distress from criticism and treatment outcome also warrants further study. Examining whether such a relationship exists and the nature of this relationship is necessary to further elucidate how PC operates to predict psychotherapy outcomes.

Given the current state of the literature, the following three questions were examined in the current study. First, how stable are PCM ratings over the course of psychotherapy treatment? Second, what is the relationship between PCM ratings and psychotherapy treatment outcomes in an adolescent sample? Third, is the PCM's upset item related to treatment outcomes?

Regarding the first research question, it was hypothesized that PCM ratings would be fairly stable over the course of treatment (i.e., will not have a slope statistically different from zero), given what has been found in the published literature to date. With respect to the second question, while it was generally expected that psychotherapy would result in symptom improvement for the sample on average, it was hypothesized that adolescents with relatively higher baseline PCM scores would experience relatively less symptom improvement over the course of treatment when compared to adolescents with relatively lower PCM ratings. Given the lack of findings to date supporting a theoretical link between increased distress from criticism and poorer treatment outcomes in adolescent samples, the analyses regarding the relationship between scores on the PCM's upset item and psychotherapy treatment outcome was exploratory in nature.

## Method

### Participants

Participants were 48 high school students between the ages of 13 and 18 ( $M = 15.95$ ,  $SD = 1.14$ ) who received psychotherapy at the Assessment, Support, and Counseling (ASC) Center at two high schools in rural Western North Carolina between the fall of 2016 and the fall of 2017. The majority of students in the sample were female (68.80%,  $n = 33$ ). Students in the sample represented all high school grade levels, with 31.30% ( $n = 15$ ) of students being the in the 9<sup>th</sup> grade, 27.10% ( $n = 13$ ) in the 10<sup>th</sup> grade, 22.90% ( $n = 11$ ) in the 11<sup>th</sup> grade, and 18.80% ( $n = 9$ ) in the 12<sup>th</sup> grade. The sample participated in between 3 and 63 treatment sessions ( $M = 14.44$ ,  $SD = 10.87$ ) with an average duration of 45.69 minutes ( $SD = 9.34$ ). Students were referred for ASC services primarily by school counselors, school administrators, and through self-referral. Students aged 18 years provided their own legal consent, and parents of students younger than 18 years-old provided written legal consent. Students younger than 18 years-old also provided their own assent for services. To be included in this sample, students must have had a T-score of 60 or greater indicating clinically significant risk of distress or dysfunction on any of the internalizing scales of the BASC-2 or BASC-3 SRP-A, they must have completed two or more YOQ-30s and PCMs, and they must have attended three or more treatment sessions.

### Measures

**PCM.** Participants completed the Perceived Criticism Measure (PCM; Hooley & Teasdale, 1989; Appendix A) at the beginning of their first meeting with an ASC Center

clinician, every other week during treatment, and following termination of treatment. The PCM does not specifically instruct respondents to identify their chosen perceived critic before completing the measure but instructs identification of a perceived critic in each item. However, studies that have examined the choice of perceived critic have shown that PCM scores best reflect the respondent's emotional environment and therefore have the greatest predictive validity when the identified perceived critic is someone the respondent is related to and lives with (Renshaw, 2007).

For the purpose of this study, respondents were first instructed to identify their chosen perceived critic with the critic defined as being biologically or legally connected to the respondent in some way and residing with the respondent. This restriction criteria were worded in such a way as, "Please identify the person that you are related to and live with who is most emotionally important to you" (Appendix B). The participant then completed four items assessing the extent to which he or she believes the identified person is critical of him or her. Participants rate their answers on a 10-point scale with 10 meaning "very critical" and 1 meaning "not at all." Items are worded in such a way as in item 2, "How critical do you think [IMPORTANT PERSON] is of you?" Other items assess how upset the participant becomes as a result of criticism (item three), how critical the participant is of the identified important person (item one), and how upset the identified important person becomes as a result of criticism (item four). For research purposes, only the second item of the PCM assessing how critical the identified important person is of the respondent is used to comprise the PCM score. In addition, the PCM's upset item (item three) was used for exploratory analyses.

**YOQ-30.** The presence of clinical and subclinical psychological symptoms was measured using the Youth Outcome Questionnaire-30 (YOQ-30; Burlingame et al., 2004). Participants completed this measure before beginning treatment, a minimum of every two weeks during treatment, and following treatment. As part of regular ASC Center services, the YOQ-30 was administered throughout treatment to measure psychological symptoms experienced and to measure progress throughout treatment. Clients rated the frequency with which they have experienced certain psychological symptoms over the past two weeks on a scale from 0 meaning “never” to 4 meaning “almost always or always.” The YOQ-30 has relatively high internal consistency for normative samples ( $\alpha = 0.92$ ) and outpatient normative samples ( $\alpha = 0.93$ ; Burlingame et al., 2004).

**BASC-2.** The Behavior Assessment System for Children, 2<sup>nd</sup> Edition (BASC-2; Reynolds & Kamphaus, 2004) Self-Report of Personality (SRP-A) form was administered before beginning treatment at the ASC Center as a baseline measure of psychological symptoms and at the end of treatment as a post-treatment measure of psychological symptoms. As part of regular ASC services, the BASC-2 was administered at baseline and post-treatment to measure the nature and severity of psychological symptoms and changes in symptoms from baseline to post-treatment. The SRP-A requires clients to respond to personality inventory questions with either a “True” or “False” response or with a “Never” to “Almost always” frequency rating. The SRP-A has a relatively high internal consistency for normative samples ( $\alpha = 0.67 - 0.96$ ) and clinical

normative samples ( $\alpha = 0.68 - 0.96$ ) and an adequate test-retest reliability ( $r = 0.63 - 0.84$ ).

**BASC-3.** Due to updating assessment materials during the course of data collection, some participants were administered the Behavior Assessment System for Children, 3rd Edition (BASC-3; Reynolds & Kamphaus, 2015) Self-Report of Personality (SRP-A) form. The BASC-3 SRP-A requires clients to respond to personality inventory questions in the same format as the BASC-2 with a relatively high internal consistency for normative samples ( $\alpha = 0.71 - 0.96$ ) and clinical normative samples ( $\alpha = 0.77 - 0.96$ ). The SRP-A has adequate test-retest reliability ( $r = 0.73 - 0.91$ ). BASC-2 or BASC-3 SRP-A scales were used to determine which participants' PCM ratings were included in analyses

### **Procedure**

Procedures in this study were reviewed and approved by Appalachian State University's Institutional Review Board (IRB) prior to beginning data collection. Participants and their families received full informed consent and assent before taking part in ASC Center services and this research study. Participation in ASC treatment was not contingent upon participation in this research study. At the beginning of treatment, participants completed the PCM as a baseline measure of PC. Additionally, participants completed the PCM at most every two weeks during treatment and following the termination of treatment. Participants rated the same individual each time the PCM was completed. Clinicians made note of the date of any changes in living situation that resulted in the participant no longer living with the chosen perceived critic and in such

cases the clinician obtained new PCM ratings for a perceived critic with whom the participant currently lived.

Due to the transdiagnostic nature of the sample, psychotherapy treatment consisted primarily of non-manualized cognitive behavioral therapy (CBT) and occasionally non-manualized dialectical behavioral therapy (DBT) depending upon the nature of each student's presenting concern. Clinicians who provided treatment consisted of clinical psychology graduate students, a master's-level licensed psychological associate (LPA), social work graduate students, and one marriage and family therapy graduate student. Clinical psychology graduate students and the master's-level LPA were supervised by two licensed clinical psychologists. Social work graduate students and the marriage and family therapy graduate student were supervised by licensed professionals in their respective fields.

### **Analyses**

Multilevel modeling with fixed and random effects was used to examine symptom change as measured by YOQ-30 scores for individuals over the course of treatment. However, due to a few cases in the sample comprising a significant proportion of the treatment session data, only data from the first 20 treatment sessions of all cases were used in the model to prevent the model from being predominantly represented by a few cases with more data. In addition, there was a large amount of missing baseline PCM data in the sample. As a result, an imputed value was used to replace missing baseline PCMs scores. Given preliminary findings of the stability of PCM item 2 and item 3 scores over the course of treatment, an imputed mean value was calculated based upon all respective

item values for the first 20 treatment sessions for each case with missing baseline PCM data to comprise a baseline PCM item 2 and item 3 score. An imputed baseline item 2 and item 3 value was calculated for 62.50% of cases in the sample, while 37.50% of the sample included a true baseline PCM value.

For the multilevel modeling analyses, the stability of PCM scores over time was assessed using two models: one with all item 2 scores throughout treatment and another separate model with all item 3 scores throughout the course of treatment. Stability was defined as having a slope not statistically significantly different from zero. These repeated measures of PCM scores were modeled to provide information about the average change in PCM item scores over the course of treatment. The stability of YOQ-30 scores over treatment was assessed by modeling all YOQ-30 scores over treatment, with stability defined as having a slope not statistically significantly different from zero. These repeated measures were modeled to provide information about the average change in psychological symptoms over the course of treatment.

Then, a regression equation took into account each individual's symptom level measured by YOQ-30 scores regressed on a variable accounting for treatment session number. The treatment session number variable began at zero for the initial treatment session and increased by one for every session. From this equation, the slope represented the symptom change over the course of multiple sessions, with a positive slope indicating an increase in psychological symptoms over treatment, a slope of zero representing no change in symptoms over treatment, and a negative slope indicating a decrease in symptoms over the course of treatment. An analysis was then conducted to model how

PCM item 2 and item 3 scores related to the change in psychological symptoms over time, i.e., affect the slope of symptom change.

### Results

A total of 283 PCM responses and 373 YOQ-30 responses were analyzed for 48 participants in the sample. The average PCM item 2 response among participants in the sample over the course of treatment was 6.10 ( $SD = 2.53$ , 95% CI [5.81, 6.39]) with an average baseline response value of 6.10 ( $SD = 2.27$ , 95% CI [5.46, 6.74]). The average PCM item 3 response was 6.01 ( $SD = 2.41$ , 95% CI [5.74, 6.28]) with an average baseline response value of 6.29 ( $SD = 2.30$ , 95% CI [5.64, 6.94]). Descriptive statistics of PCM item 2 and item 3 over the course of treatment and at baseline for imputed and non-imputed cases are reported in Table 1. The average baseline YOQ-30 score for students in the sample was 38.75 ( $SD = 14.10$ , 95% CI [34.76, 42.74]). The average final YOQ-30 score for students in the sample was 25.21 ( $SD = 18.34$ , 95% CI [20.02, 30.40]). There was not a significant correlation among PCM item 2 and item 3 responses,  $r = 0.05$ , 95% CI [-0.07, 0.16],  $p = .428$ .

### Stability of PCM Items

Multilevel modeling with fixed and random effects was used to assess the stability of PCM item 2 and item 3 responses over the course of treatment (i.e., time; level 1) and between participants (level 2). For PCM item 2, a baseline model was estimated without any predictors (see Table 2 for fit indices). Results indicated significant differences in PCM item 2 responses between participants ( $b = 6.07$ ,  $p < .001$ , 69.70% of the variance explained by level 2), indicating the need to use a random intercept to better model level

2 to account for level 2 variance. A random intercepts model was then estimated for PCM item 2 with random and fixed effects for session number (i.e., time; level 1). Session number as a fixed effect was not significant ( $b = 0.003, p = .988$ ), indicating that session number was not associated with any significant change in PCM item 2 scores. However, with session number as a random effect, individual differences between participants remained significant ( $b = 4.16, p < .001$ ). A model was estimated with a random slope estimate at level 1 for PCM item 2 to determine whether the slopes of PCM item 2 scores changed at different rates by different participants. However, this model would not converge. The number of iterations for this model was increased up to 10,000 iterations, but it still would not converge. Therefore, results revealed PCM item 2 responses significantly varied between participants but did not significantly vary when accounting for session number (i.e., over time; see Figure 1). Parameter estimates for all analyses in this section are reported in Table 3.

For PCM item 3, a baseline model was estimated without any predictors (see Table 4 for fit indices). Results indicated significant differences in PCM item 3 responses between participants ( $b = 6.16, p < .001, 72.00\%$  of the variance explained by level 2), indicating the need to use a random intercept to better model level 2 and therefore account for level 2 variance in the model. Next, a random intercepts model was estimated for PCM item 3 with random and fixed effects for session number (i.e., time; level 1). Session number as a fixed effect was not significant ( $b = -0.03, p = .092$ ), indicating that session number was not associated with any significant change in PCM item 3 scores. However, with session number as a random effect, individual differences between

participants remained significant ( $b = 4.16, p < .001$ ; 72.00% of the variance explained by level 2). A model was then estimated with a random slope estimate at level 1 for PCM item 3 to determine whether the slopes of PCM item 3 scores changed at different rates by different participants. While this model was able to converge, the model was unable to estimate the variance around the slopes of PCM item 3 scores. Nevertheless, results revealed PCM item 3 responses significantly varied between participants but did not significantly vary by session number (i.e., over time; see Figure 2). Parameter estimates for all analyses in this section are reported in Table 5.

### **Stability of YOQ-30 Scores**

Multilevel modeling with fixed and random effects was used to assess the stability of YOQ-30 scores over the course of treatment (i.e., time; level 1) and between participants (level 2). A baseline model was estimated without any predictors (see Table 6 for fit indices). Results indicated significant differences in YOQ-30 scores between participants ( $b = 29.69, p < .001$ , 68.60% of the variance explained by level 2), indicating the need to use a random intercept to better model level 2 and therefore account for level 2 variance in the model. Next, a random intercepts model was estimated for YOQ-30 scores with random and fixed effects for session number (i.e., time; level 1). Session number as a fixed effect was significant ( $b = -1.00, p < .001$ ), indicating that session number was associated with a significant change in YOQ-30 score. With session number as a random effect, individual differences between participants remained significant ( $b = -1.02, p < .001$ ), and adding in the level 1 random intercept increased the variance explained by level 2 to 74.60%. Finally, a model was estimated with a random slope

estimate at level 1 for YOQ-30 to determine whether the slopes of YOQ-30 scores changed at different rates by different participants. In this model, level 1 still had a significant residual ( $b = -1.02, p < .001$ ). However, the slope was different between participants ( $p = .007$ ). Therefore, results revealed YOQ-30 scores significantly varied between participants and significantly varied when accounting for session number (i.e., over time; see Figure 3). Parameter estimates for all analyses in this section are reported in Table 7.

### **PCM Prediction of Treatment Response**

Multilevel modeling with fixed effects was used to examine change in YOQ-30 scores over the course of treatment (i.e., time; level 1) and between participants (level 2) with PCM items 2 and 3 as predictors. Results indicated a significant effect for session number ( $b = -1.05, p < .001$ ), indicating YOQ-30 scores decreased over treatment across participants. Results indicated significant variance of average YOQ-30 between participants ( $p < .001$ ) and significant variance in the rate of YOQ-30 change between participants ( $p = .018$ , 72.90% of the variance explained by level 2). PCM item 2 as a fixed effect was not significant ( $b = 0.47, p = .163$ ), indicating that PCM item 2 did not predict YOQ-30 score. PCM item 3 as a fixed effect was significant ( $b = 0.69, p = .047$ ), indicating that PCM item 3 did predict YOQ-30 score. More specifically, as PCM item 3 increased by 1, YOQ-30 increased by 0.69. When a random intercepts model was attempted to estimate PCM item 3 and session number as fixed and random effects, the model would not converge. Therefore, results revealed PCM item 3 responses significantly predicted YOQ-30 score over the course of treatment but the change in

slopes between participants could not be estimated. Parameter estimates and model fit indices are reported in Table 8.

## **Discussion**

### **Stability of PCM Items**

The results suggest that while there were between student differences regarding their endorsements of PC, both PCM item 2 and item 3 were relatively stable over the course of treatment. That is, students endorsed roughly stable levels of PC from their identified perceived critic over the course of treatment and reported similar levels of upset due to criticism from their identified perceived critic during the trial of psychotherapy. Neither the level of PC nor the level of upset from criticism changed significantly over student participation in treatment sessions. These data are consistent with the findings of PCM stability in the adult literature (e.g., Renshaw et al., 2003) from pre- to post-treatment and lend support to the temporal stability of both PCM item 2 and item 3 in adolescent samples. In addition, PCM scores do not significantly change when modeled over the course of psychotherapy sessions, which previous studies of PCM stability have not examined.

The lack of convergence for the PCM item 2 and item 3 models with a random slope estimate at level 1 may be accounted for due to the introduction of redundancy in the data with the imputed baseline item 2 and item 3 scores. For cases with missing baseline PCM data, the imputed baseline PCM value for item 2 and item 3 were calculated by taking the mean of all completed PCMs administered over the first 20

treatment sessions. As a result, the baseline PCM value for item 2 and item 3 reflects all other item 2 and item 3 values by case and therefore introduced redundancy in the model.

The model of YOQ-30 scores over the course of treatment revealed that there were between-student differences in their self-reported level of psychological symptoms. The findings also suggested that students' YOQ-30 scores changed over the course of treatment. More specifically, students' overall level of psychological distress decreased during their participation in psychotherapy. There was a modest increase in the average YOQ-30 scores around sessions 15 and 16, but the mean did not surpass the established clinical cutoff for the YOQ-30. It is also important to note that the number of students included in analyses tended to decrease as the session numbers reached their maximum for the sample. Therefore, this observed increase in YOQ-30 scores might be a reflection of higher symptom levels for students who were still engaged in treatment after 15 sessions. Thus, although on average students in the sample evidenced a decrease in psychological distress, the decrease in mean YOQ-30 scores did not follow a consistent downward linear trend over treatment for those students who remained in the analyses.

Notably, with the observed change in YOQ-30 scores over the course of treatment and the observed stability in both PCM item 2 and item 3 responses over treatment, results indicated that PCM item responses did not change with variations in YOQ-30 scores. The level of criticism and the level of upset endorsed by students did not change with decreases or increases in psychological symptoms. These results observed in an adolescent sample align with the findings in the adult literature that PC is relatively independent of self-reported psychological symptoms (Hooley & Teasdale, 1989;

Renshaw et al., 2003). That is, results indicated that PC remained stable over treatment while psychological symptoms decreased on average and thus suggest PC is relatively independent of psychological symptom experience and not the result of increased psychological symptoms resulting in an attentional bias towards or proclivity to detecting criticism. These results are important to consider for clinical practice as they may indicate a need to address criticism in the family system. The current study did not regularly address the criticism and instead, focused on adolescents' attentional or cognitive processes through cognitive restructuring or appraisal techniques. More specifically, because the results from this study suggest PC does not decrease despite a decrease in psychological symptoms with psychotherapy, addressing aspects of criticism in the family environment through family therapy and communication-focused techniques, such as parent-child interaction therapy (PCIT), might better address levels of PC. In addition, because results from this study suggest the effects of PC are not adequately captured by a measure of psychological symptoms, it may be possible that other psychological assessment tools capture PC and its effects. For example, the level of distress from criticism measured by the PCM may also be similarly captured in the Negative Affect Score from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegan, 1988). In turn, effects of the PCM may also be reflected in other measures of relationship quality, such as the area of relationships with relatives assessed by the Quality of Life Inventory (QOLI; Frisch, Cornell, Villanueva, & Retzlaff, 1988). Future research should examine other psychological assessment tools that further capture the effects of PC. However, these results do not necessarily indicate that PC is an irrelevant

treatment target and may only be addressed through family involvement in treatment. For example, PC may be reflective of other internal mechanisms that treatment strategies used in this study did not address.

### **PCM Prediction of Treatment Outcome**

Analyses revealed that on average, YOQ-30 scores decreased across participants over the course of treatment, although average YOQ-30 scores differed between participants over treatment. Also, participants differed in their average rate of YOQ-30 change. In other words, participants on average experienced reduced psychological symptoms over the course of treatment, but there were individual differences in psychological symptom severity. There were also individual differences in the rate of psychological symptom remittance between participants. These results are consistent with hypothesized findings that YOQ-30 scores would decrease on average over the course of psychotherapy in that participants on average experienced a reduction in psychological symptoms as a result of psychotherapy treatment. However, participants did not experience equivalent levels of psychological symptoms nor equivalent rates of symptom change.

Results also suggested that PCM item 2 did not predict YOQ-30 score over treatment, which did not align with our second hypothesis that relatively higher PCM item 2 scores would be associated with relatively less symptom improvement over the course of psychotherapy. Contrary to findings in the adult literature that higher levels of PC relate to poorer treatment outcomes (Hooley & Teasdale, 1989; Masland & Hooley, 2015; Renshaw et al., 2003), the level of PC did not significantly predict the level of

psychological symptoms in this sample of adolescents. Though no hypotheses were made regarding the relationship between PCM item 3 scores and psychological symptoms over the course of psychotherapy, results suggest PCM item 3 did significantly predict YOQ-30 scores, given that higher reported distress from criticism was associated with relatively higher YOQ-30 scores over the course of treatment. Therefore, these findings may highlight a more explicit focus on emotional reactions to criticism to improve psychotherapy outcomes for adolescents rather than merely addressing the level or amount of criticism that exists in their familial relationships. Such treatment strategies might include building adolescents' insight into their emotional reactions to criticism and incorporating emotion regulation or distress tolerance skills training so that adolescents may develop adaptive behaviors for managing emotional reactions to criticism to reduce psychological distress and improve overall functioning.

While there were no studies located that examined how PC relates to treatment outcomes in adolescent samples, results from the current study suggest a different aspect of PC, the emotional impact or salience of criticism, is associated with higher levels of psychological distress over the course of adolescent treatment and not the quantity of criticism as hypothesized based on the adult treatment outcome literature. These findings mirror those of Miklowitz and colleagues (2005), who found that the level of upset from criticism rather than the level of criticism better predicted poorer treatment outcomes in adults with bipolar disorder. Miklowitz and colleagues suggested the level of upset due to criticism would better predict mood symptom scores and days in recovery based upon findings that adults with bipolar disorder are more sensitive to stress, more prone to

processing biases from negative stimuli, and more prone to dysfunctional attitudes. It might be the case that similar mechanisms are at play during adolescence. For instance, it is possible that some adolescents with less well-developed emotion regulation abilities are more readily impacted by criticism and/or highly sensitive to rejection (Silvers et al., 2012). Based upon evidence that adolescents experience more variation in mood states and more extreme affect on average compared to adults (Larson, Csikszentmihalyi, & Graef, 1980; Larson, Moneta, Richards, & Wilson, 2002; Larson & Richards, 1994), distress measured in PCM item 3 may be tapping into adolescents' emotional reactivity and/or emotion regulation abilities that better predict psychotherapy outcomes, which may account for possible differences between adolescent and adult samples. In addition, this emotional reactivity might be reflective of other transdiagnostic mechanisms associated with psychopathology, such as difficulties in regulating arousal, internalizing attributional bias, low distress tolerance, and fear of evaluation that may be important to address in psychotherapy, all of which are similar to those described by Miklowitz and colleagues (2005) in their sample. Given that participants' ratings of distress about criticism remained stable over the course of treatment, these findings might suggest that the psychotherapy provided to the participants in this sample did not effectively address the emotional impact of criticism. In future research, it would be helpful to know whether targeting aspects of PC during adolescence is beneficial. It would also be useful to examine which transdiagnostic mechanisms may also be reflected in PC and how these may be addressed to improve psychotherapy outcomes.

An alternative explanation for observed differences in PCM item predictive ability between adult and adolescent samples may be that adolescents are relatively more sensitive to or relatively more likely to personalize criticism when compared to adults as a function of their age or development. For example, it has been suggested that adolescents more commonly perceive or even obsess that others around them are constantly observing and evaluating them, otherwise referred to as the “imaginary audience,” a construct purportedly conceptualized as developmental differences in cognitive perceptual biases (Vartanian, 2000). The imaginary audience experienced by adolescents has been theorized to result from adolescents’ evolving cognitive operational abilities whereby they eventually learn via interactions with others that they are not the central focus of others’ attention (Elkind, 1967). From a social-cognitive perspective, as adolescents become better able to consider a less egocentric vantage point and possibly not as readily impacted (Lapsley & Murphy, 1985). In addition, the imaginary audience construct has been theorized to develop as a result of adolescents questioning and forming their own identities (O’Connor, 1995; O’Connor & Nikolic, 1990; Protinsky & Wilkerson, 1986). Whatever the mechanism accounting for the imaginary audience, this experience during the teen years might explain why distress from criticism is a better predictor of psychotherapy outcomes when compared to the amount of criticism perceived. While adolescents may be more cognitively attuned to evaluation from others and are actively making sense of their social relationships, a sensitivity to and personalization of perceived scrutiny might diminish the potential positive benefits of psychotherapy. Thus, PCM item 3 may be reflecting a level of self-consciousness

experienced by adolescents. In addition, adolescents particularly sensitive to criticism and reporting greater distress from criticism may perceive scrutiny and evaluation as particularly threatening, which may indicate that PCM item 3 is assessing a particular type of social anxiety. Support for this relationship between PCM item 3 and a level of self-consciousness or personalization of criticism was found in the current study by correlating PCM item 3 scores with baseline BASC-2 and BASC-3 SRP-A indices of Anxiety ( $r = 0.33$ , 95% CI [0.04, 0.58],  $p = .026$ ), Sense of Inadequacy ( $r = 0.38$ , 95% CI [0.09, 0.61],  $p = .009$ ), Self-Esteem (lower scores reflect less self-esteem,  $r = -0.38$ , 95% CI [-0.61, -0.09],  $p = .011$ ), and Ego Strength (see above,  $r = -0.40$ , 95% CI [-0.63, -0.10],  $p = .008$ ). Though the magnitudes of these statistically significant correlations are modest, the pattern of relationships with anxiety and the associated constructs were consistent. Minimally, these data suggest a potentially fruitful line of future inquiry to understand how the emotional impact of criticism is associated with various types of anxiety and constructs related to self-consciousness and sensitivity to perceived scrutiny. In addition, future research should seek to determine how treatment might more effectively target the distress associated with criticism perceived by adolescents. For example, addressing a sensitivity to observation and evaluation from others as explained by the imaginary audience in psychotherapy might include social exposures designed to either promote acceptance of uncomfortable emotions adolescents experience related to evaluation from others or to promote inhibitory learning opportunities for adolescents to learn they are not the central focus of others' attention and thus are not constantly being evaluated by others.

Finally, while results of the current study suggest the level of distress from criticism predicts adolescent treatment outcomes, the effect PC has on treatment outcome may differ across adolescent development. For instance, the relative importance of the identity of the perceived critic respondent may influence both the emotional salience of criticism and the relation between PC and psychotherapy outcomes across adolescent development and into adulthood. Because adolescents typically seek independence from parents during this developmental period and become more dependent on peer relationships (Steinberg & Silverberg, 1986), the relationship between PC and treatment outcome may differ. It is possible that the emotional impact of criticism and thus adolescents' distress from criticism may decrease as they reach late adolescence and early adulthood and parents become less influential compared to peers. In addition, there is evidence in the literature that suggests adolescents develop more successful emotion regulation skills as they progress into late adolescence and early adulthood (Silvers et al., 2012), which may suggest that PC might relate differently to psychotherapy outcome for older adolescents that may have more developed emotion regulation skills. More specifically, if older adolescents are more adaptively able to respond to PC, distress from criticism may be less predictive of psychotherapy outcomes. While 41.70% of the sample in the current study was composed of older adolescents, this study did not examine potential differences in the effects of PC throughout this developmental span. However, future research should examine how potential developmental differences from early to late adolescence might influence the relationship between PC and adolescent treatment outcome.

**Limitations**

The findings from this study are limited by a relatively small sample size that may have limited the statistical power needed for determining the ability of PCM items 2 and 3 to predict treatment outcome based upon YOQ-30 scores. In addition, because of a large amount of missing PCM data at baseline (62.50% of cases,  $n = 30$ ), a baseline PCM score was imputed for cases with missing baseline PCM data based upon an average of all PCM scores for that case. Though analyses revealed that both PCM items 2 and 3 were relatively stable over the course of treatment, there were observed variations in item response for cases over the course of treatment. Therefore, results from this study may be limited due to ignoring within-person variance in PCM scores and may have inflated the level of bias in the sample.

There were also characteristics of students included in the sample that may limit the findings of this study. First, this study did not control for students who received previous psychological treatment. Students who received ASC Center services in a previous treatment year (16.70%,  $n = 8$ ) and students who previously received therapy from another mental health provider other than the ASC Center (47.50%,  $n = 19$ ) were included in analyses. Therefore, the results of this study may reflect previous treatment effects as opposed to effects from a single treatment year. In addition, this study only included participants who experienced internalizing psychopathology as measured by a T-score of 60 or greater on any of the internalizing scales of the BASC-2 or BASC-3 SRP-A. As a result, no conclusions may be made about the stability of PCM ratings or

the relationship between PC and treatment outcomes in adolescents with externalizing psychopathology.

### **Implications and Future Directions**

A focus on the clinical utility of PC in predicting treatment outcomes has been driven by the well-established importance of EE in the treatment outcome literature (Hooley & Teasdale, 1989; Masland & Hooley, 2015; Renshaw, Chambless, & Steketee, 2003) and the difficulty, unreliability, and cost of measuring EE in clinical practice (Masland & Hooley, 2015). Given the evidence that PC predicts treatment outcomes in adults it will be important to continue studying how PC may operate similarly (or not) in adolescent samples, where EE has also been implicated as a predictor of clinical outcomes. The results of this study suggest that PC is a useful target of treatment in adolescents and that the PCM may provide meaningful information about which teens might experience less optimal treatment outcomes over the course of psychotherapy. As such, the most important implications from this study are that for adolescents, PC as measured by PCM items 2 and 3 remains stable over the course of psychotherapy, even with decreases and increases in YOQ-30 scores, and that higher levels of upset from criticism measured by PCM item 3 ratings relate to higher YOQ-30 scores (i.e., more psychological symptoms) over the course of psychotherapy.

Overall, these findings highlight the importance of addressing criticism in the family environment as one potential method for improving treatment outcomes in adolescents. As results suggest PC has not been implicated as a reflection of psychological symptom severity but rather a stable construct over psychotherapy

treatment, strategies aimed at affecting individual perceptions of criticism such as cognitive restructuring likely would not affect PCM ratings. Instead, family involvement in treatment would likely be warranted for adolescents who endorse high levels of upset from criticism to improve treatment outcomes. Indeed, results from this study suggest a correlation exists between PCM item 3 and the baseline BASC-2 and BASC-3 SRP-A index of Relations with Parents where lower scores reflect poorer relations with parents,  $r = -0.31$ , 95% CI [-0.56, -0.01],  $p = .040$ . Though the relationship is modest, these results suggest more distress from criticism is related to relatively poorer relations between adolescents and their parents. Strategies designed to address criticism in families may include a focus on effective communication or parent-directed engagement and psychoeducational approaches to directly address criticism, such as in the *Unified Protocols for Transdiagnostic Treatment of Emotional Disorders in Children and Adolescents: Therapist Guide* (Ehrenreich-May et al., 2018).

In addition, adolescents' emotional experiences that are reflected in PCM item 3 might be important to address in psychotherapy. More research is needed to determine whether distress from criticism assessed using the PCM is a reflection of emotional reactivity, emotion regulation deficits, self-consciousness, social anxiety (i.e., a sensitivity to threat from evaluation), or the personalization of criticism and threat and how PC may relate to other transdiagnostic mechanisms that may be addressed in treatment. Attention to clinical interventions that address these constructs may be indicated for adolescents endorsing great distress from criticism. Such interventions

might include a particular type of exposure to fears of evaluation and/or emotion regulation and distress tolerance skills training.

Similarly, future studies should discern potential developmental differences in the effects of PC from early to late adolescence. Any differences in how PC operates from early to late adolescence may implicate differing mechanisms at play that portend poorer treatment outcomes at different developmental stages. For example, it may be important to implement emotion regulation skills training for younger adolescents who endorse great distress from criticism if there is evidence to suggest distress from criticism assessed using the PCM predicts poorer treatment outcomes during early adolescence. In addition, it may be that PC functions similarly in older adolescents as in adults whereby the level of criticism perceived by older adolescents predicts poorer treatment outcomes during late adolescence and early adulthood. If such a difference is found, it may be important to implement interventions in the family system to reduce levels of criticism for older adolescents who report high levels of PC.

Future studies should also seek to examine how PC and its underlying constructs may be able to predict which adolescents respond to psychotherapy and which do not. Though there was not enough power in the current study to examine differences in PC between adolescents who responded to psychotherapy and adolescents who did not (i.e., those who continued to experience clinical levels of psychological distress at the end of treatment), results from this study suggested high levels of distress from criticism were associated with greater psychological distress over the course of psychotherapy. Thus, the examination of PC's relationship with psychotherapy outcome should be extended to

determine whether the PCM may provide information about adolescents who might continue to experience clinical psychological distress over participation in psychotherapy and how PC may relate to adolescents' rate of change of psychological symptoms with participation in psychotherapy.

Finally, future studies should seek to address the limitations of the current study by including a larger sample size to increase power and strengthen conclusions that may be made from results. In addition, future research should seek to collect PCM ratings at the first treatment meeting and consistently across treatment meetings to strengthen conclusions that may be made about the stability of PCM ratings. Consistently collecting baseline and across treatment PCM ratings may also better discern the predictive ability of baseline PCM ratings alone in adolescent samples. Future studies may also better isolate the effects of PC on adolescent psychotherapy treatment outcomes by only including participants in their first year of psychotherapy treatment and controlling for any effects of previous psychotherapy. Also, results from the current study may only be relevant to adolescents experiencing primarily internalizing psychopathology. The relationship between PC and psychotherapy outcome for adolescents with primarily externalizing psychopathology have not been examined to date, thus future studies should examine how PC operates in adolescent samples with primarily externalizing psychopathology.

### References

- Asarnow, J. R., Tompson, M., Woo, S., & Cantwell, D. P. (2001). Is expressed emotion a specific risk factor for depression or a nonspecific correlate of psychopathology. *Journal of Abnormal Child Psychology, 29*, 573–583.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Burlingame, G. M., Dunn, T., Hill, M., Cox, J., Wells, M. G., Lambert, M. J., & Brown, G. S. (2004). *Administration and scoring manual for the Y-OQ-30.2*. Youth  
Wilmington, DE: American Professional Credentialing Services.
- Butzlaff, R. L., & Hooley, J. M. (1998). Expressed emotion and psychiatric relapse: A meta- analysis. *Archives of General Psychiatry, 55*, 547-552
- Chambless, D. L., & Steketee, G. (1999). Expressed emotion and behavior therapy outcome: A prospective study with obsessive-compulsive and agoraphobic outpatients. *Journal of Consulting and Clinical Psychology, 67*, 658-665. doi: 0022-006X/99/S3.00
- Derogatis, L. R. (1994). *SCL-90-R: Administration, scoring and procedures manual*. Minneapolis, MN: National Computer Systems.
- Ehrenreich-May, J., Kennedy, S. M., Sherman, J. A., Bilek, E. L., Buzzella, B. A., Bennet, S. M., & Barlow, D. H. (2018). *Unified protocols for transdiagnostic treatment of emotional disorders in children and adolescents: Therapist guide*. New York: Oxford University Press.
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development, 38*, 127-134.

- Frisch, M. B., Cornell, J., Villanueva, M., & Retzlaff, P. J. (1988). Quality of Life Inventory. *PsycTests*, doi: 10.1037/t03748-000
- Hooley, J. M. (1985). Expressed emotion: A review of the critical literature. *Clinical Psychology Review*, 5, 119-139.
- Hooley, J. M. (1998). Expressed emotion and psychiatric illness: From empirical data to clinical practice. *Behavior Therapy*, 29, 631-646.
- Hooley, J. M. (2007). Expressed emotion and relapse in psychopathology. *Annual Review of Clinical Psychology*, 3, 349-372.
- Hooley, J. M., & Teasdale, J. D. (1989). Predictors of relapse in unipolar depressives: Expressed emotion, marital distress, and perceived criticism. *Journal of Abnormal Psychology*, 98, 229-235.
- Lapsley, D. K., & Murphy, M. N. (1985). Another look at the theoretical assumptions of adolescent egocentrism. *Developmental Review*, 5, 201-217.
- Larson, R. W., Csikszentmihalyi, M., & Graef, R. (1980). Mood variability and the psychosocial adjustment of adolescents. *Journal of Youth and Adolescence*, 9, 569-490. doi: 10.1007/BF0289885
- Larson, R. W., Moneta, G., Richards, M. H., & Wilson, S. (2002). Continuity, stability, and change in daily emotional experience across adolescence. *Child Development*, 73, 1151-1165. doi: 10.1111/14678624.00464
- Larson, R. W., & Richards, M. H. (1994). Family emotions: Do young adolescents and their parents experience the same states?. *Journal of Research on Adolescence*, 4, 567-583. doi: 10.1207/s15327795jra0404\_8

Leff, J. P., & Vaughn, C. E. (1985). *Expressed emotion in families*. New York: Guilford Press.

Le Grange, D., Eisler, I., Dare, C., & Hodes, M. (1992). Family criticism and self-starvation: A study of expressed emotion. *Journal of Family Therapy, 14*, 177-192. doi: 10.1046/j..1992.00451.x

Magaña, A. B., Goldstein, M. J., Karno, M., Miklowitz, D. J., Jenkins, J., & Falloon, I. R. H. (1986). A brief method for assessing expressed emotion in relative of psychiatric patients. *Psychiatry Research, 17*, 203-212.

Masland, S. R., & Hooley, J. M. (2015). Perceived criticism: A research update for clinical practitioners. *Clinical Psychology: Science and Practice, 22*, 211-222.

Michelson, D., & Bhugra, D. (2012). Family environment, expressed emotion and adolescent self-harm: A review of conceptual, empirical, cross-cultural and clinical perspectives. *International Review of Psychiatry, 24*, 106-114. doi: 10.3109/09540261.2012.657613

Miklowitz, D. J., Biuckians, A., & Richards, J. A. (2006). Early-onset bipolar disorder: A family treatment perspective. *Development and Psychopathology, 18*, 1247-1265. <https://doi.org/10.1017/S0954579406060603>

Miklowitz, D. J., Wisniewski, S. R., Miyahara, S., Otto, M. W., & Sachs, G. S. (2005). Perceived criticism from family members as a predictor of the one-year course of bipolar disorder. *Psychiatry Research, 136*, 101-111. doi: 10.1016/j.psychres.2005.04.005

O'Brien, M. P., Miklowitz, D. J., & Cannon, T. D. (2015). Decreases in perceived

maternal criticism predict improvement in subthreshold psychotic symptoms in a randomized trial of family-focused therapy for individuals at clinical high risk for psychosis. *Journal of Family Psychology*, 29, 945-951.

O'Connor, B. P. (1995). Identity development and perceived parental behavior as sources of adolescent egocentrism. *Journal of Youth and Adolescence*, 24, 204-227.

O'Connor, B. P., & Nikolic, J. (1990). Identity development and formal operations as sources of adolescent egocentrism. *Journal of Youth and Adolescence*, 19, 149-157.

Peris, T. S., & Miklowitz, D. J. (2015). Parental expressed emotion and youth psychopathology: New directions for an old construct. *Child Psychiatry and Human Development*, 46, 863-873. doi: 10.1007/s10578-014-0526-7

Peris, T. S., Yadegar, M., Asarnow, J. R., & Piacentini, J. (2013). Pediatric obsessive compulsive disorder: Family climate as a predictor of treatment outcome. *Journal of Obsessive Compulsive and Related Disorders*, 1, 267-273.

von Polier, G. G., Meng, H., Lambert, M., Strauss, M., Zarotti, G., Karle, M., ... Schimmelmann, B. G. (2014). Patterns and correlates of expressed emotion, perceived criticism, and rearing style in first admitted early-onset schizophrenia spectrum disorders. *Journal of Nervous and Mental Disease*, 202, 783-787. doi: 10.1097/NMD.0000000000000209

Protinsky, H., & Wilkerson, J. (1986). Ego identity, egocentrism, and formal operations. *Adolescence*, 21, 461-466.

Przeworski, A., Zoellner, L. A., Franklin, M. E., Garcia, A., Freeman, J., March, J. S., &

- Foa, E. B. (2012). Maternal and child expressed emotion as predictors of treatment response in pediatric obsessive-compulsive disorder. *Child Psychiatry and Human Development, 43*, 337-353.
- Renshaw, K. D. (2007). Perceived criticism only matters when it comes from those you live with. *Journal of Clinical Psychology, 63*, 1171-1179. doi: 10.1002/jclp.20421
- Renshaw, K. D. (2008). The predictive, convergent, and discriminant validity of perceived criticism: A review. *Clinical Psychology Review, 28*, 521-534. doi: 10.1016/j.cpr.2007.09.002
- Renshaw, K. D., Chambless, D. L., & Steketee, G. (2001). Comorbidity fails to account for the relationship of expressed emotion and perceived criticism to treatment outcome in patients with anxiety disorders. *Journal of Behavior Therapy and Experimental Psychiatry, 32*, 145-158.
- Renshaw, K. D., Chambless, D. L., & Steketee, G. (2003). Perceived criticism predicts severity of anxiety symptoms after behavioral treatment in patients with obsessive compulsive disorder and panic disorder with agoraphobia. *Journal of Clinical Psychology, 59*, 411-421.
- Reynolds, C. R., & Kamphaus, R. W. (2004). *BASC-2: Behavior assessment system for children manual (2<sup>nd</sup> ed.)*. Bloomington, MN: NCS Pearson, Inc.
- Reynolds, C. R., & Kamphaus, R. W. (2015). *BASC-3: Behavior assessment system for children manual (3<sup>rd</sup> ed.)*. Bloomington, MN: NCS Pearson, Inc.
- Schmidt, R., Tetzlaff, A., & Hilbert, A. (2015). Perceived expressed emotion in

adolescents with binge-eating disorder. *Journal of Abnormal Child Psychology*, 43, 1369-1377. doi: 10.1007/s10802-015-0015-x

Silvers, J. A., McRae, K., Gabrieli, J. D. E., Gross, J. J., Remy, K. A., & Ochsner, K. N. (2012). Age-related differences in emotional reactivity, regulation, and rejection sensitivity in adolescence. *Emotion*, 12, 1235-1247. doi: 10.1037/a0028297

Steinberg, L., & Silverberg, S. B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development*, 57, 841-851. <http://dx.doi.org/10.2307/1130361>

Vartanian, L. R. (2000). Revisiting the imaginary audience and personal fable constructs of adolescent egocentrism: A conceptual review. *Adolescence*, 35, 639-661.

Watson, D., Clark, L. A., & Tellegan, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070.

Wedig, M. M., & Nock, M. K. (2007). Parental expressed emotion and adolescent self-injury. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1171-1178. doi: 10.1097/chi.0b013e3180ca9aaf

Table 1

*Descriptive Statistics of PCM item 2 and PCM Item 3 Scores*

PCM Item	Mean	Standard Deviation	95% CI
PCM item 2 baseline	6.10	2.27	5.46, 6.74
PCM item 2 over treatment	6.10	2.53	5.81, 6.39
Imputed baseline PCM item 2 baseline	6.32	2.11	5.56, 7.08
Imputed baseline PCM item 2 over treatment	6.31	2.45	5.96, 6.66
Non-imputed baseline PCM item 2 baseline	5.73	2.63	4.40, 7.06
Non-imputed baseline PCM item 2 over treatment	5.68	2.65	5.15, 6.21
PCM item 3 baseline	6.29	2.30	5.64, 6.94
PCM item 3 over treatment	6.01	2.41	5.74, 6.28
Imputed baseline PCM item 3 baseline	6.32	2.16	5.56, 7.08
Imputed baseline PCM item 3 over treatment	6.15	2.31	5.82, 6.48
Non-imputed baseline PCM item 3 baseline	5.60	2.85	4.16, 7.04
Non-imputed baseline PCM item 3 over treatment	5.72	2.58	5.20, 6.24

*Note.* PCM items presented as 1 to 10 scale with higher scores reflecting more criticism and distress.

Table 2

*PCM Item 2 Model Change in -2LL and Residual Estimate*

Model	Parameters	-2LL	-2LL Change	AIC	BIC	Residual Estimate	Residual Estimate Percent Change
I	3	1094.68	n/a	1100.68	1111.613	1.81**	n/a
II	4	1094.68	0.00	1102.68	1117.26	1.81**	0.00%

*Note.* \* $p < .05$ ; \*\* $p < .001$ ; -2LL Change and Residual Estimate Percent Change for each row based on the model preceding it.

Model I – Fixed: intercept; Random: intercept

Model II – Fixed: intercept, session number; Random: intercept

Table 3

*Parameter Estimates for PCM Item 2 Stability Model*

Parameter	Model 1			Model 2		
	Parameter estimate	SE	95% CI	Parameter estimate	SE	95% CI
Fixed Effects						
Intercept	6.07**	0.31	5.45, 6.69	6.07**	0.33	5.41, 6.73
Session Number				0.0003	0.02	-0.03, 0.03
Random Effects						
Intercept	4.16**	0.92	2.70, 6.41	4.16**	0.92	2.70, 6.41

*Note.* \* $p < .05$ ; \*\* $p < .001$

Model I – Fixed: intercept; Random: intercept

Model II – Fixed: intercept, session number; Random: intercept

Table 4

*PCM Item 3 Model Change in -2LL and Residual Estimate*

Model	Parameters	-2LL	-2LL Change	AIC	BIC	Residual Estimate	Residual Estimate Percent Change
I	3	1071.70	n/a	1077.70	1088.63	1.64**	n/a
II	4	1068.85	-2.85	1076.85	1091.44	1.62**	-1.22%

*Note.* \* $p < .05$ ; \*\* $p < .001$ ; -2LL Change and Residual Estimate Percent Change for each row based on the model preceding it.

Model I – Fixed: intercept; Random: intercept

Model II – Fixed: intercept, session number; Random: intercept

Table 5

*Parameter Estimates for PCM Item 3 Stability Model*

Parameter	Model 1			Model 2		
	Parameter estimate	SE	95% CI	Parameter estimate	SE	95% CI
<b>Fixed Effects</b>						
Intercept	6.16**	0.31	5.54, 6.78	6.35**	0.33	5.70, 7.00
Session Number				-0.03	0.02	-0.06, 0.01
<b>Random Effects</b>						
Intercept	4.21**	0.93	2.74, 6.50	4.16**	0.92	2.70, 6.41

*Note.* \* $p < .05$ ; \*\* $p < .001$

Model I – Fixed: intercept; Random: intercept

Model II – Fixed: intercept, session number; Random: intercept

Table 6

*YOQ-30 Model Change in -2LL and Residual Estimate*

Model	Parameters	-2LL	-2LL Change	AIC	BIC	Residual Estimate	Residual Estimate Percent Change
I	3	2851.92	n/a	2857.92	2869.69	85.55**	n/a
II	4	2745.11	-106.81	2753.11	2768.80	61.96**	-27.57%
III	6	2690.46	-54.65	2702.46	2725.99	45.59**	-26.42%

*Note.* \* $p < .05$ ; \*\* $p < .001$ ; -2LL Change and Residual Estimate Percent Change for each row based on the model preceding it.

Model I – Fixed: intercept; Random: intercept

Model II – Fixed: intercept, session number; Random: intercept

Model III – Fixed: intercept, session number; Random: intercept + session number

Table 7

*Parameter Estimates for YOQ-30 Stability Model*

Parameter	Model 1			Model 2			Model 3		
	Parameter estimate	SE	95% CI	Parameter estimate	SE	95% CI	Parameter estimate	SE	95% CI
Fixed Effects									
Intercept	29.69***	2.04	25.59, 33.80	36.36***	2.09	32.18, 40.54	36.31***	1.95	32.39, 40.23
Session				-1.00	0.09	-1.18, -0.83	-1.02***	0.17	-1.37, -0.68
Number									
Random Effects									
Intercept	186.55***	40.87	121.43, 286.60	182.33***	39.25	119.57, 278.03			
Residual							45.59***	3.83	38.66, 53.75

Between	158.06***	37.01	99.89,
group			250.12
differences			
Variance	0.43	2.20	-3.87,
around			4.73
case mean			
Variance	0.75**	0.28	0.36,
around			1.56
slope			

---

*Note.* \* $p < .05$ ; \*\* $p < .01$ , \*\*\* $p < .001$

Model I – Fixed: intercept; Random: intercept

Model II – Fixed: intercept, session number; Random: intercept

Model III – Fixed: intercept, session number; Random: intercept + session number

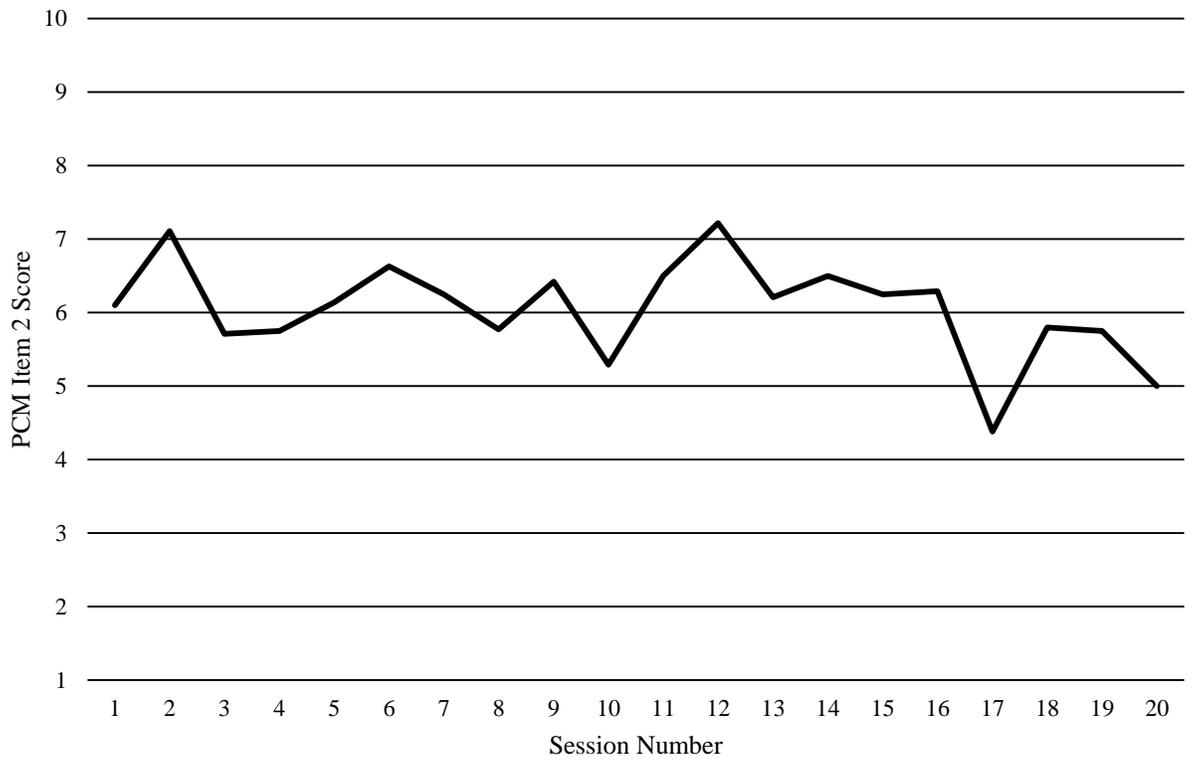
Table 8

*Parameter Estimates for PCM as a Predictor of YOQ-30 Change Model*

Parameter	Parameter Estimate	SE	95% CI
Fixed Effects			
Intercept	29.51**	3.40	22.79, 36.22
Session Number	-1.05**	0.17	-1.40, -0.69
PCM Item 2	0.47	0.34	-0.19, 1.14
PCM Item 3	0.69*	0.35	0.01, 1.38
Random Effects			
Residual	49.95**	5.09	40.91, 61.00
Between group differences	134.39**	2.13	80.74, 223.71
Variance around case mean	2.02	2.13	-2.15, 6.20
Variance around slope for time	0.64*	0.27	0.28, 1.45
Fit Indices	-2LL	AIC	BIC
	2041.21	2057.21	2086.20

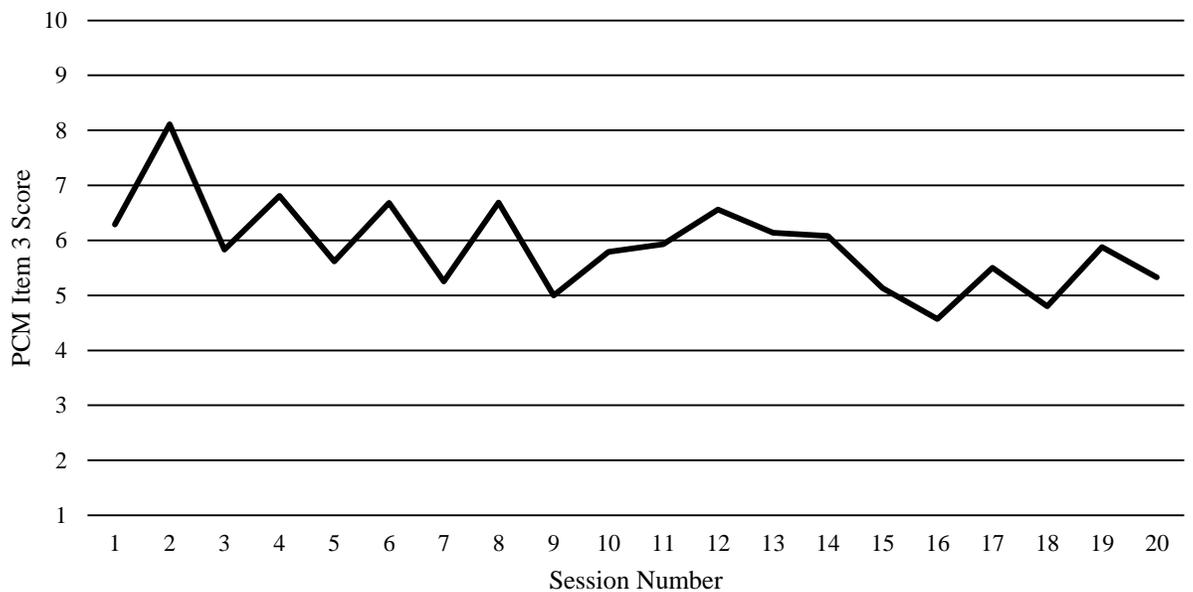
*Note.* \* $p < .05$ ; \*\* $p < .001$

Figure 1. Mean PCM Item 2 Scores Over the Course of Treatment



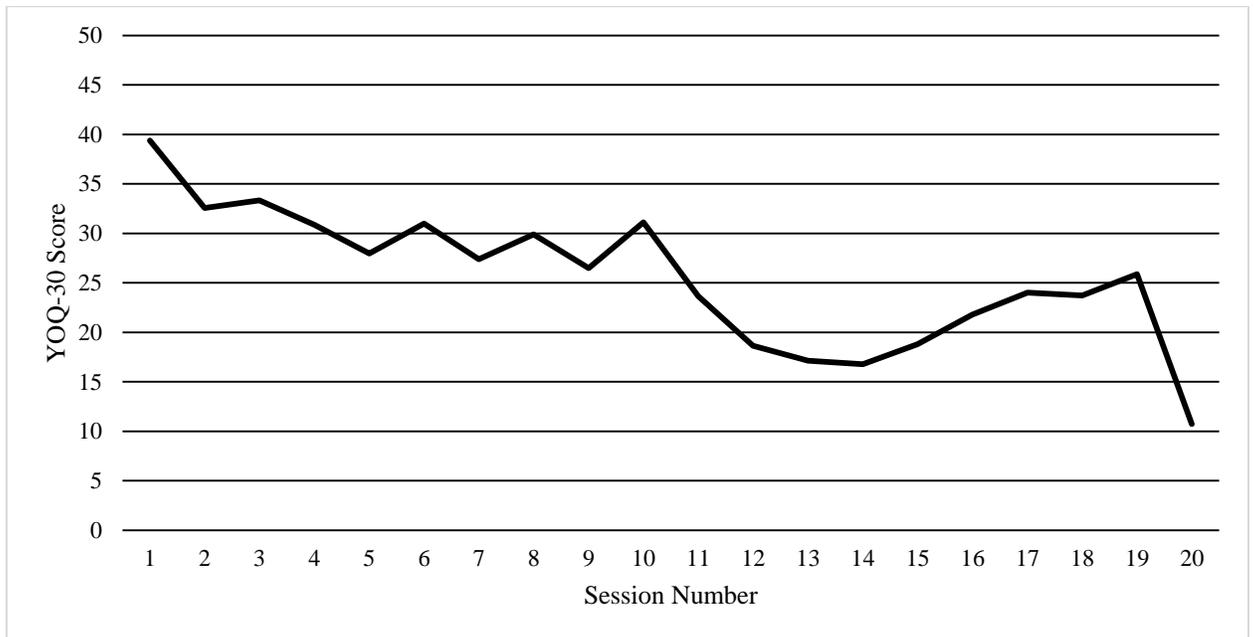
*Figure 1.* Average endorsement of PC across participants over treatment sessions. PCM mean item responses are scaled from ‘1’ to ‘10’ with higher item endorsement reflecting greater levels of PC.

Figure 2. Mean PCM Item 3 Scores Over the Course of Treatment



*Figure 2.* Average endorsement of the level of upset from criticism over treatment sessions. PCM item 3 responses are scaled from '1' to '10' with higher item endorsement reflecting a greater level of upset as a result of criticism from the respondent's identified perceived critic.

Figure 3. Mean YOQ-30 Scores Over the Course of Treatment



*Figure 3.* Average psychological symptom endorsement over treatment sessions. Higher YOQ-30 scores reflect a higher level of psychological symptoms with decreases in YOQ-30 scores reflecting the remittance psychological symptoms. YOQ-30 scores of 29 or greater represent a clinical level of psychological symptoms, and scores lower than 29 reflect non-clinical psychological symptom experience.

Appendix A

Perceived Criticism Measure

Date \_\_\_ / \_\_\_ / \_\_\_\_\_

**DIRECTIONS**

For the following four questions, please *circle the number* on the scale that corresponds to your answer.

1. **How critical** do you think **you are of** \_\_\_\_\_?

<b>Not at all critical</b>	1 2 3 4 5 6 7 8 9 10	<b>Very critical</b>
----------------------------	----------------------	----------------------

2. **How critical** do you think \_\_\_\_\_ **is of you?**

<b>Not at all critical</b>	1 2 3 4 5 6 7 8 9 10	<b>Very critical</b>
----------------------------	----------------------	----------------------

3. When \_\_\_\_\_ **criticizes you, how upset do you get?**

<b>Not at all upset</b>	1 2 3 4 5 6 7 8 9 10	<b>Very upset</b>
-------------------------	----------------------	-------------------

4. When you criticize \_\_\_\_\_, **how upset does he/she get?**

<b>Not at all upset</b>	1 2 3 4 5 6 7 8 9 10	<b>Very upset</b>
-------------------------	----------------------	-------------------

Appendix B

Perceived Criticism Measure

Date \_\_\_ / \_\_\_ / \_\_\_\_\_

**DIRECTIONS**

Please identify the person that you are *related to* and *live with* who is most emotionally important to you.

\_\_\_\_\_

**DIRECTIONS**

For the following four questions, please *circle the number* on the scale that corresponds to your answer.

2. **How critical** do you think **you are of** \_\_\_\_\_?

<b>Not at all critical</b>	1 2 3 4 5 6 7 8 9 10	<b>Very critical</b>
----------------------------	----------------------	----------------------

2. **How critical** do you think \_\_\_\_\_ **is of you?**

<b>Not at all critical</b>	1 2 3 4 5 6 7 8 9 10	<b>Very critical</b>
----------------------------	----------------------	----------------------

3. When \_\_\_\_\_ criticizes you, **how upset do you get?**

<b>Not at all upset</b>	1 2 3 4 5 6 7 8 9 10	<b>Very upset</b>
-------------------------	----------------------	-------------------

4. When you criticize \_\_\_\_\_, **how upset does he/she get?**

<b>Not at all upset</b>	1 2 3 4 5 6 7 8 9 10	<b>Very upset</b>
-------------------------	----------------------	-------------------

## Appendix C

**To:** Kurt Michael  
Psychology  
CAMPUS EMAIL

**From:** Lisa Curtin, PhD, IRB Chairperson  
**RE:** Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)  
**Date:** 11/04/2016  
**RE:** Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)  
**Agrants#:** 14-0248,15-0245,13-0118  
**Grant Title: Sponsors:** Alleghany County Schools  
Ashe County Board of Education  
Watauga County Schools

**STUDY #:** 17-0040  
**STUDY TITLE:** The Effectiveness of the Assessment, Support, and Counseling (ASC) Center  
**Submission Type:** Initial  
**Expedited Category:** (5) Research Involving Pre-existing Data, or Materials To Be Collected Solely for Nonresearch Purposes  
**Renewal Date:** 11/04/2016  
**Expiration Date of Approval:** 11/03/2017

The Institutional Review Board (IRB) approved this study for the period indicated above. The IRB found that the research procedures meet the expedited category cited above. IRB approval is limited to the activities described in the IRB approved materials, and extends to the performance of the described activities in the sites identified in the IRB application. In accordance with this approval, IRB findings and approval conditions for the conduct of this research are listed below.

All approved documents for this study, including consent forms, can be accessed by logging into IRBIS. Use the following directions to access approved study documents.

1. Log into IRBIS
2. Click "Home" on the top toolbar
3. Click "My Studies" under the heading "All My Studies"
4. Click on the IRB number for the study you wish to access
5. Click on the reference ID for your submission
6. Click "Attachments" on the left-hand side toolbar
7. Click on the appropriate documents you wish to download

**Approval Conditions:**

Appalachian State University Policies: All individuals engaged in research with human participants are responsible for compliance with the University policies and procedures, and IRB determinations.

Principal Investigator Responsibilities: The PI should review the IRB's list of PI responsibilities. The Principal Investigator (PI), or Faculty Advisor if the PI is a student, is ultimately responsible for ensuring the protection of research participants; conducting sound ethical research that complies with federal regulations, University policy and procedures; and maintaining study records.

Modifications and Addendums: IRB approval must be sought and obtained for any proposed modification or addendum (e.g., a change in procedure, personnel, study location, study instruments) to the IRB approved protocol, and informed consent form before changes may be implemented, unless changes are necessary to eliminate apparent immediate hazards to participants. Changes to eliminate apparent immediate hazards must be reported promptly to the IRB.

Approval Expiration and Continuing Review: The PI is responsible for requesting continuing review in a timely manner and receiving continuing approval for the duration of the research with human participants. Lapses in approval should be avoided to protect the welfare of enrolled participants. If approval expires, all research activities with human participants must cease.

Prompt Reporting of Events: Unanticipated Problems involving risks to participants or others; serious or continuing noncompliance with IRB requirements and determinations; and suspension or termination of IRB approval by an external entity, must be promptly reported to the IRB.

Closing a study: When research procedures with human subjects are completed, please log into our system at [https://appstate.myresearchonline.org/irb/index\\_auth.cfm](https://appstate.myresearchonline.org/irb/index_auth.cfm) and complete the Request for Closure of IRB review form.

**Websites:**

1. PI responsibilities:

<http://researchprotections.appstate.edu/sites/researchprotections.appstate.edu/files/PI%20Responsibilities.pdf>

2. IRB forms: <http://researchprotections.appstate.edu/human-subjects/irb-forms>

CC:

Rachel Capps, Psychology

John Jameson, Psychology

Jon Winek, Human Dev & Psych Counsel

## Appendix D

### Informed Consent for Clinical Services

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We are pleased to have the opportunity to serve you and/or your child through the ASC (Assessment, Support, and Counseling) Center, a partnership between Ashe High School and Appalachian State University (ASU). ASC Center personnel are committed to providing the highest quality clinical services to students and their families, providing education and training for faculty and staff, and expanding the knowledge base for best practice standards through research. Clinical services are provided by qualified, licensed professional providers, faculty members, and/or students under supervision, as appropriate. As we proceed to work together, the following information may be helpful.

Depending on your situation, our first few sessions might be spent exploring and assessing your problems and the possible reasons for them. This might include written or oral testing and evaluation. Once we understand your issues to the best of our ability, you and we will agree on the goals you want to accomplish. Together, we may also agree to change the goals as we move along. We may set some time frames for action.

IHHS/ASC providers/faculty and students will work to ensure that the theoretical perspectives, interventions, and treatments used are considered the best practice methods, supported by research, and are appropriate for your needs. However, it is important for you to know that there are often many different approaches to similar problems. We will talk with you about the pros and cons of each approach before a decision is made to go ahead with any treatment plan. Successful treatment or problem resolution requires a commitment from you. There is always the possibility that our work will not result in the progress we hope to make. Please let us know immediately if you have any questions or concerns.

### CONFIDENTIALITY

Ordinarily, anything and everything you share with us is strictly confidential—whether you say it in person, on the telephone, or write it. Some of the information you give us about yourself and matters we discuss will be recorded in your clinical record. If we mutually decide that, in your interests, ASU/ASC Center personnel should provide some part of your confidential information to another professional, your insurance company, your attorney, or even you, you will sign a specific and time-limited release of information. You will know what is to be released, to whom, and how the information will be used. You will be able to stipulate the time period in which the release is to be in effect.

There are some circumstances in which ASU/ASC Center providers, faculty, and/or students would be required by law to reveal confidential information about you without your consent. One situation would be if we learned that you were at imminent risk of harming yourself or another person. Another situation would be if there is reasonable suspicion of abuse or neglect of a child or elderly individual. A third situation would be in the event of a court order compelling us to release your clinical record to a court of law. Other situations would be based on federal or state laws. Some of these situations are discussed in a separate document, the Notice of Privacy Practices, which we are providing as required by federal law.

Sound clinical practice and teaching includes consultation and discussion with other interdisciplinary providers, faculty members, and students, sometimes regarding specific cases. All those affiliated with ASU/ASC Center are also legally bound to keep the information confidential. If you do not object, we will not tell you about these consultations and discussion unless they are important to our work together.

### RESEARCH PARTICIPATION

**As indicated above, we endeavor to use best practices when providing treatment to students. In order to accomplish this, we regularly collect data on treatment progress, satisfaction, academic outcomes, attendance, and disciplinary referrals. Although we use these data to facilitate best practices, participation in this type of data collection in no way reduces our commitment to protecting students' confidentiality. We also conduct specific research projects above and beyond these normal methods of data collection. A separate consent form is included in the packet and additional information is provided for parent/guardian and student consideration. You and your child's participation is voluntary and refusal to participate in this research element or discontinuing participation will involve no penalty or loss of benefits to which you or your child are otherwise entitled, including services provided by the ASC Center.**

HOW TO REACH ASC CENTER PROVIDERS, FACULTY, AND STUDENTS

If it is necessary to cancel or reschedule an appointment, please do so at least 24 hours in advance. Please cancel your appointment by calling 336-845-2400 (ext. 2135), between 8:30 a.m. and 3:30 p.m., Monday through Friday. If your call is urgent or an emergency, please tell the operator immediately. If you have an imminent emergency, you may also contact Daymark Mobile Crisis, at 336-846-HELP, call 911, or go to any hospital emergency room. We will discuss other ways of dealing with crisis situations relevant to your personal situation, as needed.

Feel free to contact Dr. Kurt Michael, Licensed Psychologist, Professor of Psychology (828-262-2272, ext. 432), or Whitney Van Sant, ASC Center Coordinator (336-846-2400, ext. 2135), if you have questions or comments regarding clinical services.

I have received and been given the opportunity to read a copy of this Informed Consent for Clinical Services sheet.

Signature of Student or Legally Responsible Person: \_\_\_\_\_ Date: \_\_\_\_\_

Specify Relationship to Student and Print Name in Full: \_\_\_\_\_

Signature of Student: \_\_\_\_\_ Date: \_\_\_\_\_

Witness (optional): \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_ Copy given to Student    \_\_\_ Student declined copy

## Appendix E

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**NOTICE OF PRIVACY PRACTICES****THIS NOTICE DESCRIBES HOW MEDICAL INFORMATION ABOUT YOU MAY BE USED AND DISCLOSED AND HOW YOU CAN GET ACCESS TO THIS INFORMATION. PLEASE REVIEW THIS NOTICE CAREFULLY.**

Your health record contains personal information about you and your health. This information about you that may identify you and that relates to your past, present or future physical or mental health or condition and related health care services is referred to as Protected Health Information (“PHI”). This Notice of Privacy Practices describes how the ASC Center may use and disclose your PHI in accordance with applicable law. It also describes your rights regarding how you may gain access to and control your PHI.

The ASC Center is required by law to maintain the privacy of PHI and to provide you with notice of our legal duties and privacy practices with respect to PHI. The ASC Center is required to abide by the terms of this Notice of Privacy Practices. We reserve the right to change the terms of this Notice of Privacy Practices at any time. Any new Notice of Privacy Practices will be effective for all PHI that we maintain at that time. The ASC Center will provide you with a copy of the revised Notice of Privacy Practices by sending a copy to you in the mail upon request or providing one to you at your next appointment.

**HOW the ASC Center MAY USE AND DISCLOSE HEALTH INFORMATION ABOUT YOU**

**For Treatment.** Your PHI may be used and disclosed by those who are involved in your care for the purpose of providing, coordinating, or managing your health care treatment and related services. This includes consultation with other ASC Center clinical providers, faculty, supervised students, or other treatment team members, if applicable. We may disclose PHI to any other consultant only with your authorization.

**For Payment.** The ASC Center may use and disclose PHI so that we can receive payment for the treatment services provided to you. This will only be done with your authorization. Examples of payment-related activities are: making a determination of eligibility or coverage for insurance benefits, processing claims with your insurance company, reviewing services provided to you to determine medical necessity, or undertaking utilization review activities. If it becomes necessary to use collection processes due to lack of payment for services, the ASC Center will only disclose the minimum amount of PHI necessary for purposes of collection.

**For Health Care Operations.** The ASC Center may use or disclose, as needed, your PHI in order to support our business activities including, but not limited to, quality assurance activities, evaluation of effectiveness, licensing, and conducting or arranging for other business activities. For example, we may share your PHI with third parties that perform various business activities (e.g., billing services) provided we have a written contract with the business that requires it to safeguard the privacy of your PHI. We may disclose your PHI to other ASC Center clinical providers, faculty, supervised students, and/or other treatment team members for training or teaching purposes.

**Required by Law.** Under the law, the ASC Center must make disclosures of your PHI to you upon your request. In addition, we must make disclosures to the Secretary of the Department of Health and Human Services for the purpose of investigating or determining the ASC Center’s compliance with the requirements of the Privacy Rule.

**Without Authorization.** Applicable law and ethical standards permit the ASC Center to disclose information about you without your authorization only in a limited number of other situations. The types of uses and disclosures that may be made without your authorization are those that are:

- Required by Law, such as the mandatory reporting of child abuse or neglect or mandatory government agency audits or investigations (such as the psychology or social work licensing boards or the health department)
- Required by Court Order
- Necessary to prevent or lessen a serious and imminent threat to the health or safety of a person or the public. If information is disclosed to prevent or lessen a serious threat it will be disclosed to a person or persons reasonably able to prevent or lessen the threat, including the target of the threat.

**Verbal Permission**

The ASC Center may use or disclose your information to family members who are directly involved in your treatment with your verbal permission.

**With Authorization.** Uses and disclosures not specifically permitted by applicable law will be made only with your written authorization, which you may revoke at any time.

**YOUR RIGHTS REGARDING YOUR PHI**

You have the following rights regarding PHI the ASC Center maintains about you. To exercise any of these rights, please submit your request in writing to us at the address below or in person.

- **Right of Access to Inspect and Copy.** You have the right, which may be restricted only in exceptional circumstances, to inspect and copy PHI that may be used to make decisions about your care. Your right to inspect and copy PHI will be restricted only in those situations where there is compelling evidence that access would cause serious harm to you. The ASC Center may charge a reasonable, cost-based fee for copies.
- **Right to Amend.** If you feel that the PHI the ASC Center has about you is incorrect or incomplete, you may ask us to amend the information although we are not required to agree to the amendment.
- **Right to an Accounting of Disclosures.** You have the right to request an accounting of certain of the disclosures that the ASC Center makes of your PHI. The ASC Center may charge you a reasonable fee if you request more than one accounting in any 12-month period.
- **Right to Request Restrictions.** You have the right to request a restriction or limitation on the use or disclosure of your PHI for treatment, payment, or health care operations. We are not required to agree to your request.
- **Right to Request Confidential Communication.** You have the right to request that the ASC Center communicates with you about medical matters in a certain way or at a certain location.
- **Right to a Copy of this Notice.** You have the right to a copy of this notice.

**COMPLAINTS**

If you believe the ASC Center has violated your privacy rights, you have the right to file a complaint in writing to us at the address below or in person or with the Secretary of Health and Human Services at 200 Independence Avenue, S.W., Washington, D.C. 20201 or by calling (202) 619-0257.

**The effective date of this Notice is January 5, 2015.**

---

**Notice of Privacy Practices**

**Receipt and Acknowledgment of Notice**

Name \_\_\_\_\_ DOB: \_\_\_\_\_

I hereby acknowledge that I have received and have been given an opportunity to read a copy of the ASC Center Notice of Privacy Practices. I understand that if I have any questions regarding the Notice or my privacy rights, I can contact my provider, Jennifer Wandler, or Dr. Kurt Michael at the address or phone number below or discuss them in person at my next appointment.

Signature of Student or Legally Responsible Person\*: \_\_\_\_\_ Date: \_\_\_\_\_

Specify Relationship to Student and Print Name in Full: \_\_\_\_\_

PERCEIVED CRITICISM AND PSYCHOTHERAPY OUTCOME

\* *If you are signing as a personal representative of an individual, please describe your legal authority to act for this individual (power of attorney, healthcare surrogate, etc.).*

Additional Signature of Student or Parent, if needed: \_\_\_\_\_ Date: \_\_\_\_\_

Witness (optional): \_\_\_\_\_ Date: \_\_\_\_\_

Student Refuses to Acknowledge Receipt:

Signature of Staff Member: \_\_\_\_\_ Date: \_\_\_\_\_

**The ASC Center  
Ashe County High School  
West Jefferson, NC 28694  
Whitney Van Sant: (336) 846-2400 (ext. 2135)  
Kurt Michael: (828) 262-2272 (ext. 432)**

Appendix F

Authorization for Use and Disclosure of Protected Health Information

This form implements the requirements for student authorization to use and disclose health information protected by the federal health privacy law (45 C.F.R. parts 160, 164), the federal drug and alcohol confidentiality law (42CFR, part 2) and state confidentiality law governing mental health, developmental disabilities, and substance abuse services (GS 122C)

Student Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

I hereby authorize: \_\_\_\_\_ Daymark Recovery Services

To Disclose and/or Share Protected Health Information with: Ashe County Schools

The following protected information: (Provide a specific and meaningful description of the information to be used or disclosed)

Psychological evaluation results, student status, participation in services, progress made, family dynamics and history, safety issues, recommendations, school status, school concerns, grades, testing, behavioral concerns, school progress, treatment plan, clinical impressions, substance use/abuse issues, treatment, and history.

The Purpose of Disclosure:

Coordination of services, participation in the Daymark School-Based Therapy and ASC Center Programs, treatment planning, and Daymark Mobile Crisis Services.

**REDISCLASURE**

Once information is disclosed pursuant to this signed authorization, I understand that the federal health privacy law (45 C.F.R. Part 164) protecting health information may not apply to the recipient of the information and, therefore, may not prohibit the recipient from redisclosing it. Other laws, however, may prohibit redisclosure. When this agency discloses mental health and developmental disabilities information protected by state law (G.S. 122C) or substance abuse treatment information protected by federal law (42 C.F.R. Part 2), it must inform the recipient of the information that redisclosure is prohibited except as permitted or required by these two laws. ASU Institute for Health and Human Services Notice of Privacy Practices describes the circumstances when disclosure is permitted or required by these laws.

**EXPIRATION AND**

**REVOCAION**

I understand that, with certain exceptions, I have the right to revoke this authorization at any time. [If I want to revoke this authorization, I must do so in writing.] If not revoked earlier, this authorization expires automatically upon \_\_\_\_\_ or one year from the date it is signed, whichever is earlier.

**NOTICE OF**

**VOLUNTARINESS**

I understand that I may refuse to sign this authorization form. A readable photocopy or fax of this authorization shall have the same force and effect as this original.

**SIGNATURES**

---

Signature of Legally Responsible Person: \_\_\_\_\_

Date: \_\_\_\_\_

Specify Relationship to Student and Print Name in

Full: \_\_\_\_\_

Signature of Student: \_\_\_\_\_

Date: \_\_\_\_\_

Additional Parent/Guardian Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Witness (optional): \_\_\_\_\_

Date: \_\_\_\_\_

Copy given to Parent/guardian/student     Parent/guardian/student declined copy

Appendix G

Authorization for Use and Disclosure of Protected Health Information

This form implements the requirements for student authorization to use and disclose health information protected by the federal health privacy law (45 C.F.R. parts 160, 164), the federal drug and alcohol confidentiality law (42CFR, part 2) and state confidentiality law governing mental health, developmental disabilities, and substance abuse services (GS 122C)

Student Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

I hereby authorize: ASC Center/Appalachian State University Licensed Professional Providers, Faculty Members, and/or Supervised Students

To Disclose and/or Share Protected Health Information with:

\_\_\_\_\_Ashe County

Schools \_\_\_\_\_

The following protected information: (Provide a specific and meaningful description of the information to be used or disclosed)

Psychological evaluation results, student status, participation in services, progress made, family dynamics and history, safety issues, recommendations, school status, school concerns, grades, testing, behavioral concerns, school progress, treatment plan, clinical impressions, substance use/abuse issues, treatment, and history.

\_\_\_\_\_  
\_\_\_\_\_

The Purpose of Disclosure:

Coordination of services, participation in the School-Based Therapy and ASC Center Programs, and treatment planning.

\_\_\_\_\_  
\_\_\_\_\_

**REDISCLASURE**

Once information is disclosed pursuant to this signed authorization, I understand that the federal health privacy law (45 C.F.R. Part 164) protecting health information may not apply to the recipient of the information and, therefore, may not prohibit the recipient from redisclosing it. Other laws, however, may prohibit redisclosure. When this agency discloses mental health and developmental disabilities information protected by state law (G.S. 122C) or substance abuse treatment information protected by federal law (42 C.F.R. Part 2), it must inform the recipient of the information that redisclosure is prohibited except as permitted or required by these two laws. ASU Institute for Health and Human Services Notice of Privacy Practices describes the circumstances when disclosure is permitted or required by these laws.

**EXPIRATION AND**

**REVOCAATION**

I understand that, with certain exceptions, I have the right to revoke this authorization at any time. [If I want to revoke this authorization, I must do so in writing.] If not revoked earlier, this authorization expires automatically upon \_\_\_\_\_ or one year from the date it is signed, whichever is earlier.

**NOTICE OF**

**VOLUNTARINESS**

I understand that I may refuse to sign this authorization form. A readable photocopy or fax of this authorization shall have the same force and effect as this original.

**SIGNATURES**

---

Signature of Legally Responsible Person: \_\_\_\_\_

Date: \_\_\_\_\_

Specify Relationship to Student and Print Name in

Full: \_\_\_\_\_

Signature of Student: \_\_\_\_\_

Date: \_\_\_\_\_

Additional Parent/Guardian Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Witness (optional): \_\_\_\_\_

Date: \_\_\_\_\_

Copy given to Parent/guardian/student     Parent/guardian/student declined copy

Appendix H

Authorization for Use and Disclosure of Protected Health Information

This form implements the requirements for student authorization to use and disclose health information protected by the federal health privacy law (45 C.F.R. parts 160, 164), the federal drug and alcohol confidentiality law (42CFR, part 2) and state confidentiality law governing mental health, developmental disabilities, and substance abuse services (GS 122C)

Student Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

I hereby authorize: ASC Center/Appalachian State University Licensed Professional Providers, Faculty Members, and/or Supervised Students

To Disclose and/or Share Protected Health Information with:

\_\_\_\_\_ DAYMARK Recovery Services \_\_\_\_\_

The following protected information: (Provide a specific and meaningful description of the information to be used or disclosed)

Psychological evaluation results, student status, participation in services, progress made, family dynamics and history, safety issues, recommendations, school status, school concerns, grades, testing, behavioral concerns, school progress, treatment plan, clinical impressions, substance use/abuse issues, treatment, and history.

\_\_\_\_\_  
\_\_\_\_\_

The Purpose of Disclosure:

Coordination of services, participation in the Daymark School-Based Therapy and ASC Center Programs, treatment planning, and Daymark Mobile Crisis Services.

\_\_\_\_\_  
\_\_\_\_\_

**REDISCLASURE**

Once information is disclosed pursuant to this signed authorization, I understand that the federal health privacy law (45 C.F.R. Part 164) protecting health information may not apply to the recipient of the information and, therefore, may not prohibit the recipient from redisclosing it. Other laws, however, may prohibit redisclosure. When this agency discloses mental health and developmental disabilities information protected by state law (G.S. 122C) or substance abuse treatment information protected by federal law (42 C.F.R. Part 2), it must inform the recipient of the information that redisclosure is prohibited except as permitted or required by these two laws. ASU Institute for Health and Human Services Notice of Privacy Practices describes the circumstances when disclosure is permitted or required by these laws.

**EXPIRATION AND**

**REVOCAATION**

I understand that, with certain exceptions, I have the right to revoke this authorization at any time. [If I want to revoke this authorization, I must do so in writing.] If not revoked earlier, this authorization expires automatically upon \_\_\_\_\_ or one year from the date it is signed, whichever is earlier.

**NOTICE OF**

**VOLUNTARINESS**

I understand that I may refuse to sign this authorization form. A readable photocopy or fax of this authorization shall have the same force and effect as this original.

**SIGNATURES**

---

Signature of Legally Responsible Person: \_\_\_\_\_

Date: \_\_\_\_\_

Specify Relationship to Student and Print Name in

Full: \_\_\_\_\_

Signature of Student: \_\_\_\_\_

Date: \_\_\_\_\_

Additional Parent/Guardian Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Witness (optional): \_\_\_\_\_

Date: \_\_\_\_\_

Copy given to Parent/guardian/student     Parent/guardian/student declined copy

## Appendix I

**Ashe County Schools/Appalachian State University****Informed Consent for Participation in Research**

**Title of Project:** The Effectiveness of the Assessment, Support, and Counseling (ASC) Center

**Investigator(s):** Dr. Kurt Michael, Dr. John Paul Jameson

**I. Purpose of Research:**

As described on the Consent to Treatment form that was signed and on-file at the ASC Center, we are committed to providing your children with effective interventions to address their behavioral and academic concerns. As you are already aware, we regularly collect data on treatment progress, satisfaction, academic outcomes, attendance, and disciplinary referrals that help us serve your children better. We now request your permission to present anonymous data regarding the effects of ASC Center services in the form of presentations and publications to an audience of professionals outside of the ASC Center. Information about the effects of the ASC Center services will be presented anonymously so that your children's identities will not be disclosed.

**II. Procedures:**

**In addition to the information collected regularly as part of ASC Center involvement, students and parents will be asked to complete a few brief assessments before, during, and after ASC Center services have been delivered. The assigned ASC Center clinician will review these documents in detail with the students and parents (before and after) and if there is evidence on the assessments of significant distress or discomfort, interventions will be delivered (or referrals made) immediately, up to and including the disclosure of this information to parents/guardians should it be deemed consistent with the "limits of confidentiality" described on the original Consent to Treatment Form (that is, danger to self or others, reasonable suspicion of abuse).**

**III. Risks:**

As described above, the risks of participation in this project do not exceed the normal risks associated with receiving mental health/behavioral treatment in other settings. We will abide by all standards of confidentiality and we are committed to the safe and effective treatment of your children's concerns.

**IV. Benefits:**

**Your participation in this project will help other professionals and society at large learn more about providing effective mental health and behavioral treatment for high school students.**

**V. Extent of Anonymity and Confidentiality:**

The answers you and your student provide on the assessments will be kept confidential and under lock and key. Only authorized ASC Center personnel will know the identity of your children. When the data is presented, it will not include your children's identity. The information will be presented anonymously.

**VI. Compensation:**

There will not compensation for your participation. ASC Center services are provided at no cost to you or your child.

**VII. Freedom to Withdraw:**

**You or your child do not have to answer any questions if you do not want to and you can stop at any time.**

**VIII. Approval of Research:**

This research project has been approved, as required, by the Institutional Review Board of Appalachian State University.

IRB Approval Date: 11/04/2016  
11/03/2017

Approval Expiration Date:

**IX. Participant's Responsibilities:**

I voluntarily agree to participate in this study. I have the following responsibilities:

1. Review this consent form
2. Complete the assessments honestly if I consent to participation

**X. Participant's Permission:**

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent by completing and signing this form.

Signature of Student or Legally Responsible Person: \_\_\_\_\_ Date: \_\_\_\_\_

Specify Relationship to Student and Print Name in Full: \_\_\_\_\_

Signature of Student: \_\_\_\_\_ Date: \_\_\_\_\_

**Should I have any questions about this research or its conduct, I may contact:**

Kurt Michael, [michaelkd@appstate.edu](mailto:michaelkd@appstate.edu), (828) 262-2272, extension 432  
IRB Administrator, Research and Sponsored Programs, Appalachian State University,  
Boone, NC 28608, (828) 262-2692, [irb@appstate.edu](mailto:irb@appstate.edu).

### **Vita**

Elizabeth Capps was born in Roanoke, Virginia, to John Capps and Margaret Scott. She graduated from Roanoke College in Salem, Virginia, in May 2015 with a Bachelor of Science degree in Psychology and concentrations in Neuroscience and Health Care Delivery. She began a course of study toward a Master of Arts degree in Clinical Psychology at Appalachian State University in the fall of 2015 and earned her degree in May 2018. Beginning in the fall of 2018, she will be pursuing her Ph.D. in Clinical Psychology at Ohio University.