ABSTRACT

Parental Social Support in Children and Adolescents:
Validation of the Interpersonal Resilience Inventory - Adolescent Version

Brittany N. Sherrill, Psy.D.

Mentor: Keith Sanford, Ph.D.

Objective

The current objective is to validate a modified version of the Interpersonal Resilience Inventory (IRI) for use in a population of adolescents and to examine distinctions between constructs of positive and negative parent social support interactions in relation to affective and emotional regulation outcomes.

Methods

Participants were a total of $N = 443$ adolescents aged 10-15 that were current 6th through 8th grade students at two middle schools in urban areas in the United States. The sample was 36.8% male and 62.8% female; 61% non-Hispanic White, 36% Hispanic or Latino, 12% Black, 3.4% Asian, and 5% Other.

Results

Confirmatory factor analysis demonstrated good fit and high item loadings for a two-factor model. Item response theory analyses showed very high individual item

discrimination and good test information across scales. Negative interactions were significantly more strongly related to negative affect and emotional regulation outcomes than were positive interactions; the same was true for positive interactions with positive affect. Negative interactions significantly contributed to all outcomes and were important in predicting outcomes over and above existing measures of general and parent-specific perceived support availability.

Conclusion

The IRI-A is a valid instrument for assessing distinct constructs of parent positive and negative social support. Future research should focus on the sensitivity of the instrument to change.

Practice Implications

By using the IRI to assess parent positive and negative interactions, it may be possible to detect and prioritize specific support behaviors for family interventions (i.e., negative interactions).

Keywords: parent social support; adolescents; mental health; emotion regulation

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Validation of the Interpersonal Resilience Inventory - Adolescent Version

by

Brittany N. Sherrill, B.A., M.S.C.P.

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Charles A. Weaver III, Ph.D., Chairperson

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Approved by the Dissertation Committee

Keith P. Sanford, Ph.D., Chairperson

Sara L. Dolan, Ph.D.

Stacy R. Ryan-Pettes, Ph.D.

Alisha M. Wray, Ph.D.

Byron R. Johnson, Ph.D.

Accepted by the Graduate School
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J. Larry Lyon, Ph.D., Dean

Page bearing signatures is kept on file in the Graduate School.

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CHAPTER ONE

Introduction

In adolescents, interactions with parents or other important adults that serve as parental figures are closely associated with affect and their ability to effectively regulate their emotions (Stice et al., 2004; Stone et al., 2018; Suldo & Shaffer, 2008; Smokowski et al., 2015; Harris et al., 2008; Hoeve et al., 2009; Ellis et al., 2009; Bean et al., 2006; Karaer et al., 2019). These interactions with parents, caregivers, or important adults serving a parental role are termed *parent social support* and are usually assessed utilizing measures that tap individual schematic perceptions of the general availability of social support (*support availability*). In addition to assessing perceived support availability, it may also be valuable to assess perceived interactions, specifically recent memories of specific positive and negative support relationship behaviors, in order to place emphasis on an individual's perceptions of specific recent events and include information about an adolescent's negative perceptions of support (e.g., perceiving a support interaction as critical or blaming). There is reason to think that both positive and negative interactions are important types of perceived support for adolescents, but existing scales are not adequate for assessing these constructs (Hoeve et al., 2009). The importance of assessing these dimensions in adults has led to development of the Interpersonal Resilience Inventory (IRI), an instrument that assesses remembered positive and negative interactions with married and cohabiting couples, as well as within other types of significant socially supportive adult relationships (e.g. friends, parents of adult children),

effectively capturing social support constructs that are distinct and consequential (Sanford et al., 2016; Rivers & Sanford, 2020, 2021). However, within adults, perceived interactions have focused on mutual support interactions, while a measure of parent-adolescent perceived interactions should exclude items that capture parentification, or adolescents providing developmentally inappropriate unidirectional support to parents, which is associated with inappropriate caregiving and poor outcomes (Hooper, 2011; Sanford et al., 2016; Rivers & Sanford, 2018, 2020, 2021). Presumably with these considerations in mind, these remembered positive and negative interactions would be distinct and consequential within parent-adolescent supportive relationships that are also critical for affect and emotional regulation. Ultimately, it would be valuable to adapt the IRI into a measure that assesses positive and negative parental social support interactions in adolescents.

Positive and negative interactions are important because they pertain to a meaningful type of perception that can be assessed with high discrimination across a wide range of experience levels. Sanford et al. (2016) have previously delineated supportive interactions that provide high levels of item discrimination and test information among adults. Identification of similar interactions between adolescents and adults may provide similarly high levels of item discrimination and test information. The high test discrimination demonstrated by perceived interactions is in contrast to support availability, which sometimes has poor discrimination due to negative skew (Funk & Rogge, 2007; Sanford et al., 2018; Rivers & Sanford, 2020, 2021). Respondents typically select the responses indicating the most positive view of their interpersonally supportive relationship. This response pattern prevents distinguishing those at the lower end of

social support, as well as between those at moderate to high levels of positive social support. Also known as poor item discrimination, this type of limitation underestimates the real effects of social support among individuals who are experiencing difficulties in this area. In clinical settings, this may result in an inability to detect improvement among recipients of social support interventions, due to failing to initially delineate the true negative support interactions the individuals were experiencing. Therefore, good test item discrimination and overall test information, as demonstrated utilizing item response theory, would be expected and important if perceived interactions are assessed.

A key feature of perceived interactions is the ability to assess both positive and negative parent social support interactions, which are expected to be two distinct constructs, rather than opposite poles of a single dimension. In terms of possible evidence for a bidimensional model of support, meta-analysis of 432 parenting variables has identified positive facets ("trust, acceptance, supportive parenting, open communication, love, caring and warmth") and negative facets ("indifference, avoidance, neglect, hostility and rejection") that comprise aspects of parent support behavior, though the distinctiveness of these constructs remains untested (Hoeve et al., 2009). These two dimensions, perceived positive and negative interactions, have previously been identified among adult interpersonal support relationships, though not in adolescents (Rivers & Sanford, 2020, 2021). Rivers and Sanford have utilized factor analysis in supporting the existence of two distinct dimensions of social support in married and cohabiting partners, as well as other adult socially supportive relationships (e.g., friends; Rivers & Sanford, 2020, 2021). Both types of perceived support interactions consistently emerge as distinct. Further, Rivers and Sanford (2018, 2020, 2021) consistently find small correlations (*r*

<.2) in all samples between the two target dimensions, supporting the idea that perceived positive interactions and perceived negative interactions are likely not redundant. It is expected that confirmatory factor analysis of an adaptation of a similar measure would produce two distinct factors of parent social support in adolescents, with both factors demonstrating a near-zero correlation.

While prior research has previously identified theoretically grounded positive and negative aspects of parent social support, prevailing measures of parent social support primarily assess *perceived support availability* (Abbey et al., 1985; Hoeve et al., 2009). Assessing *perceived support availability* provides a measurement of an individual's typical schema for social support, as opposed to remembered past interactions (Brunson et al., 2015; Sarason & Sarason, 2009; Cohen et al., 2000). These types of items assessing scripts for support availability are intrinsically unidimensional, with an individual either perceiving support as available or unavailable. In contrast, it would be important to assess perceptions of recent support interactions in order to capture the desired two dimensions of parent social support.

Perceived positive and negative interactions are both important to assess because they should correlate with affect and components of emotional regulation such as distress tolerance, difficulties with emotion regulation, and worry. Rivers and Sanford (2018, 2019, 2020, 2021) have previously demonstrated the positive and negative interactions scales of the IRI are significantly related to positive and negative affect and emotional regulation processes in adults, suggesting it is possible similar important relationships between these scales and outcomes might be observed in a population of adolescents. Others have also demonstrated that in adults, individual appraisals of supportive

interactions as positive or negative are related to emotional outcomes (Maisel & Gable, 2009). Variables that are important for understanding adolescents' emotional self-regulatory processes include distress tolerance (one's ability to withstand negative emotional states), difficulties in emotion regulation (trouble with one's ability to manage or respond to one's emotional state), and worry (focus on and anxiety related to uncertain future events). These are key outcomes likely to be associated with perceived interactions (Stone et al., 2018; Suldo & Shaffer, 2008; Smokowski et al., 2015; Harris et al., 2008; Hoeve et al., 2009; Ellis et al., 2009; Bean et al., 2006; Karaer et al., 2019). By grounding items in assessment of perceived interactions, an assessment of parent social support should similarly reflect relationships between positive and negative social support and affective and emotional regulation outcomes including distress tolerance, difficulties in emotion regulation, and worry.

Further, while both positive and negative interactions should be important in predicting outcomes, they also should demonstrate that each type has a different function. This means that when compared to each other, positive interactions should do a significantly better job in predicting positive affect, while negative interactions should do a significantly better job predicting negative affect and emotional regulation outcomes including distress tolerance, difficulties in emotion regulation, and worry. This pattern is expected due to prior research showing that much like perceived positive and negative interactions, positive and negative affect also lie within a bidimensional model (Watson, Clark, & Tellegen, 1988). The IRI scales have previously demonstrated theoretically expected relationships between positive and negative affect, such that positive interactions are more closely related to positive affect, and negative interactions are more

closely related to negative affect (Ramsey & Gentzler, 2015; Rivers & Sanford, 2018, 2020, 2021). Additionally, prior research has demonstrated that negative interactions are more closely related to an individual's ability to engage in emotional self-regulatory processes (Rivers & Sanford, 2018, 2020, 2021). Prior work has also documented that while significant effects were observed for both positive and negative aspects of parent support, much larger effects were observed for negative support for some types of outcomes (Hoeve et al., 2009). Research in other types of relationships also sometimes finds that negative support interactions are more consequential overall than positive, which raises a question about whether positive interactions are simply less relevant or this scale is less valid (Sanford et al., 2016; Sanford et al., 2017; Rivers & Sanford, 2018, 2020, 2021). In assessing perceived positive and negative parent support interactions, it is important to not only demonstrate that both scales are distinct, but also have their own functions, with positive interactions doing a significantly better job predicting positive affect, and negative interactions doing a significantly better job predicting negative affect and emotional regulation outcomes (such as distress tolerance, difficulties in emotion regulation, and worry).

A key reason positive and negative interactions are important is because they are distinct from perceived support availability, including both parent-specific support availability and general support availability. Assessing the individual appraisal of supportive interactions provides additional information beyond whether support is available or not or expected to be available in the future. Some measures of social support measure unidimensional support including the availability of social support resources (Rivers & Sanford, 2018, 2020, 2021). Perceived interactions are different from social

support availability and in adult populations have been shown to be more closely related to outcomes (Cohen et al., 2000; Sarason & Sarason, 2009; Vangelisti, 2009). Exemplars of existing instruments that measure support availability include the Berlin Social Support Scales (BSSS; Schwarzer & Schulz, 2003) which contain items including "When I am worried, there is someone who helps me." The BSSS also measures general social support availability, rather than support available specifically from a parent. While support availability is an important construct to assess, it is a separate construct from the desired two dimensions of parent social support that are desirable for maximally predicting outcomes in adolescents. Another existing measure in the youth literature, the Child and Adolescent Social Support Scale (CASSS; Malecki & Demaray, 2002, 2006) measures parent-specific social support availability, such as "My parents give me good advice," rather than remembered interactions and therefore does not capture negative interactions as well as positive interactions. Therefore, it is expected that positive and negative interactions should demonstrate incremental convergent validity in predicting emotional regulation outcomes over and above general and parent-specific social support availability.

A promising approach to measuring positive and negative parent support in adolescents is to adapt and validate the Interpersonal Resilience Inventory (IRI), an instrument that has previously only been used in adults (Rivers & Sanford, 2020, 2021). The IRI has several desirable characteristics when used with adult populations that might make it amenable to translation for assessing parent social support in a population of adolescents (Rivers & Sanford, 2020, 2021). Namely, in adult populations, the IRI has previously demonstrated good evidence for two factors, each assessing the desired

dimensions of either positive or negative support, with consistently low correlations among factors expected to be theoretically distinct, i.e., positive and negative interactions. (Rivers & Sanford, 2020, 2021). Previous research has also demonstrated that with adults, the IRI possesses good item discrimination, a characteristic that when adapted would be expected allow for capturing the full breadth of parent social support in populations such as adolescents. The IRI has also previously demonstrated discriminant validity when compared to measures of beliefs about support availability (Rivers & Sanford, 2020, 2021). Finally, the IRI has previously demonstrated convergent validity with emotional outcomes, similar to target outcomes in the present study. An adaptation of the IRI for use in assessing parent-adolescent relationships would presumably demonstrate similar characteristics.

In order to validate the IRI adapted for adolescents, the following things are needed. First, if the IRI is adapted, a confirmatory factor analysis (CFA) is expected to support a two-dimensional factor structure. Second, an item response theory analysis is expected to show that both scales provide good discrimination and test information. Third, both positive and negative interactions are expected to demonstrate convergent validity with affective (positive and negative affect) and emotional regulation (worry, difficulties in emotion regulation, and distress tolerance) outcomes for adolescents, and each will explain unique variance in outcomes controlling for the other. Fourth, distinctions in magnitude of effect between positive interactions and negative interactions are expected, with negative affect and emotional regulation (worry, difficulties in emotion regulation, and distress tolerance) outcomes best predicted by negative interactions, and positive affect best predicted by positive interactions. Finally, both

scales are expected to demonstrate incremental convergent validity in predicting emotional and behavioral outcomes over and above general and parent-specific support availability as measured by scales such as the BSSS and the CASSS.

CHAPTER TWO

Method

Participants and Procedure

Participants were adolescents ($N = 443$) aged 10-15 that were current 6th through 8th grade students at two middle schools in urban areas in the United States. All children enrolled in math classes were eligible to participate. The sample was 36.8% male and 62.8% female. Self-reported race and ethnicity characteristics of the sample were as follows: 61% non-Hispanic White, 36% Hispanic or Latino, 12% Black, 3.4% Asian, and 5% Other. There were no significant differences in levels of positive and negative support interactions between gender or racial groups.

The study consisted of one online survey administration. Middle school students were contacted through their math teachers and invited to complete the online study via a secure Baylor University Qualtrics survey link which allowed for completion on any device with internet access. Given the online nature of classwork due to the COVID-19 pandemic, teachers were provided with survey invitations to send via email correspondence. All participants were entered into a drawing to win one of eight $25 gift cards for a major online retailer.

During completion of the online survey, child assent was obtained, then participants anonymously completed basic demographic information, in addition to questionnaires described below (see Appendices B, C, D, E, F, G and H for more information). Parent consent was not required due to the lack of identifying information

and the type of responses being collected. Participants were then directed to a separate survey item disassociated with the questionnaires in order to gather their math teacher's name, time of math class during the day, school name, and the first three letters of their first name and first three letters of their last name in order to allow investigators to contact them to distribute gift cards to winners. Gift card winners were chosen using a random number generator and were distributed via emails provided by school administrators after data collection was concluded. No survey items were forced choice, at the request of the school administrators. As a result, only complete survey responses for each measure were utilized in final analyses. All measures, recruitment methods, and data collection practices were approved by the Institutional Review Board of Baylor University and the administrators of the participating schools.

Measures

Number of complete responses (*N*), means, standard deviations, and reliabilities were calculated for all scales and are provided in Table B.1.

Table B.1

Total N, Means, Standard Deviations, and Cronbach's Alpha Coefficients

Construct	*N*	*M*	*SD*	*α*
Positive interactions	443	46.63	13.12	.89
Negative interactions	441	31.28	14.74	.88
General support availability (BSSS)	424	26.92	5.34	.92
Parent-specific support availability (CASSS)	441	51.75	11.75	.92
Positive affect	436	15.79	4.97	.91
Negative affect	440	10.62	4.84	.84
Worry	405	24.96	7.01	.94
Difficulties in emotion regulation	345	45.99	14.47	.91
Distress tolerance	372	48.07	12.86	.91

Interpersonal Resilience Inventory—Adolescent Version (IRI-A)

Perceived positive and negative interactions in parent-adolescent relationships were assessed using an adapted version of the Interpersonal Resilience Inventory (IRI). The IRI is a 16-item self-report measure of bidimensional socially supportive behaviors that yields two scales: a positive interactions scale that assesses perceived positive social support interactions and a negative interactions scale that assesses perceived negative social support interactions (Rivers & Sanford, 2020). The new IRI-A is a 15-item instrument with a positive interactions scale containing 7 items, and a negative interactions scale containing 8 items. The IRI-A was formatted with specific instructions to answer items regarding support from parents and important adult persons that serve a parental role, e.g. "The next question will ask about important adult people in your life

today. An important adult person could be a parent or primary caregiver." Modifications were made to eight items in order to reflect specific parent support behaviors rather than mutual coping (e.g., "An important adult person in your life was attentive to your needs" rather than "One of you was attentive to the other's needs"). One item was dropped because it could not be translated well to this format.

Participants rated the frequency with which they perceived 16 different behaviors of the past month (see Appendix B for full measure). Items are rated on a 10-point scale ranging from "This definitely did not happen" (1) to "This happened several times per day" (10). Responses ranged from 8 to 80 on the negative interactions scale and 7 to 70 on the positive interactions scale. Reliabilities for all scales are listed in Table B.1.

General and Parent-Specific Social Support Availability

The sum total of the 8-item Perceived Support subscale on the Berlin Social Support Scales (BSSS) was used to assess general social support availability (Schwarzer & Schulz, 2003; see Appendix C for full measure). Items referenced beliefs about the availability of support, such as "When I am worried, there is someone who helps me," and responses were rated on a four-point scale ranging from "Strongly disagree" (1) to "Strongly agree" (4). Responses ranged from 8 to 32. Parent-specific social support availability was assessed using the 12-item Parent subscale of the Child and Adolescent Social Support Scale (CASSS; Malecki & Demaray, 2002, see Appendix D for full measure). Items assessed positive socially supportive behaviors, for example: "My parent(s)/caregiver(s) reward me when I've done something well," and were rated on a six-point frequency scale from "Never" (0) to "Always" (5). Responses ranged from 16 to 72.

Affect

Positive and negative affect were assessed using the 10-item version of the Positive and Negative Affect Schedule for Children (PANAS-C-SV; Ebesutani et al., 2012, see Appendix E for full measure). Participants rated their recent mood including emotions such as "Joyful," and "Scared," on a five-point scale ranging from "Very slightly or not at all" (1) to "Extremely" (5). Response ranged from 5 to 25 on both scales.

Emotional Regulation

Facets of emotional regulation such as difficulties in emotion regulation were assessed the total score of the 18-item Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2003; Neumann et al., 2010; Victor & Klonsky, 2016, see Appendix F for full measure). The DERS includes items related to emotional awareness and regulation such as "When I'm upset, I become out of control," and has previously demonstrated good internal consistency and validity in adolescent samples (Gratz & Roemer, 2003; Neumann et al., 2010; Weinberg & Klonsky, 2009). Respondents indicated how frequently they experienced each item on a 5-point Likert scale ranging from "Almost Never" (0) to "Almost Always" (4). Responses ranged from 18 to 90. Another aspect of emotional regulation, distress tolerance, was assessed using the Distress Tolerance Scale (DTS; Simons et al., 2005, see Appendix G for full measure). The DTS has previously been validated for use in youth and adolescent samples (Tonarely & Ehrenreich-May, 2019). The 15-item measure included items such as "Feeling distressed or upset is unbearable to me," rated on a 5-point scale ranging from

"Strongly Agree" (1) to "Strongly Disagree" (5). Responses ranged from 15 to 75.

Worry, the final aspect of emotional regulation assessed, was measured using the Penn State Worry Questionnaire for Children (PSWQ-C; Chorpita et al., 1997, see Appendix H for full measure). The 14-item instrument included worry-related items such as "I worry all the time," which were rated on a 4-point Likert scale ranging from "Never True" (1) to "Always True" (4). Responses ranged from 10 to 40.

CHAPTER THREE

Results

The first hypothesis was that the adapted form of the IRI would demonstrate good factor validity. The factor structure was examined using a confirmatory factor analysis, with the expectation that two factors would emerge, in accordance with criteria including a two-index strategy defining a well-fitting model: 1) CFI >.95 and SRMR <.09, (Hu & Bentler, 1999), 2) standardized loadings of at least .55 on their corresponding factors (Comrey & Lee, 1992), 3) a significantly better fit than the unidimensonal model, as measured by a $\Delta\chi^2$ test, and 4) intra-factor correlations less than $|r| = .3$. Consistent with procedures for specifying a two-factor model with a positive interaction factor which had 7 indicators and the negative interaction factor which had 8 indicators, the factors were allowed to correlate, while error variances were not. The fit was good, in line with Hypothesis 1 (χ^2 (441) = 290.77, $p < .001$, CFI = .98, SRMR = .07). Factor loadings are displayed in Table B.2.

Table B.2

Standardized Factor Loadings and Item Discrimination Values

Item	CFA Results		Item Response Theory Item Discrimination
	Positive Interactions	Negative Interactions	
Event 1: You laughed together or enjoyed something that was funny with an **important adult person** in your life.	.73		1.81
Event 2: In your relationship with an **important adult person** in your life, one of you felt annoyed or frustrated about something the other did.		.65	2.04
Event 3: Dropped because parallel items from the IRI could not be easily adapted.			
Event 4: An **important adult person** in your life did NOT listen carefully to something you said.		.70	2.79
Event 5: An **important adult person** in your life helped you by keeping a positive attitude, being hopeful about the future, and talking about things that are good.	.76		2.05
Event 6: An **important adult person** in your life made it more difficult for you by having a negative attitude, believing that the worst will happen, and expecting things to be bad.		.80	3.65
Event 7: An **important adult person** in your life paid attention to your needs or understood what would be helpful to you.	.79		2.40
Event 8: In your relationship with an **important adult person** in your life, one of you did NOT want to talk about a stressful situation and stopped yourself from talking to the other person about it.		.67	3.10
Event 9: You and an **important adult person** in your life worked together like a team.	.83		2.72
Event 10: An **important adult person** in your life talked about the things they see wrong with you, judged you, accused you of something, or blamed you.		.79	3.19
Event 11: An **important adult person** in your life helped you by remaining calm and stable (kept their cool).	.66		1.68
Event 12: An **important adult person** in your life made it difficult for you by being overly emotional or getting easily upset (lost their cool).		.81	3.48
Event 13: You and an **important adult person** in your life spent time doing things together.	.80		2.42
Event 14: An **important adult person** in your life could have helped you but did not do so.		.72	2.66
Event 15: An **important adult person** in your life helped you solve a problem by using special skills, or by knowing how to do something.	.71		1.93
Event 16: In your relationship with an **important adult person** in your life, there was a miscommunication or misunderstanding where one person did not understand what the other meant.		.64	2.55

Note. CFA = Confirmatory Factor Analysis.

Item loadings on assigned factors ranged from .64 to .83, all exceeding the .55 criterion. The correlation between the two factors was small, as expected (r = -.14). An alternate one-factor model fit qualitatively poorer and did not exceed cutoffs indicative of good fit, (χ^2 (441) = 3773.58, $p < .001$, CFI = .77, SRMR = .22), and this decrease in goodness of fit was significant $\Delta\chi^2(1) = 243.14$, $p < .001$.

The second hypothesis was that the IRI would demonstrate good item discrimination and test information. Cutoffs of *high* item discrimination (1.35 – 1.69) were expected (Baker & Kim, 2017). Item discrimination values are displayed above in Table B.2. As expected, all items exceeded the criterion for *high* discrimination, and all but one (item 11) exceeded the threshold for *very high* discrimination. To evaluate test information for both scales, test information curves were computed (Figures A.1-A.2). The dotted lines in the figure indicate the area one standard deviation below and above the mean. Levels of information for each scale were expected to be high (> 5) in this range. This corresponds to a standard error of .45 (SE = 1 / information$^{1/2}$) and a reliability of .8 (reliability = 1 – SE^2), which is typically considered good reliability. For both scales, information remained above 5 within the target range, suggesting they met criteria for providing good information. As shown in Figure A.1, the negative interactions scale provides much higher levels of information than the positive interactions scale. However, there is a sharp drop in information for this scale above one standard deviation above the mean. In contrast, as depicted in Figure A.2, the positive interactions scale provides excellent levels of information for a wider range of levels of experience.

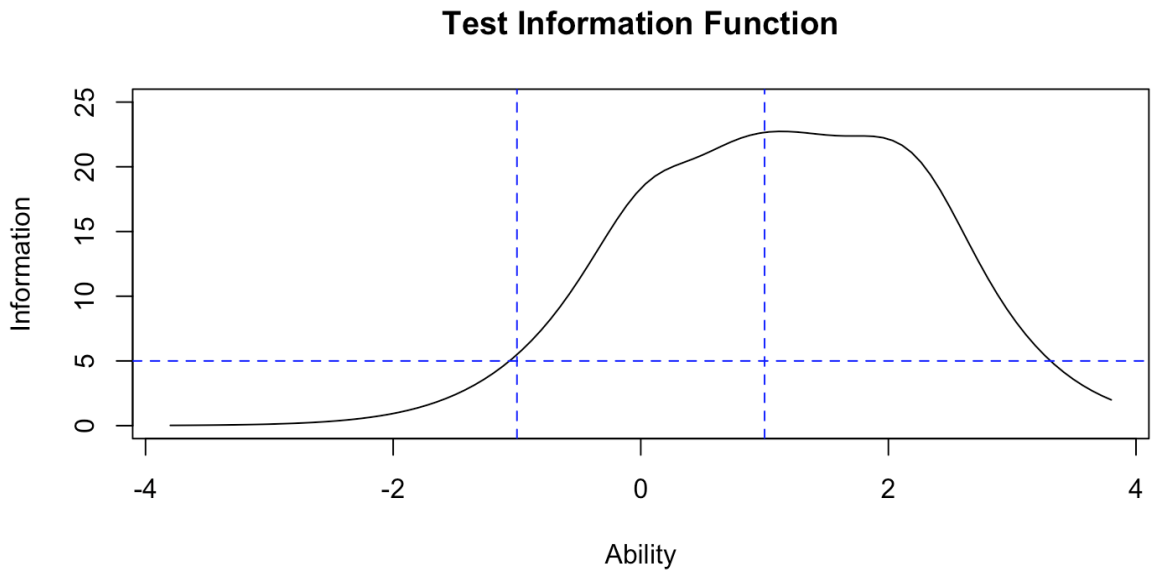

Figure A.1. Test Information Curve for Negative Interactions Scale

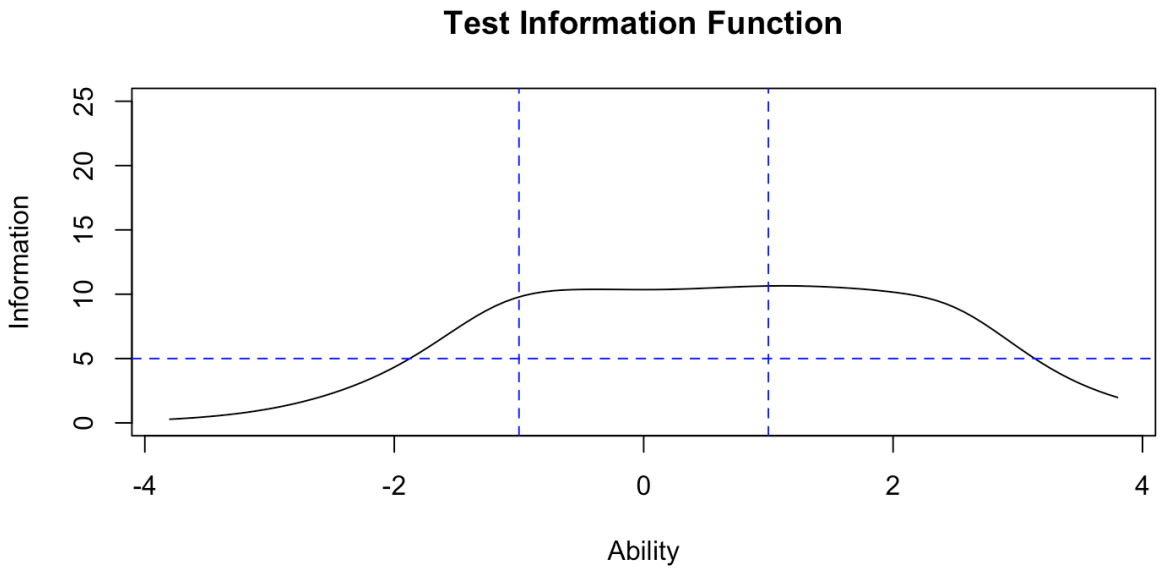

Figure A.2. Test Information Curve for Positive Interactions Scale

The third hypothesis was that both positive interactions and negative interactions would both be important in predicting affective and emotional regulation outcomes and would remain significant when controlling for one another. Correlations were computed between negative interactions, positive interactions, positive and negative affect and emotional regulation variables (distress tolerance, difficulties in emotion regulation, and worry). Results are provided in Table B.3.

Table B.3

Correlations, Linear Regression Models, and Tests for Differences in Beta Weights between IRI-A Scales and Outcomes

Criterion variables	Correlations		Standardized betas			
	Positive Interactions	Negative Interactions	Positive Interactions	Negative Interactions	$\chi 2$ difference between betas	R^2
Positive Affect	.45*** (*436*)	-.28** (*434*)	.42***	-.22*** (*434*)	10.08**	.25***
Negative Affect	-.24*** (*440*)	.41*** (*438*)	-.18**	.39*** (*438*)	10.07**	.21***
Worry	-.12* (*405*)	.40*** (*403*)	-.06	-.39***(*403*)	22.05***	.16***
Difficulties in Emotion Regulation	-.10 (*345*)	.50*** (*343*)	-.05	.49*** (*343*)	39.61***	.25***
Distress Tolerance	.19*** (*372*)	-.36** (*370*)	.14**	-.36*** (*370*)	8.96**	.16***

Note. Values in parentheses indicate valid *N*.

* $p < .05$ ** $p < .01$ *** $p < .001$

Positive interactions were significantly associated ($p < .05$) with all outcomes with the exception of difficulties in emotion regulation. Negative interactions were significantly associated ($p < .01$) with all outcomes. In order to examine whether positive and negative interactions would explain unique variance in affect and emotional regulation when controlling for one another, multiple regressions were estimated, with positive interactions and negative interactions simultaneously predicting each outcome. Standardized beta coefficients indicate the extent to which each scale explains unique variance in the outcome controlling for overlap with the other scale. The standardized betas are provided in Table B.3. Positive interactions explained unique variance in positive and negative affect, as well as distress tolerance ($p < .01$). Negative interactions explained unique variance in all outcomes ($p < .001$). R^2 values provide the amount of variance in each outcome variable accounted for by positive interactions and negative interactions. The IRI-A scales accounted for a significant amount of variance for each outcome ($p < .001$).

Hypothesis 4 was that positive and negative interactions would demonstrate distinctions in magnitude of effect, with negative affect and emotional regulation (worry, difficulties in emotion regulation, and distress tolerance) outcomes best predicted by negative interactions, and positive affect best predicted by positive interactions. In order to determine whether these results represented significant differences in magnitude between the effects of positive interactions and negative interactions, differences in beta weights were examined utilizing a structural equation model constraining the absolute values of the standardized betas to be equal. This yielded a χ^2 value indicating whether this difference was statistically significant. In line with hypotheses, negative interactions

accounted for significantly more variance in all outcomes except for positive affect ($p <$ .01). Positive interactions accounted for significantly more variance in positive affect ($p <$ .01).

The fifth hypothesis was that the IRI would demonstrate incremental convergent validity in predicting outcomes over and above general and parent-specific support availability measures (BSSS and CASSS). A series of multiple regression equations were run with positive interactions and negative interactions simultaneously predicting each outcome, controlling for general and parent-specific support availability (BSSS and CASSS). Standardized beta weights for negative interactions remained significant ($p <$ .01) controlling for positive interactions, as well as general and parent-specific support availability for all outcome variables (Table B.4). The standardized beta weight for positive interactions remained significant controlling for negative interactions, as well as general and parent-specific support availability for positive affect only. The remaining four effects for positive interactions on negative affect, distress tolerance, difficulties in emotion regulation and worry were not significant. ΔR^2 values represent the amount of additional outcome variance accounted for by including positive interactions and negative interactions in the model. ΔR^2 values were significant for each affective and emotional regulation outcome variable.

Table B.4

Multiple Regression Models Testing Incremental Convergent Validity of IRI-A Scales

	Standardized betas				
Model	Positive Affect	Negative Affect	Worry	Difficulties in Emotion Regulation	Distress Tolerance
Support Availability Only					
BSSS	.17**	-.22***	-.16**	-.20**	.19**
CASSS	.40***	-.24***	-.15*	-.18**	.18**
Support Full Model					
BSSS	.10	-.14*	-.11	-.15*	.12*
CASSS	.24***	-.09	-.04	-.06	.05
Positive Interactions	.24***	-.09	.02	.05	.06
Negative Interactions	-.12*	.31***	.34***	.43***	-.30***
N	434	438	403	343	370
ΔR^2	.03***	.07***	.09***	.16***	.07***
Total R^2	.30***	.23***	.17***	.27***	.17***

Note. ΔR^2 reflects additional variance explained by positive and negative interactions.

* $p < .05$ ** $p < .01$ *** $p < .001$

CHAPTER FOUR

Discussion

This study found strong evidence for the validity of an adapted form of the IRI for use in assessing parental social support in adolescents. First, good factor validity of the IRI was established, reflecting two facets of parental social support: positive interactions and negative interactions. Additionally, high item discrimination and test information were demonstrated for both the positive interactions and the negative interactions scales. Perceived positive and negative interactions had significant and unique relationships with outcomes. Additionally, positive and negative interactions demonstrated distinctions in magnitude of effect, with negative affect and emotional regulation (worry, difficulties in emotion regulation, and distress tolerance) outcomes best predicted by negative interactions, and positive affect best predicted by positive interactions. Finally, negative interactions demonstrated incremental convergent validity in predicting affective and emotional regulation outcomes over and above instruments assessing general and parent-specific support availability and positive interactions demonstrated incremental convergent validity in predicting positive affect over and above an instrument assessing general support availability, and similarly to an instrument assessing parent-specific support availability.

These results were consistent with an existing line of research suggesting that positive and negative interactions are two distinct dimensions as opposed to a single, unidimensional construct (Hoeve et al., 2009; Rivers & Sanford, 2020, 2021). While

bidimensional models of social support have been previously identified in romantic and important adult relationships (Rivers & Sanford, 2020, 2021), they have not yet been delineated in the parent-adolescent support literature. Present confirmatory factor analysis not only reflected two facets of parent-adolescent social support including perceived positive interactions and perceived negative interactions, but also supported the uniqueness of both factors through multiple channels. These included low correlations between the two factors, high discrimination, unique effects of both factors in regression equations, and the differences between magnitude of effect in predicting types of affect supports the importance of both positive and negative interactions between parents and adolescents. The high factor validity suggests the IRI-A can reliably and accurately assess perceived positive and negative parent support interactions as independent, unique constructs. Item response theory analyses also suggest that at the individual item level, the IRI-A is sensitive to differences in socially supportive parental interactions between individuals. It is important to note that the negative support scale provided excellent discrimination for individuals at average to high levels of negative interactions and acceptable discrimination for people reporting low levels of negative interactions, while the positive interaction scale provides less discrimination overall, but good discrimination for a wider range of levels of experience. This performance suggests that both scales yield information that is important in assessing parent social support, and that the negative interactions scale may perform better when individuals are experiencing higher levels of negative supportive interactions (Baker & Kim, 2017). This sensitivity is displayed across responses, allowing for a more accurate assessment of both constructs

that may be lacking in scales for which floor effects and unidimensionality are significant problems.

These results are also consistent with a line of research suggesting that, compared to positive interactions, negative interactions often produce more robust effects in predicting outcomes involving negative affect and emotional regulation (Hoeve et al., 2009; Rivers & Sanford, 2018, 2020, 2021). Prior work has suggested the presence of much larger effects for negative interactions with outcomes for adolescents, as well as with emotional self-regulatory processes in adults (Hoeve et al., 2009; Rivers & Sanford, 2018, 2020, 2021). The present results are consistent with these findings; negative support was strongly associated with negative affect and emotional regulation processes. The current study also supports past findings for a strong relationship between negative interactions and negative affect (Rivers & Sanford, 2018, 2020, 2021; Ramsey & Gentzler, 2015; Watson et al., 1988). Positive social support interactions on the other hand were only a robust predictor of positive affect. In line with prior research, support was not found for an association between positive interactions and emotion regulation outcomes (Rivers & Sanford, 2018). Moreover, the fact that positive interactions were related to positive affect and the fact that this scale had strong psychometric properties suggests that the lack of other effects for positive interactions is not merely an artifact of poor validity. Rather, a scale that appears to have good validity and that produces expected convergent validity with positive affect failed to produce unique correlations with emotional regulation, whereas negative interactions produce robust associations with emotional regulation, therefore, underscoring the importance of negative interactions.

Whereas previous research has demonstrated the importance of perceived support availability, the present results build on this literature by demonstrating several ways that perceived interactions have a novel function in comparison to both general and parent-specific perceived support availability (Cohen et al., 2000; Malecki & Demaray, 2002, 2006; Rivers & Sanford, 2018, 2021; Sarason & Sarason, 2009; Schwarzer & Schulz, 2003; Vangelisti, 2009). Positive interactions remained significantly associated with positive affect at a similar magnitude to parent-specific social support availability and over and above general support availability. In particular in the present study, negative interactions generally produced more robust effects than all the other variables, including not only positive interactions, but also measures of general and parent-specific support availability variables. These results suggest that perceived negative interactions are especially important in predicting emotional regulation processes, including distress tolerance, difficulties in emotion regulation, and worry, over and above that of support availability paradigms.

Limitations

The limitations of the current study should be acknowledged. First, all data were cross-sectional, preventing determination of temporal precedence among variables. Data were collected online, which may raise possible concerns related to participant honesty and generalizability to other populations. However, online collection methods have previously been shown to provide reliable data from adolescents (Sutter & Klein, 2007). It is possible that individuals with limited technology access were underrepresented in the

current study, which belies a need for future data collection procedures to ensure representativeness across socioeconomic statuses (Harris et al., 2017).

Additionally, data collection took place during the COVID-19 pandemic, which may reflect unique conditions of social support and distress, e.g., adolescents receiving remote online education and therefore more contact with parents and less peer contact (Ellis et al., 2020). Additionally, it is difficult to know how directly the pandemic impacted the participant's responses to the study because there were global increases in a number of distress-related experiences during this time (Panchal et al., 2021). Therefore, the sample may have been uniquely stressed (Panchal et al., 2021), which may have influenced their emotional regulation abilities and perception of socially supportive interactions. The performance of the measure even under these conditions suggests the IRI-A may appropriately assess positive and negative social support even under unique and unprecedented conditions of stress, which is then associated with subsequent emotional regulatory processes, as demonstrated by the results. Finally, the appropriateness of identifying recent perceived support interactions in order to identify modifiable treatment variables for family interventions was not possible to assess, due to collection of data at only one time point.

Future Directions

The present results suggest that perceived interactions, and especially negative interactions could be important to target in clinical interactions, due to the robustness of their relationship to emotional regulation outcomes in particular. One possible next step to determining the clinical utility of the IRI-A is investigating the sensitivity of the

instrument to change over time using longitudinal data. This would help determine whether changes in negative interactions are detected by the IRI-A, and ultimately whether changes in negative interactions are associated with a resultant impact on emotional regulation and other therapeutic outcomes. Recent negative interactions may be more clinically accessible and related to affective and emotional regulation outcomes, as opposed to interventions targeting an individual's general beliefs about social support availability. Further, research suggests negative interactions are more prominent in certain groups such as juvenile offenders (Hoeve et al., 2009; Johnson et al., 2011, see Appendix A for a review on this topic). Given the present results suggesting high test discrimination for negative interactions even for individuals reporting extreme levels of the construct, it could be especially important to test negative interactions in this population.

Utilization of the IRI-A might provide increased specificity in treatment goal development during family interventions. A recent meta-analysis suggests mixed utility of social support interventions, particularly for those that act only on perceived support availability (Hogan et al., 2002). The majority of interventions identified appeared to target the development of additional sources of positive social support (Hogan et al., 2002). The present results suggest that increasing positive interactions may only have minimal benefit, and it is much more important to focus on simply reducing negative interactions.

APPENDICES

APPENDIX A

Social Support in Juvenile Offenders

This section is included as an examination of the possible application of the IRI-A in a population of adolescents that may subject to unique stressors, for example: juvenile offenders. This body of work is a proposed direction for future research that might examine the use of the IRI-A to assess positive and negative parent social support interactions in juvenile offenders. This project grew out of an initial plan to validate the IRI-A in a population of justice-involved adolescents, and although this could not be done during the COVID-19 pandemic, it is still an important topic for future research.

It is valuable to have a method of assessing parental social support in juvenile offenders, due to its impact on emotional and behavioral outcomes for juvenile offenders (Feeney & Collins, 2015). Parental social support exists along two dimensions—positive interactions and negative interactions, with negative interactions being more important in predicting youth outcomes (Hoeve et al., 2009). Perceived appraisals of supportive interactions allow for a more specific measure of support that permits distinction between positive and negative interactions, while measuring general beliefs about support only provides an assessment of a unidimensional construct—the presence or absence of support (Rivers & Sanford, 2019). There is a need for an instrument that measures both parent positive social interactions and negative interactions, with a focus on identification of perceived interactions, because this approach to support measurement allows for dimensional specificity when examining parental social support. Existing measures of

social support for adolescents measure general parent support or perceptions of available support only, failing to capture support behaviors or produce clear distinctions between types of support that may be important (Hoeve et al., 2009).

A promising approach to measuring positive and negative interactions in juvenile offenders is to adapt and validate the Interpersonal Resilience Inventory (IRI; Rivers & Sanford, 2020). The IRI has previously demonstrated good evidence for two factors, each assessing the desired dimensions of positive and negative interactions, as well as convergent validity with emotional outcomes, while also accounting for additional variance over and above measures of general and expected future social support. It is expected that adapting this measure for use with juvenile offenders would produce the same two dimensions corresponding to positive and negative interactions. It is also expected that an adapted measure would demonstrate incremental convergent validity in measuring self-reported youth emotional (depression, anxiety and emotional regulation) and behavioral outcomes (criminal and antisocial behavior, substance abuse, and compliance with probation requirements) for juvenile offenders, over and above existing measures of parent social support.

The IRI will be adapted to specifically ask about social support from parents. The participants will be 150 detained youth at a local juvenile detention facility either awaiting adjudication or placed in a long-term post-adjudication program. Researchers will offer youth the opportunity to complete a one-hour study session in exchange for a $25 Visa gift card. Youth will complete self-report measures including the IRI, perceptions of available social support including the Berlin Social Support Scale (BSSS; Schwarzer and Schultz, 2013) and child-specific measures of unidimensional parent

social support such as the Child and Adolescent Social Support Scale (CASSS; Malecki & Demaray, 2001), as well as self-report measures of emotion and behavior, including the MMPI-A-RF (Archer et al., 2016) and the Youth Self-Report (YSR; Achenbach, 2001) both of which provide a measure of youth mental health symptoms such as anxiety and depression as well as a measure of youth problem behaviors including criminal and antisocial behavior. Youth will also complete the Difficulties in Emotion Regulation Scale (DERS; Victor & Klonsky, 2016) in order to assess emotion regulation.

Aim 1: Test the hypothesis that the adapted form of the IRI will demonstrate good evidence for a two-factor model corresponding to positive and negative support interactions for juveniles in detention. Aim 2: Test the extent to which the positive interactions scale is distinct from the negative interactions scale. It is hypothesized that both positive and negative interactions will demonstrate convergent validity with emotional (anxiety, depression and emotion regulation) and behavioral (antisocial and criminal behavior, substance abuse, and compliance with probation requirements) outcomes for youth, and each will explain unique variance in outcomes controlling for the other. Aim 3: Test the hypothesis that negative interactions will be more important in predicting outcomes. Aim 4: Test the extent to which the adapted form of the IRI demonstrates incremental convergent validity in predicting emotional and behavioral outcomes over and above unidimensional nonspecific and perceived availability of support scales such as the BSSS and the CASSS.

It is valuable to assess perceived parental social support in juvenile offenders because this is associated with two categories of outcomes: emotional, including emotion regulation, depression and anxiety, and behavioral, including substance abuse, criminal

and antisocial behavior and compliance with probation requirements. Researchers define parental social support through a variety of lenses, but its relationship to important outcomes is consistent. For example, meta-analysis of 161 studies of 432 parenting variables examining links between parenting behavior and juvenile delinquency (or criminal behavior) that cut across theoretical models demonstrates that not only are there strong links between parenting and delinquency, but there are demonstrated effects for a relationship between both positive ("trust, acceptance, supportive parenting, open communication, love, caring and warmth") and negative ("indifference, avoidance, neglect, hostility and rejection") aspects of parent support and juvenile criminal behavior (Hoeve et al., 2009). In the present psychometric study focused on validating a new instrument assessing parent social support in a target population of juvenile offenders, it is necessary to capture youth perceptions of both of these types of important interactions with parents: 1) positive parent supportive interactions and 2) negative parent supportive interactions, also termed negative parent interactions.

Parent support behaviors also influence the extent to which other parent behaviors function to impact child outcomes. For example, high levels of parent control, another key variable in the parenting and delinquency literature, is associated with lower child disclosure, while adolescents who viewed their parents as supportive were more disclosing (Stattin & Kerr, 2000; Tilton-Weaver, 2014; Tilton-Weaver et al., 2013). Others have demonstrated that the link between child disclosure and delinquency is mediated by parental support (Keijsers et al., 2009). Research has also demonstrated that positive effects of parental control and solicitation on externalizing outcomes including substance use and delinquency were only observed in the context of socially supportive

parental relationships (Micalizzi et al., 2019). Therefore, parent social support may be an important upstream factor that supersedes other predictors of juvenile criminal behavior, due to the need for a foundation of perceived parental support in order for other vital parenting behaviors to occur within the parent-child relationship.

The importance of parent social support is further underscored in both the attachment and parenting style literature; however, these constructs combine support with other behaviors, leading to a lack of clarity in association with outcomes. Attachment research demonstrates a link between warm, secure relationships and criminal behavior, with attachment explicitly defined as featuring rejection, affection, control, bonds, love, and nurturance as well as support and involvement (Cullen et al., 1999; Hoeve et al., 2012). Parent social support is one component of the multifaceted attachment relationship and thereby acts directly on adolescent criminal behavior. Parenting style research also finds that authoritative parenting, which is high on control and high on support, is associated with decreased offending and substance use; though there is limited support for the added utility in including parenting style configurations, versus an examination of support in isolation, due to the effect support, monitoring and disclosure have on the variable utility of control as a predictor of outcomes (Hoeve et al., 2008; Lamborn et al., 1991; Mounts, 2002). Additionally, research with racial minority samples suggest that control performs differently across different groups, such that parenting style configurations may mask important differences and similarities across support variables (Bean et al., 2006; Bean et al., 2003). It appears that parsimony in assessing only the parent social support construct may lend clarity to these relationships between parenting and important outcomes.

In addition to the juvenile justice, parenting style, and attachment research, theories from criminological literature suggest that social support is important in predicting outcomes. Examples of theories proposing the importance of social support include general strain theory (GST) and social support and differential coercion theory (SSDC). Sources of strain include failure to achieve goals, actual or anticipated removal of positive stimuli, and the experience of negative stimuli (Agnew, 1992, 2016). GST demonstrates that strains such as family conflict and negative interactions have been found to be associated with antisocial and criminal behaviors (Hay, 2003; Mazerolle & Maahs, 2000; Pratt & Godsey, 2003). These aspects of interpersonal strain may be conceptualized as parent negative interactions.

General strain theory also suggests that social support is negatively associated with the effects of general life stressors. Therefore, social support acts on the same outcomes that are affected by general life stressors (or strain). Agnew (1999) adds that social support functions similarly to a social cache that provides individuals with the ability to cope with strain, thereby facilitating emotion regulation strategies. Strain theory therefore supports the idea that positive social support has effects on individual emotional regulation in response to institutional stressors that may otherwise lead to offending behaviors; indeed, "adolescents with conventional social support, should be better able to respond to objective strains in a nondelinquent manner" (Agnew, 1992). For example, violence exposure has stronger effects on child well-being for those with low social support or high levels of other social stressors (Kliewer et al., 1998). Indeed, social support may interrupt the relationship between the effects of community violence exposure and internalizing symptoms in children, further supporting the importance of

social support on emotional outcomes such as anxiety, depression, and emotion regulation (Kliewer et al., 1998; O'Donnell et al., 2002). Additionally, perceived social support mediates the relationship between parent conflict and child mental health symptoms and delinquency (Owen et al., 2008). Because both interpersonal stressors (sources of strain) and perceived socially supportive interactions act on the same outcomes, namely emotion regulation, anxiety and depression, as well as juvenile problem behaviors including offending and substance use, social support is important to measure in a population of juvenile offenders.

The general social support literature also suggests a conceptualization of social support as a resource that individuals can draw upon in times of stress, which is important when considering stresses related to incarceration. A large-scale longitudinal study examined negative effects of socioeconomic status that increased antisocial behavior over time due to an increasing confluence of related risk factors and demonstrated that large effects of socioeconomic status were completely mediated by supportive parenting practices, defined as maternal warmth and monitoring (Odgers et al., 2012). Parental warmth, monitoring and knowledge, common analogs to support, also mediated the criminogenic effects of low neighborhood social organization and economic status (Chung & Steinberg, 2006). Positive parental social support interactions may function to provide mobilization of coping responses to both interpersonal and societal sources of strain, while negative interactions may function as a source of interpersonal strain that serves to undermine self-efficacy and coping, or provoke emotional reactance (Cohen & Wills, 1985). Individuals may be better able to cope with adverse early life events, or

less susceptible to the negative effects of such events, when they have supportive parent relationships.

Another organizing theory of crime, social support and differential coercion theory, suggests that social support decreases problem behaviors including substance use and antisocial behavior, as well as a lack of compliance with probation requirements. Researchers utilizing this framework employ a bidimensional model to examine the extent to which sources of social support serve as a deterrent to engaging in criminal behavior, while sources of coercion function as stressors (similar to strain) that increase the likelihood of engagement in criminal behavior. Coercion, linked to juvenile offending, is defined as "a force that compels or intimidates an individual to act because of the fear or anxiety it creates," and is therefore similar to and incorporates social aspects of strain, such as negative support (Colvin, 2000). Within differential coercion and social support theory (DSSC), the manner in which social support is provided is important. Erratic social support is thought to produce anger and emotional reactance due to an inability to rely on or trust these sources of support (Colvin et al., 2002). Conversely, consistent social support rewards non-coercive interactions and results in less anger from strain, ostensibly through reinforcement of positive behaviors (Akers & Jennings, 2009; Colvin et al., 2002). The authors extend the transactional nature of coercive exchanges to social support, suggesting that receiving consistent social support models and reinforces provision of social support to others, which leads to further perceived social support from one's environment (Colvin et al., 2002; Cullen, 1994; Richardson et al., 2014). They add that the concept of interpersonal coercion includes parent rejection, inconsistent discipline, and parent conflict—all consistent with negative

support interactions, and is thought to produce more negative behavioral outcomes such as higher levels of intense anger compared to other sources of stress (Colvin et al., 2002).

By including two facets of interpersonal relationships (support and coercion) that can impact problem behaviors, Colvin et al. (2002) form the basis for a two-dimensional conceptualization of social support. Others find that negative aspects of support, such as family conflict, are associated with adolescent alcohol use (Thompson et al., 2014). In multi-site samples, it has been demonstrated that parent support reduces violent offending, while coercive aspects of parent relationships are associated with increased violent offending (Kurtz & Zavala, 2017). Both social support and coercion have been shown to relate to outcomes including anxiety and depression in samples ranging from recently released adult inmates (Johnson Listwan et al., 2010) to organized criminal activity in homeless youth (Baron, 2009).

Social support also has effects on outcomes that cannot be explained by other contextual variables such as race or socioeconomic status. Though early social support research has primarily been conducted with primarily White individuals, more recent work has involved oversampling of racial and ethnic minorities and has consistently documented relationships between parental support and delinquency, alcohol consumption, and other problem behaviors, even after controlling for variables such as socioeconomic status, age, race and family structure (Barnes & Farrell, 1992; Barrera et al., 2002; Bean et al., 2006). Further, parenting practices partially mediated the relationship between neighborhood social process and criminal behavior related to gang membership, supporting the performance of parent social support behaviors at multiple

ecological levels of risk (Tolan et al., 2003). This work suggests that social support may be beneficial across groups from a variety of backgrounds and adverse contexts.

Social support has also been found to impact mental health outcomes in incarcerated populations, including depression and anxiety, as well as emotional regulation. Research with incarcerated adolescents suggests that greater overall support from families was related to lower depression in both males and females, with a moderate relationship associated specifically with parent support as compared to support from other family members (Johnson et al., 2011). Research also indicates sharper decreases in depressive symptoms for those adolescents whose parents visit them while incarcerated, irrespective of the quality of the parent-child relationship (Monahan et al., 2011). Taken together, it is possible that perceived parent social support may reduce the effects of the stress of incarceration, which is vital given the increased risk of death by suicide among adolescents in adjudicated settings (Gallagher & Dobrin, 2007).

As noted in studies of parental support only, parental social support is specifically important because it is related to important emotional and behavioral outcomes, remains relatively stable over time, and is not subject to the same methodological problems as peer support. Peer social support is associated with an increase in delinquent behavior when individuals are citing social support from delinquent peers, thereby necessitating an assessment of the peers in question when examining the quality of social support and its effects (Brezina & Azimi, 2018). Parent social support differs in that it may even act on risk conferred by other aspects of parent behavior. For example, positive parenting behaviors partially mediate the relationship between parent antisocial behavior and child aggression, even when following individuals to adulthood (Johnson et al., 2004),

suggesting that when parents engage in antisocial behavior, other parenting behaviors such as support can still affect outcomes such as antisocial behavior of their child. Parent social support also has a tendency to be more stable over time and is therefore a potentially valuable indicator of outcomes, as evidenced by research demonstrating that without intervention, parenting style is relatively stable over time (Glueck & Glueck, 1950; Sampson & Laub, 1993).

It is important to assess both perceived positive interactions and perceived negative interactions, which are two distinct and important variables related to social support, with perceived negative interactions being more consequential in predicting emotional (depression, anxiety and emotion regulation) and behavioral (antisocial and criminal behavior, substance use, and compliance with probation requirements) outcomes. Hoeve et al. (2009) demonstrate that the literature supports a two-dimensional model of social support and that negative support is not the same as low positive support. They find instead that perceived negative parent support interactions were actually significantly stronger links to adolescent delinquent behavior and should be regarded as a separate dimension from low levels of positive support (Hoeve et al., 2009). They describe positive support as "warmth, affection and acceptance," and note that this facet of parent behavior was also related to delinquency, but not as strongly as negative parent support behaviors (Hoeve et al., 2009). These two dimensions of parent social support are variables that are important to assess. Perceived positive parent social support interactions are conceptualized as remembered interactions that are appraised positively by the individual as helpful for affective coping and regulation (Badr et al., 2010; Cohen et al., 2000; Rivers & Sanford, 2018). In contrast, perceived negative parent social

support interactions are delineated as remembered negative interactions that are characterized by conflict or perceived by the individual as nonsupportive, critical, or unhelpful for affective coping and regulation (Cohen et al., 2000; Rivers & Sanford, 2018, 2019).

There are few studies that adequately capture the second dimension: perceived negative parent support interactions. Notably, only 18 studies included negative aspects of support, which suggests further investigation into the relationship between variables similar to negative parent interactions is needed (Hoeve et al., 2009). This dearth of research on negative interactions is particularly concerning given the demonstrated importance of perceived negative interactions in predicting youth outcomes (Hoeve et al., 2009). Studies that measure two dimensions of parent social support find that negative interactions are distinct from positive interactions and important in predicting emotional and behavioral outcomes. Namely, the significantly higher effect sizes for negative support related to juvenile delinquency were promising in support of further study (ES*r* = 0.30 vs. ES*r* = -0.17; Hoeve et al., 2009). It is also important to note that the authors found that child report of negative parenting behaviors yielded stronger associations to child delinquency outcomes, and no effects were found for study quality, which was assessed along several dimensions including sample size, number of items in measures, and reliability of parenting measures. It is likely that a study of social support in juvenile offenders would therefore capture two dimensions that are both distinct and important in predicting emotional and behavioral outcomes.

Other established studies support the need for measurement of two dimensions, termed social support and social undermining, which are analogous to positive and

negative interactions and relate to emotional outcomes such as anxiety and depression (Abbey et al., 1985). Vidal & Woolard (2017) also demonstrate that these two dimensions of social support are important in predicting how youth offenders will form relationships with probation officers and adhere to probation requirements, with high parental support associated with fewer counts of delinquent offenses, and high parental support combined with less punitive probation officer relationships associated with less technical probation violations. It seems likely that in developing an instrument to assess parent social support in juvenile offenders, it would be important to assess both facets of a similar two-dimensional model of social support in order to allow for prediction of other important behavioral outcomes in a sample of juvenile offenders, including antisocial behavior and substance use, in addition to probation adherence.

Further, Rivers & Sanford (2018, 2019) have demonstrated with factor analysis that there are two distinct dimensions to social support. Their results indicate that each dimension also explains variance after controlling for the other. These studies also demonstrate that there are differences between the two dimensions in the extent to which they predict different outcomes, including emotional well-being. Finally, Rivers and Sanford (2018, 2019) consistently find small correlations ($r < .2$) in all samples between the two target dimensions, supporting the idea that perceived positive interactions and perceived negative interactions are likely not redundant. Presumably, these two distinct dimensions would also be observed in a sample of juvenile offenders. It follows that two dimensions of parent social support would also demonstrate differences in the extent to which they predict different important emotional and behavioral outcome variables and

would continue to explain variance after controlling for each other in a population of juvenile offenders.

Measuring perception of recent support interactions allows for capturing the desired two dimensions of support important in predicting outcomes, as opposed to general beliefs or perceived availability. It is therefore important to assess perception of recent support interactions. In making this distinction, it is vital to clarify among definitions of social support and establishing specificity in what is being assessed (Sarason & Sarason, 2009). The range of operationalization of social support tends to fall into groups of definitions constituting three perspectives: a sociological approach focused on social group integration, a psychological approach focused on the availability of support as perceived by the individual, and a communication approach focused on how recipients and providers of support interact behaviorally (Vangelisti, 2009). These three perspectives tend to be measured by frequency of relationships or type of support received, as well as observations of behaviors individuals engage in through interpersonal processes of support (Lakey & Orehek, 2011; Vangelisti, 2009).

Types of support are typically further subdivided into instrumental and expressive domains, with the former constituting "the provision of goods or money" while the latter is composed of "sharing sentiments, ventilating frustrations, reaching an understanding on issues and problems, and affirming one's own as well as the other's worth and dignity" (Vaux, 1988). Though macro-level structural financial inequalities are shown in some cases to have effects on outcomes as well, the majority of research on social support and affective coping focuses almost exclusively on provision of expressive support (Pratt & Godsey, 2003). Within romantic relationships, five support types have

been identified: informational (provision of advice), emotional (provision of comfort and security), esteem (confidence in one's ability to handle a problem), tangible (indirect or direct instrumental assistance), and network (sense of belonging to an interpersonal network; Cutrona & Russell, 1987). The specificity with which these types of social support have been identified and measured belies the idea that it may be important for there to be congruence between desired and provided support in determining whether the support is appraised as positive or negative. Indeed, the extent to which the individual perceives interactions as unsupportive, critical, or not in line with desired support needed for a given context is associated with the extent to which the supportive interaction is helpful in emotion regulation and acts on other outcomes (Cohen et al., 2000; Reis & Collins, 2000; Rivers & Sanford, 2018; Sanford, Backer-Fulghum, & Carson, 2016). The research suggests that context is highly important in whether support behaviors are perceived positively, underscoring the individualized nature of perceived support (Cutrona et al., 1990; Gleason et al., 2008). By assessing perceptions of recent supportive interactions, it is possible to capture two separate important dimensions which constitute positive appraisals of perceived support as well as negative appraisals of perceived support due to a mismatch in the recipient's needs and the support provided—whether these cognitions are related to the support being too much, too little, or not titrated to correctly address the specific stressor or type of desired support. It is therefore expected that it is actually the perception of the interaction that is important to measure.

It is also necessary to distinguish between an individual's cognitive response to support (perceived support), compared to observer rating, or the ratings of those who are providing the support (received support) (Barrera, 1986; Cohen et al., 2000; Reis &

Collins, 2000). In distinguishing perceived versus received support, i.e., contrasting the beliefs one has about available support with the actual observable support behaviors one experiences, it becomes apparent that there is a mismatch in outcomes such that whether one is receiving support is less important than how one views the support that is received (Feeney & Collins, 2015; Maisel & Gable, 2009; Sarason & Sarason, 2009). In fact, many studies show that received support has little to no impact on well-being outcomes, while others show inconsistent results (Barrera, 1986).

Received support is likely to represent a context-dependent unidimensional factor in that one either receives more or less of it only—which does not capture both desired dimensions of support. Received support is determined by exogenous variables such as the interpersonal approach of the support provider, the situation that the receiver is in, the type of stressor, as well as access to resources that allows for the provision of support to take place. In contrast, individual appraisals of supportive interactions as positive or negative influence what type of effects the support will have on overall well-being—such that received support has positive benefits only when the receiver perceives it as responsive to their needs (Maisel & Gable, 2009). Assessing the individual appraisal of supportive interactions provides additional information beyond whether support is available or not or expected to be available in the future. Presumably, it is important to consider these perceptions of recent support interactions in order to capture both positive and negative dimensions of parent social support.

Given the separate nature and unique influences of the dimensions of positive and negative perceptions of socially supportive interactions, assessing support as a unidimensional construct likely masks differential effects of both, which further

contributes to inconsistent results across studies. Rather, perceiving support as positive and helpful is separate from failing to perceive desired support or perceiving support as bad or unhelpful. Not only can the same act of support have both positive and negative outcomes, but negative behaviors may be more salient, making negative appraisals more important in how support is evaluated over time (Rivers & Sanford, 2018; Vangelisti, 2009). Both are consequential for affective coping and may contribute to the formation of beliefs about expected future support, thus representing more proximal representations of situation-bound context-dependent interpersonal processes that are highly individualized (Gleason et al., 2008). It is also suggested that current lack of social support in youth may be associated with expected future support, such that remembered recent perceived interactions may form the basis for later beliefs about support availability or expected future support (Cullen, 1994). Therefore, though perceptions of recent support interactions may contribute to beliefs about support availability or expected future support; they are not redundant with general beliefs and are likely more clearly related to important behavioral and emotional outcomes.

Lakey & Orehek (2011) also suggest that social support has effects on stress response directly because social support is useful in times of stress— as an interpersonal process, not merely beliefs about if support is available. Relational regulation theory (RRT) suggests that social interaction is important to how support is perceived and response to provided support is largely entirely idiographic such that whether a recipient perceives support provided as regulating depends wholly on their own "affective, cognitive, and behavioral reactions" to "ordinary yet affectively consequential social interaction" that differ greatly from one person to the next (Lakey & Orehek, 2011).

Rather than grounding support exclusively in behavioral response only to stressors, such as problem-solving conversations which implicitly suggests a moderated model of support on mental health outcomes, RRT suggests that day-to-day interactions that are consistent with individual's cognitive representations of their relationships with others are also highly emotionally regulating. Because these activities are varied and individual to the person, it is possible that RRT encompasses another way in which positive and negative perceptions of supportive interactions act on coping responses and mental health outcomes. The extent to which an individual perceives support as failed may be largely dependent on relational regulation matching, which is bound to not just the situation, but the individual's perception of the behavior and its potential for regulation and match to representations of past effective regulation interaction (Lakey & Orehek, 2011). Therefore, these aspects of support that are not currently assessed in existing measures of parent social support are valuable to include in validating a new measure of parent social support.

Cohen & Wills (1985) indicate that social support represents a cache that has positive effects when responding to a stressor; however, they discuss how this resource influences directly responding to stressful events and reduces stress. Through the stress buffering hypothesis, social support is thought to have positive effects on mental health when stressful situations arise (Cohen & Wills, 1985). This line of research suggests that in the absence of stressful situations, social support is not associated with mental health outcomes (Cohen & Wills, 1985). However, frequent demonstration of main effects over and above the effects of coping and stress responses suggest that social support also functions beyond a stress buffering mechanism (Lakey & Orehek, 2011). Yet, there are a

high frequency of studies demonstrating moderators through which the effects of social support on outcomes are conditioned (Sarason & Sarason, 2009; Vangelisti, 2009). It is possible that social support functions directly on mental health outcomes while also having indirect effects through mobilization of affective coping responses. Additionally, social support provided in the context of a stressful situation may be a more powerful factor in coping (Creaven & Hughes, 2012). Social support has been shown to predict how well individuals cope and respond to stressful situations, as well as linked to emotional outcomes such as depression (Cramer, 2004; Roohafza et al., 2014). This illustrates how social support is not merely "stored," but the interactions with significant others becomes important at the moment an individual encounters a stressful situation. It is likely that social support represents a resource upon which juvenile offenders can draw, particularly during stressful situations such as being detained, in order to successfully regulate their emotions.

Perceptions of social support are also important because they may be less likely than beliefs about support availability to overlap with attachment. For example, parent social support was found to be inversely related to delinquency and distinct conceptually but related to control and attachment measures (Hoeve et al., 2012; Wright & Cullen, 2001). If parent social support contributes to formation of attachment between child and parent, then manipulation of social support processes may lead to effects on attachment as well. Attachment is more stable and less amenable to change; presumably perceived interactions capture a more recent and modifiable facet of parent social support in juvenile offenders.

In order to assess the two desired dimensions of social support using perceptions of recent support interactions, Sanford et al. (2016) identified a series of positive and negative interactions that are regularly observed and reported by people in their romantic relationships based on the individuals' own language to describe their socially supportive interactions. These behaviors included positively perceived interactions and negatively perceived interactions, which were described as support interactions that are perceived as unhelpful or undesirable such as "failing to provide expected comfort" (Rivers & Sanford, 2018; Sanford et al., 2016). Though these initial studies examined romantic relationship coping, later work has extended these behaviors to perceptions of support interactions with other key social support figures, such as adult friends (Rivers and Sanford, 2019). Rivers and Sanford (2019) found these behaviors to be distinct from appraisals regarding future support (someone will be there for me) or support availability (I have individuals on whom I can count). In measuring perceptions of recent support interactions with parents in a population of juvenile offenders, it is likely that measuring similar behaviors will also capture two dimensions of parent social support.

Existing measures of parent social support measure unidimensional support including the availability of social support resources or expected future support and therefore are not as clearly related to emotional and behavioral outcomes (Rivers & Sanford, 2018). Many measures of parent social support assess beliefs about support availability or beliefs about expected future support (Cohen et al., 2000). How a recent supportive interaction is appraised has been conceptualized as distinct from either beliefs about available support or expected future support, which may be more susceptible to additional variables such as support receiver personality and negative emotionality

(Pierce et al., 1991). Perceptions of support interactions are also distinct from general beliefs regarding perceived availability of social support. Rather than grounding measurement of parent social support in recent remembered interactions, measurement of support availability simply reflects an individual's habitual beliefs about the world and typical social support interactions (Brunson et al., 2015). Schemas of both available and expected future support are unidimensional—one either does or does not think support is available or expect future support from others to be provided during a stressful situation. These measures assess general beliefs about available social support resources or scripts for "typical" interactions and are therefore more subject to schema-type beliefs, not related to perception of actual recent interactions. They are also global and do not necessarily pertain to specific contexts or people, limiting their utility in intervention (Cohen et al., 2000). Past social support research that has examined global future expectations of support only allows for the interpretation of *more* expected support to be associated with positive outcomes, which constrains the ability of researchers to examine negative consequences of support (Sarason & Sarason, 2009). For example, an individual could expect to be provided with advice from a parent in the future, which would constitute high schematic future support, yet she could perceive the advice-giving to be unwanted and mismatched to the specific stressor she may experience, thus the anticipated social support might not be associated with emotional outcomes such as anxiety, depression and emotion regulation, or behavioral outcomes that reflect the individuals ability to regulate their behavior, including criminal and antisocial behavior (Cohen et al., 2000; Sarason & Sarason, 2009; Vangelisti, 2009).

Exemplars of existing instruments that measure support availability include the Berlin Social Support Scales (Schwarzer & Schulz, 2003) which contain items including "When I am worried, there is someone who helps me." These types of items assessing scripts for support availability are intrinsically unidimensional, with an individual either perceiving support as available or unavailable. The Berlin Social Support Scales also measure general social support, rather than support specifically from parents. While support availability is an important construct to assess, it fails to capture the desired two dimensions of parent social support that are desirable for maximally predicting outcomes in a population of juvenile offenders.

When considering perceptions of socially supportive interactions, the transactional nature of the social support process is important, as the environment responds to a child and impacts later responding through socially supportive interactions—therefore, reciprocal perceived interactions are more important than expected future support or general appraisals of whether support is available or not. Reciprocal perceived interactions belie the fact that socially supportive interactions are mutual and socially constructed. This mutuality and evocative exchange is particularly important when measuring social support in juveniles. For example, parent-child interactions may reinforce escalated emotional responses and problem behaviors through increasingly aversive child behavior that is contingent upon parent behavior such as withdrawing control (Patterson, 1998). This understanding of the ways in which adolescents also select and act upon their environment in canalizing interactions demonstrates the importance of social support measurement both to identify protective factors and to identify a proximal risk factor that may become more influential as

individuals age and continue to respond to and act upon their environment in ways contingent upon provided social support (Colvin et al., 2002; Granic & Patterson, 2006). It may be that low parent social support impacts the parent-child relationship through multiple mechanisms, such that child behavior is influenced to a degree that acts upon and exacerbates problematic parenting behavior, also increasing risk for later offending (Granic & Patterson, 2006; Keijsers et al., 2009). These coercive interactions then constrain parent behavior, which leads to reduced flexibility in parent responding over time and provides problematic interaction patterns that affect other socialization processes that otherwise might exert prosocial influences (Granic & Patterson, 2006). Effective parenting such as non-coercive discipline and communication (a facet of positive parental social support) has been shown to enhance flexible behavioral responding in children, influencing development of self-control, deviant behavior, and social information processing skills (Crosswhite & Kerpelman, 2009). Deficits in effective parenting as defined by the authors further constrains child behavior into coercive processes and increases problem behavior (Crosswhite & Kerpelman, 2009; Stouthamer-Loeber et al., 2002). The importance of these reciprocal interactions underscores the need for assessment of recent remembered supportive interactions that are co-created and perceived as positive or negative based on factors related to the context and both individuals, as desired in the instrument proposed by the present study.

Existing inconsistent findings in the literature regarding the impact of social support on behavioral and emotional outcomes may arise due to methodological variation regarding whether actual perceived interactions are being measured, or more general beliefs about support. These measures do not capture the bidimensional construct of

socially supportive interactions. Because measures of global support show that both positive and negative outcomes follow provision of support, as well as large amounts of varying effects for moderators, some theorize that this pattern of results indicates that there are problems with concluding that support constitutes a unidimensional variable where more support is more positive, while less support is negative (Barrera et al., 1981; Vangelisti, 2009). Such a study might find no relationship or inconsistent results among social support and outcome variables due to not accounting for this mismatch, also considered to be a negative aspect of support, (Rivers & Sanford, 2018). Research with romantic dyads shows that either support underprovision or overprovision is associated with decreased marital satisfaction and that, somewhat counterintuitively, overprovision of support may be more negatively consequential, irrespective of support behavior type (Brock & Lawrence, 2009). These findings are consistent with optimal matching theory, which posits that characteristics of the support recipient all contribute to idiographic support needs and that, while matching support to the stressor may be important, matching provided support to the characteristics of the recipient is also associated with more positive perceptions of support (Cutrona et al., 1990; Cutrona et al., 2007). Underprovision of needed support may constitute a stressor and provoke negative cognitions about the support provider, while overprovision of support may undermine self-efficacy and beliefs about coping efficacy (Brock & Lawrence, 2009). Importantly, both of these mismatches do not represent the inverse of high social support, but reflect negative perceptions of supportive interactions, or provision of support that is appraised negatively because needs are either not met or not met in the specific mechanism desired by the individual.

Another existing measure in the juvenile literature, the Child and Adolescent Social Support Scale (Malecki & Demaray, 2002, 2006) measures general, nonspecific frequencies of positive actions, such as “My parents give me good advice” and therefore does not capture negative interactions. These measures also may not demonstrate adequate item discrimination in this population due to high levels of distress, which can constrain positive general beliefs about the future. Measures subject to these types of floor effects then underestimate the effects of social relationships in individuals on the lower end of socially supportive relationships. Sarason & Sarason (2009) support the idea that social support goes beyond general appraisal, stating that “social support occurs in interpersonal transactions that include recipients and providers with distinctive cognitions, feelings and behavioral styles.” Existing measures of social support in the juvenile justice literature often measure an individual's beliefs about the availability of support resources or assess only expected future support. In contrast, assessing perceptions of recent support interactions is important because it will likely capture the desired two dimensions of parent social support. Therefore, it is expected that perceptions of remembered supportive interactions should predict emotional and behavioral outcomes over and above global beliefs about available or future support.

Measuring specific remembered positive and negative behaviors that impact one's ability to face stressful situations captures both dimensions of social support and provides a more recent, concrete measure of these behaviors that are not susceptible to general beliefs and expectancies regarding future support or general global appraisals of support.

Further, report on perceptions of recent support interactions may represent a measure of social support that is sensitive to treatment change, either at the individual

level in how supportive interactions are perceived, or at the family level in capturing improved mutual recent support interactions. This is because, presumably, we are examining behaviors which fluctuate over time, rather than relatively stable beliefs about future perceived support availability. Additionally, current lack of support may be associated with a future lack of expected support and therefore redundant. Research on interventions regarding control and monitoring demonstrate little effect on recidivism, while restorative justice programs that increase social connectedness are demonstrating early support for effectiveness (Lowenkamp et al., 2010). Increasing social support through restorative justice intervention provides social support at the level of entry to the system and may represent an earlier intervention that prevents re-offending sooner (Cullen, 1994; Cullen et al., 1999). These interventions would act most directly on remembered recent socially supportive behaviors and interactions, rather than immediately undermining beliefs related to future expected or available support. Family intervention to increase socially supportive interactions and facilitate matching between support needs and provided support to decrease negative appraisals may provide even earlier intervention that has cascading effects across a multitude of risk factors (Lakey & Orehek, 2011). Problems exist with merely increasing the number of social supports due to an assumption that all people are equally supportive; rather, the matching between needs and provision of support is the priority in social support intervention (Lakey & Orehek, 2011). By developing an instrument that assesses both positive and negative perceptions of recent supportive interactions, it may be possible to identify treatment targets (negative perceptions) and evaluate progress (positive perceptions).

A promising approach to measuring positive and negative parent interactions in juvenile offenders is to adapt and validate the Interpersonal Resilience Inventory (IRI). The IRI has previously demonstrated good evidence for two factors, each assessing the desired dimensions of positive and negative parent support interactions (Rivers & Sanford, 2020).

Rivers & Sanford (2018) have demonstrated that the IRI has several desirable characteristics for assessing parent social support in a population of juvenile offenders. For example, previous research has demonstrated that the IRI possesses good item discrimination, a characteristic that would improve upon existing social support measures that fail to capture the full breadth of parent social support in highly distressed populations due to floor effects in social support measurement. The IRI also consistently has low correlations among factors expected to be theoretically distinct, i.e., positive and negative interactions. The IRI has also previously demonstrated discriminant validity when compared to measures of beliefs about support availability or expected future support (Rivers & Sanford, 2018). Finally, the IRI has previously demonstrated convergent validity with emotional outcomes, including important emotional outcomes include stress effects as related to mental health outcomes, similar to target outcomes in the present study. In order to adapt the IRI for use in assessing positive and negative perceptions of parental social support behavior in a population of juvenile offenders, the instructions must be modified to ensure that respondents are answering items only about parent or caregiver support, and not other significant adults or peers. While items that reflect a reciprocal coping process should be retained, several behavioral items would reflect inappropriate support activities for an adolescent to provide to a parent

developmentally. For example, “In your relationship with a significant adult person in your life, one of you had a clear opportunity to notice the other’s needs, but failed to do so.” Items of this type will be reworded to reflect the adult as the actor in the specified behavior. In order to validate a new measure of negative and positive perceptions of parent social support behaviors, it is also important to examine the extent to which the instrument performs as expected given research on social support with juvenile offenders. Given the identified outcomes related to parental social support in emotional (depression, anxiety and emotion regulation) and behavioral (substance abuse, criminal and antisocial behavior and compliance with probation requirements) domains, it is important that the new instrument demonstrate convergent relationships with the same outcome variables. In order to examine whether the adapted instrument is adequately capturing the two dimensions of perceived parental supportive interactions, it is important to demonstrate factor validity with two dimensions, and each dimension should explain variance in outcomes controlling for the other. In order to examine whether, in line with previous research with juvenile offenders, negative perceptions of parent social support are more consequential in predicting outcomes than positive, it is expected that the negative dimension will produce larger effects. Given support for perceived interactions being different in important ways from other types of perceived support, including support availability and expected future support, it is expected that the scales in the new measure will show incremental validity, over and above existing scales of other types of support.

One possible proposed study therefore would be to provide a method of assessing positive and negative parental interactions in juvenile offenders, due to its impact on emotional and behavioral outcomes for juvenile offenders (Feeney & Collins, 2015).

Specifically, a proposed study could to adapt and validate the Interpersonal Resilience Inventory (IRI) for use in assessing positive and negative parental interactions in a population of juvenile offenders, thereby increasing the ability of clinicians to tailor social support interventions in order to potentially influence emotional and behavioral outcomes including emotion regulation, anxiety, depression, substance abuse, criminal and antisocial behavior, and compliance with probation requirements.

APPENDIX B

Interpersonal Resilience Inventory—Adolescent Version

The next question will ask about **important adult people** in your life today. An important adult person could be a parent or primary caregiver.
How many **important adult people** can you think of in your life today?

_____

In this section, you will be asked about events that you may have experienced with **important adult people** in your life **during the last month**.

Event 1: You laughed together or enjoyed something that was funny with an **important adult person** in your life.
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 2: In your relationship with an **important adult person** in your life, one of you felt annoyed or frustrated about something the other did.
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 4: An **important adult person** in your life did NOT listen carefully to something you said.
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 5: An **important adult person** in your life helped you by keeping a positive attitude, being hopeful about the future, and talking about things that are good.

How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 6: An **important adult person** in your life made it more difficult for you by having a negative attitude, believing that the worst will happen, and expecting things to be bad.

How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 7: An **important adult person** in your life paid attention to your needs or understood what would be helpful to you.

How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 8: In your relationship with an **important adult person** in your life, one of you did NOT want to talk about a stressful situation and stopped yourself from talking to the other person about it. How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 9: You and an **important adult person** in your life worked together like a team.

How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 10: An **important adult person** in your life talked about the things they see wrong with you, judged you, accused you of something, or blamed you.
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 11: An **important adult person** in your life helped you by remaining calm and stable (kept their cool).
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 12: An **important adult person** in your life made it difficult for you by being overly emotional or getting easily upset (lost their cool).
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 13: You and an **important adult person** in your life spent time doing things together.
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day
o	This happened twice	o	This happened a few times per day
o	This happened three times	o	This happened several times per day

Event 14: An **important adult person** in your life could have helped you but did not do so.
How many times did this event occur for you in the past month?

o	This definitely did not happen	o	This happened once a week
o	I do not think this happened	o	This happened a few times per week
o	This happened once	o	This happened every day

o This happened twice
o This happened three times
o This happened a few times per day
o This happened several times per day

Event 15: An **important adult person** in your life helped you solve a problem by using special skills, or by knowing how to do something.
How many times did this event occur for you in the past month?

o This definitely did not happen
o I do not think this happened
o This happened once
o This happened twice
o This happened three times
o This happened once a week
o This happened a few times per week
o This happened every day
o This happened a few times per day
o This happened several times per day

Event 16: In your relationship with an **important adult person** in your life, there was a miscommunication or misunderstanding where one person did not understand what the other meant.
How many times did this event occur for you in the past month?

o This definitely did not happen
o I do not think this happened
o This happened once
o This happened twice
o This happened three times
o This happened once a week
o This happened a few times per week
o This happened every day
o This happened a few times per day
o This happened several times per day

APPENDIX C

Berlin Social Support Scale

(1) strongly disagree (2) somewhat disagree (3) somewhat agree (4) strongly agree
Please think of persons who are close to you.

1. There are some people who truly like me.
2. Whenever I am not feeling well, other people show me that they are fond of me.
3. Whenever I am sad, there are people who cheer me up.
4. There is always someone there for me when I need comforting.
5. I know some people upon whom I can always rely.
6. When I am worried, there is someone who helps me.
7. There are people who offer me help when I need it.
8. When everything becomes too much for me to handle, others are there to help me.

APPENDIX D

Child and Adolescent Social Support Scale—Parent Subscale

For each sentence you are asked to rate how often you receive the support described.

How Often?

My Parent(s)…

Never-Almost Never-Some of the Time-Most of the Time-Almost Always-Always

1…show they are proud of me.
2…understand me.
3…listen to me when I need to talk.
4…make suggestions when I don't know what to do.
5…give me good advice.
6…help me solve problems by giving me information.
7…tell me I did a good job when I do something well.
8…nicely tell me when I make mistakes.
9…reward me when I've done something well.
10…help me practice my activities.
11…take time to help me decide things.
12…get me many of the things I need.

APPENDIX E

Positive and Negative Affect Scale

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word.

Indicate to what extent you have felt this way during the past few weeks.

Feeling or emotion	**Very slightly or not at all**	**A little**	**Moderately**	**Quite a bit**	**Extremely**
Joyful	1	2	3	4	5
Cheerful	1	2	3	4	5
Happy	1	2	3	4	5
Lively	1	2	3	4	5
Proud	1	2	3	4	5
Miserable	1	2	3	4	5
Mad	1	2	3	4	5
Afraid	1	2	3	4	5
Scared	1	2	3	4	5
Sad	1	2	3	4	5

APPENDIX F

Difficulties in Emotion Regulation Scale

Response categories:

1	2	3	4	5
Almost Never (0-10%)	Sometimes (11-35%)	About Half the Time 36-65%	Most of the Time (66-90%)	Almost Always (91-100%)

1. _____ I pay attention to how I feel.
2. _____ I have no idea how I am feeling.
3. _____ I have difficulty making sense out of my feelings.
4. _____ I am attentive to my feelings.
5. _____ I am confused about how I feel.
6. _____ When I'm upset, I acknowledge my emotions.
7. _____ When I'm upset, I become embarrassed for feeling that way.
8. _____ When I'm upset, I have difficulty getting work done.
9. _____ When I'm upset, I become out of control.
10. _____ When I'm upset, I believe that I will remain that way for a long time.
11. _____ When I'm upset, I believe that I'll end up feeling very depressed.
12. _____ When I'm upset, I have difficulty focusing on other things.
13. _____ When I'm upset, I feel ashamed with myself for feeling that way.
14. _____ When I'm upset, I feel guilty for feeling that way.
15. _____ When I'm upset, I have difficulty concentrating.
16. _____ When I'm upset, I have difficulty controlling my behaviors.
17. _____ When I'm upset, I believe that wallowing in it is all I can do.
18. _____ When I'm upset, I lose control over my behaviors.

APPENDIX G

Distress Tolerance Scale

Directions: Think of times that you feel distressed or upset. Select the item that best describes your beliefs about feeling distressed or upset. 1. Strongly agree 2. Mildly agree 3. Agree and disagree equally 4. Mildly disagree 5. Strongly disagree
Scale
1. Feeling distressed or upset is unbearable to me. (Tolerance)
2. When I feel distressed or upset, all I can think about is how bad I feel. (Absorption)
3. I can't handle feeling distressed or upset. (Tolerance)
4. My feelings of distress are so intense that they completely take over. (Absorption)
5. There's nothing worse than feeling distressed or upset. (Tolerance)
6. I can tolerate being distressed or upset as well as most people. (Appraisal)
7. My feelings of distress or being upset are not acceptable. (Appraisal)
8. I'll do anything to avoid feeling distressed or upset. (Regulation)
9. Other people seem to be able to tolerate feeling distressed or upset better than I can. (Appraisal)
10. Being distressed or upset is always a major ordeal for me. (Appraisal)
11. I am ashamed of myself when I feel distressed or upset. (Appraisal)
12. My feelings of distress or being upset scare me. (Appraisal)
13. I'll do anything to stop feeling distressed or upset. (Regulation)
14. When I feel distressed or upset, I must do something about it immediately. (Regulation)
15. When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels. (Absorption)

APPENDIX H

Penn State Worry Questionnaire

These questions are about worrying. Worrying happens when you are scared about something and you think about it a lot. For each sentence that you read click the answer that best tells how true that sentence is about you.

	Never True	Sometimes True	Most Times True	Always True
My worries really bother me.				
I don't really worry about things.				
Many things make me worry.				
I know I shouldn't worry about things, but I just can't help it.				
When I am under pressure, I worry a lot.				
I am always worrying about something.				
I find it easy to stop worrying when i want.				
When I finish one thing, I start to worry about everything else.				
I never worry about anything.				
I've been a worrier all my life.				
I notice that I have been worrying about things.				
Once I start worrying, I can't stop.				
I worry all the time.				
I worry about things until they are all done.				

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