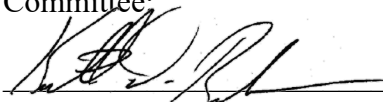


PARENT-CHILD TRAUMA COMMUNICATION: EXPLORATION OF A
PROPOSED MECHANISM FOR THE INTERGENERATIONAL TRANSMISSION
OF TRAUMA

by


Annie M. L. Fox
A Dissertation
Submitted to the
Graduate Faculty
of
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in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Psychology

Committee:



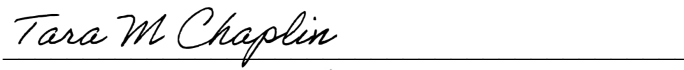
Tara M Chaplin


Director



Adam Winsler

Department Chairperson





Program Director

Dean, College of Humanities
and Social Sciences

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Fairfax, VA

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Intergenerational Transmission of Trauma

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Doctor of Philosophy at George Mason University

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Annie M. L. Fox
Master of Arts
George Mason University, 2017
Bachelor of Arts
University of Maine, 2013

Director: Keith D. Renshaw, Professor
Department of Psychology

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Fairfax, VA

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DEDICATION

This labor of love is dedicated to my parents. I am immensely grateful for the sacrifices you have made in support of my education, and for instilling in me values of ambition, perseverance, and compassion; to my best friend and husband, who has given me unconditional encouragement and support while I chase my dreams; and, finally, to all families that have been affected by trauma.

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Thank you to my graduate school cohort. I could not have asked for a better group of women with whom to share this incredible experience. I would also like to thank the other members of the GMU Anxiety, Stress, and Relationships Lab, from whom I was able to learn and grow. A special shoutout goes to my dear friend and lab twin, Sarah Giff. I am so glad that we went through this wild ride together.

Thank you to my husband and family, for always believing in me and being my biggest cheerleaders. I would also like to thank my sweet Beagle, George Costanza, for bringing so much joy to my life.

Thank you to God for your guidance and grace. I pray that my work brings healing and encouragement to those who are in need.

“Last but not least, I want to thank me. I want to thank me for believing in me. I want to thank me for doing all this hard work. I want to thank me for having no days off. I want to thank me for never quitting.” – Snoop Dogg

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ABSTRACT

PARENT-CHILD TRAUMA COMMUNICATION: EXPLORATION OF A PROPOSED MECHANISM FOR THE INTERGENERATIONAL TRANSMISSION OF TRAUMA

Annie M. L. Fox, Ph.D.

George Mason University, 2022

Dissertation Director: Dr. Keith D. Renshaw

Decades of research have highlighted the multi-generational impacts of trauma within families (Kellerman, 2001; Leen-Feldner et al., 2013). The bulk of research in this area has focused primarily on biological underpinnings associated with the transmission of trauma's effects from parents to children (Bowers & Yehuda, 2016), neglecting the potential influence of the family environment. The ways in which a parent communicates with their child about their own experiences of trauma may have significant impacts on whether the effects of trauma are 'passed down' from one generation to the next. However, there has been only modest research to date examining the nature of trauma communication between parents and children, with no validated measures of such communication. This dissertation built upon these gaps in the literature by exploring the adaptation of existing communication measures to examine parent-child trauma

discussions, and then using those measures to evaluate the role of communication in the association between parent and offspring psychological distress.

Data were collected online from 216 adult, undergraduate college students who knew or suspected that their parent had survived a traumatic event. Participants reported on their parents' index trauma and perceptions of their parents' posttraumatic stress disorder (PTSD) symptoms during their own upbringing, as well as their own current psychological distress. Additionally, participants answered numerous questions about the nature of trauma communication between themselves and their parent across their lifetime (e.g., frequency, length) and their reactions to such conversations. In Paper 1, I evaluated these measures, finding preliminary support for a 5-item measure of offspring perceptions of parental openness and competence during such discussions. Furthermore, consistent with hypotheses, both frequency and length evidenced a significant, curvilinear relationship with offspring perceptions. Moderate levels of frequency and length were each associated with the most positive ratings of communication by offspring, whereas high and low levels of each were associated with poorer ratings. In addition, most offspring reported that they believed their parent should discuss traumatic experiences with them, and that it would have been most appropriate to do so in their adolescence. These results indicate that multiple, ongoing (but not overly extensive) discussions of trauma elicit the most positive responses from offspring.

The second paper built upon the results of the first by exploring the role of communication about the trauma in the association between perceived parent PTSD symptoms and offspring psychological distress. Path analyses revealed that offspring

perceptions of their parent's openness and communication competence partially mediated the relationship between perceived parent PTSD symptoms and offspring distress; moreover, frequency of communication moderated the relationship between perceived parent PTSD symptoms and offspring distress, such that the positive association weakened as communication frequency increased. The results of the second paper again suggest that adequate amounts of communication about trauma by parents may help to mitigate the possibility of intergenerational trauma, particularly in the presence of parental PTSD symptoms.

INTRODUCTION

An abundance of research has demonstrated the deleterious impacts of trauma not only on trauma survivors, but also on close others (Daud et al., 2005; Galovski & Lyons, 2004; Horesh & Brown, 2018; Lambert et al., 2014; Vaage et al., 2011). Having a parent with posttraumatic stress disorder (PTSD), for example, is associated with greater incidence of anxiety, PTSD, and poorer resilience in offspring, relative to offspring of healthy controls (Field et al., 2013; O'Toole et al., 2017; Roberts et al., 2012; Shrira et al., 2019). When the consequences of trauma are 'passed down' from parents to children, this is known as *intergenerational trauma*. By and large, most research to date has emphasized biological factors implicated in the transmission of intergenerational trauma (see review by Bowers & Yehuda, 2016). Less is known about environmental factors that may contribute to this phenomenon, despite the importance of both biological and ecological underpinnings in diathesis-stress models of psychopathology (McKeever & Huff, 2003).

The overall family environment typically serves as a milieu for a child's emotional development and cognitions about themselves and the world (Danieli et al., 2016). If trauma-exposed parents have developed maladaptive thoughts, beliefs, or behaviors in response to trauma, these may be 'passed down' to and paralleled by their children (Ancharoff et al., 1998). More specifically, the way in which a parent

communicates about trauma may influence the functioning and adjustment of offspring (Ancharoff et al., 1998). For example, in discussing traumatic experiences, parents might express generalized, maladaptive beliefs about safety. Consequently, their children might also adopt maladaptive cognitions regarding their safety in the world. Although some qualitative research has examined offspring perceptions of trauma-related communication, there is a relative dearth of quantitative knowledge concerning offspring perceptions of, and reactions to, such discussions with a parent, and how these responses relate to offspring psychosocial outcomes.

This dissertation contains two empirical studies that address these gaps in the literature. Both studies relied on novel data collection from 216 undergraduate students, recruited from introductory psychology courses at George Mason University. Eligible participants were invited to complete an online survey to provide information about their and a parent's psychosocial functioning, trauma communication patterns throughout their upbringing, and their reactions to conversations about trauma with their parent. The investigation was cross-sectional and involved recollection of a most memorable or most representative conversation, as well as parent-child trauma communication more generally across their lifetime. Originally, I aspired to collect parallel information from the identified parent via online survey, and to conduct a laboratory study examining offspring stress responses. Due to the Covid-19 global pandemic, however, only two individuals participated in the laboratory portion. Likewise, only two parents agreed to complete the online survey. Thus, study aims were modified to focus exclusively on offspring report of parent-child trauma communication.

In Paper 1 (Chapter 2), I explored the adaptation of existing measures of parent-child communication to assess parent-child discussions specifically about trauma. Upon finding a suitable measure, I then examined the relationship between offspring perceptions of parent-child trauma communication and offspring reports of how frequently their parents discussed their trauma and how long such discussions typically lasted across the participant's lifetime. In Paper 2 (Chapter 3), I explored whether this communication measure mediated the relationship between offspring reports of parent PTSD symptoms and their own distress. I also evaluated whether the frequency of such discussions moderated the associations of parent PTSD symptom severity with both offspring perceptions of trauma communication quality and offspring distress.

Together, these studies provide a thorough, empirical investigation of parent-child trauma communication from the perspective of offspring. The results of these studies help to illuminate the importance of considering communication as a potential conduit for the transmission of intergenerational trauma, and a practical intervention point for families who may be struggling in the aftermath of trauma.

EVALUATION OF COMMUNICATION FREQUENCY AND LENGTH AS PREDICTORS OF OFFSPRING RATINGS OF PARENT-TRAUMA COMMUNICATION QUALITY

Introduction

In the aftermath of trauma, individuals often utilize social supports to cope with their distress. One means by which social support is purported to work is through the disclosure of traumatic experiences, particularly to friends and family (Balderrama-Durbin et al., 2013; Greenberg et al., 2003). By and large, prior research suggests that social support is a protective factor against deleterious post-trauma outcomes, such as posttraumatic stress disorder (PTSD; see reviews by Brewin et al., 2000; Ozer et al., 2003). Among parents with PTSD, however, uncertainty about what is or is not appropriate to discuss with children is a self-reported barrier to disclosing trauma to one's children (Sherman et al., 2015). For example, parents fear that disclosure will result in negative consequences, such as discomfort in the relationship or upsetting their child (Sherman et al., 2015). Moreover, parents may worry about secondary or vicarious traumatization of their child by talking about their traumatic experiences. Despite these reported concerns of parents, there has been little advancement in our practical knowledge of parent-child trauma communication, and specifically our understanding of offspring reactions to such conversations across a wide variety of parent traumas.

There have been some qualitative studies of parent-child communication, largely focused on identifying communication style or type (see review by Dalgaard & Montgomery, 2015). Early publications in this area were predominantly anecdotal,

involving clinical observations from therapists of adult offspring of Holocaust survivors (e.g., Greenblatt, 1978; Robinson & Winnik, 1980). For example, therapists observed that offspring who reported more frequent parent-child trauma communication, greater detail in communication, and younger age at time of communication tended to exhibit adjustment difficulties, borderline features, and increased rates of psychiatric hospitalization (Greenblatt, 1978; Robinson & Winnik, 1980; Trossman, 1968). Later qualitative research in this domain began to more systematically analyze parent-child trauma communication. Much research focused on categorizing such communication (mostly within Holocaust families) as either *open* or *silent*, and examining what characteristics accompanied such communication styles (Dalgaard & Montgomery, 2015; Dalgaard et al., 2016). Open communication was characterized by parents who had transparent and honest discussion about traumatic experiences with family members and demonstrated a willingness to answer others' questions. In contrast, a silent communication style involved parents who did not discuss their traumatic experiences with their children. Silence was sometimes employed in an effort to protect children but, at other times, seemed more related to parents' avoidance or reluctance to discuss their experiences with anyone (Dalgaard et al., 2016; Danieli, 1998; Measham & Rousseau, 2010; Sherman et al., 2015).

More recently, two additional trauma communication profiles have been proposed in this literature: *unfiltered* and *modulated* (Dalgaard et al., 2016; Montgomery, 2004). Unfiltered communication is characterized by unintentional speech, in which parents seem to have limited awareness that they are disclosing about trauma. Such

communication may occur in the midst of a flashback, or perhaps when a child accidentally overhears a parent's conversation about trauma with someone else. On the other hand, modulated communication refers to deliberate, age-appropriate communication by a parent that considers the emotional needs of the child (Dalgaard et al., 2016).

The definition of modulated communication certainly appears to be the most adaptive parental trauma disclosure style, but we as a field have yet to establish what constitutes such modulated communication in a practical, concrete sense. Within research on couples, many have speculated that it is most helpful for trauma survivors to disclose enough information about traumatic events with their partner to promote shared understanding, but not so much that it becomes overwhelming for either partner (Monson & Fredman, 2012). Empirical data to support these recommendations, however, are scarce, with only a small handful of published papers (e.g., Balderrama-Durbin et al., 2013; Renshaw & Campbell, 2011). Moreover, there are bound to be differences in what constitutes appropriate communication between parents and children as opposed to communication between romantic partners. Thus, research assessing offspring perspectives of such communication and specific, quantifiable correlates of those perceptions is needed to better understand optimal communication patterns about parental trauma within families.

Another important consideration is that, to my knowledge, almost all studies on parent-child trauma communication to date have been conducted with samples sharing a particular type of traumatic experience. Specifically, the majority of published studies in

this area have focused on Holocaust and refugee families (see Dalgaard et al., 2016). Moreover, of the modest number of quantitative studies available, most have utilized measures designed to assess intra-familial responses specific to these types of broadly shared experiences (e.g., Lichtman, 1983). Two seminal studies in this area are Nagata's (1993) study of offspring of Japanese-American internment victims and Lichtman's (1983; 1984) work with offspring of Holocaust survivors. Nagata (1993) assessed retrospective reports of parental communication about internment with 596 Japanese-American individuals raised by one or two parents who either had or had not been interned during WWII, using quantitative assessment and qualitative interview. Individuals raised by an interned parent reported having approximately 10 conversations about internment with their parent in their lifetime, lasting approximately 15-30 minutes each, significantly more than those without a parent who had been interned (Nagata, 1993). Importantly, many offspring reported feeling affected by their parents' traumatic past in the form of political distrust, low sense of security, as well as sadness and anger on behalf of their parents (Nagata, 1993).

Lichtman (1983) assessed the nature and frequency of Holocaust-related communication, as well as other measures of psychosocial functioning, in 64 children of Holocaust survivors (Lichtman, 1984). While openness by mothers was generally associated with worse outcomes in offspring (e.g., paranoia, lack of empathy), fathers' openness was associated with better outcomes in offspring (e.g., less depression, less hypochondriasis). Being exposed to trauma communication frequently and in great detail from a young age, regardless of parent, was associated with anxiety, paranoia, and other

maladaptive outcomes (Lichtman, 1984). These studies are among the few that have attempted to quantify offspring perceptions of intra-familial trauma communication in novel ways. While several of Lichtman's (1984) questions have been used by others in follow-up research with offspring of Holocaust survivors (e.g., Sorscher & Cohen, 1997; Wiseman et al., 2002), they include several items that may be most applicable to communication about cultural and/or ethnic historical trauma, and also include some items that may be reflective of psychopathology.

While important, it is somewhat difficult to generalize the results of these studies, given the uniqueness of these experiences (Fazel, 2019). For instance, among Holocaust survivors, research suggests that sharing one's story can help to facilitate intergenerational healing by communicating a sense of survivorship or resilience, ethnic pride, and living out a cultural value of intentional remembrance (Cohn & Morrison, 2018; Lehrner & Yehuda, 2018; O'Rourke et al., 2016). There is a relative paucity of research concerning other benefits of (or drawbacks to) disclosure about more individually experienced types of traumas that may not be as salient within a given family (e.g., sexual trauma, interpersonal violence) or directly tied to shared characteristics across parents and children (e.g., cultural or ethnic identity).

When considering the assessment of communication about more individually experienced traumas, information from the broader literature on parent-child communication about difficult topics may be useful. For example, Donovan and colleagues (2017) conducted a two-part study in which they interviewed undergraduate students about parental openness when making disclosures about important topics (e.g.,

diagnosis of cancer), then gathered quantitative reports on the effects of such conversations. Offspring reported more positive perceptions of such communication when given the opportunity to ask questions, receiving sufficient detail to understand, being treated as “adults,” and perceiving their parent as being honest, straightforward, and unambiguous (Donovan et al., 2017). Such results highlight not only the importance of message quality as perceived by the disclosure recipient, but also potentially positive effects of a parent’s efforts to tailor or modulate their communication to meet their child’s needs. From this research, we might infer that offspring respond positively when parents take similar approaches during conversations about trauma.

The present study builds upon existing knowledge by examining offspring perceptions of the nature of parent-child trauma communication involving a wide variety of trauma types, among offspring who may only *suspect* that their parent has survived a traumatic event. This study aimed to understand what offspring consider to be “appropriate” trauma communication through an in-depth, quantitative exploration of offspring perceptions of parent-child trauma communication, both in reference to a specific, recalled conversation about trauma, and in reference to their parent’s trauma communication more globally. I first evaluated whether existing measures of parent-child communication regarding other sensitive topics (e.g., sex) could be successfully adapted to evaluate offspring perceptions of communication with parents about a traumatic event, either in reference to a specific discussion or more broadly. Subsequently, I explored whether reports of communication quantity (both frequency and duration) were related to offspring perceptions of parental communication quality. I hypothesized that more

positive perceptions of trauma communication quality by offspring would be associated with moderate levels of both communication frequency and conversation length.

Method

Participants

The sample consisted of 216 undergraduate students who were at least 18 years old and knew or suspected that their parent experienced a traumatic event (which the participant did not also experience or witness). The parent in question must have been a biological parent with whom the participant lived for at least 50% of their upbringing.

The majority of the sample was female ($n = 157$), and participants ranged in age from 18-43 years ($M = 20.60$, $SD = 3.37$). With regard to race/ethnicity, the sample was highly diverse. About one-third of the sample (37.0%) identified as non-Hispanic White, followed by 26.4% as Asian, 15.3% as Black/African-American, 13.4% as Hispanic/Latino, and 7.9% as Other. The majority of participants identified their mother as the parent whose trauma had the greatest impact on them growing up ($n = 128$), with 76 identifying a father and 12 participants not identifying the sex of the parent in question. Nearly all participants indicated that their parent was still living (95.4%), with a mean parent age of 51.04 years old ($SD = 7.12$ years). The distribution of reported race/ethnicity of parents was nearly identical to that of offspring participants.

Measures

Demographic Factors. Participants were asked to report on their own demographic factors, including age, sex, and race/ethnicity. Participants then provided

similar demographic information about the parent whose trauma had the greatest impact on them growing up.

Parent Trauma Exposure. The Life Events Checklist (LEC-5; Weathers et al., 2013a) is a 17-item measure that assesses exposure to a variety of traumatic events. The participants completed the LEC-5 in reference to a parent's trauma history (to the best of their knowledge). The LEC-5 is frequently used and has been well-validated across a variety of populations (e.g., college students, veterans) and index traumas (e.g., Blevins et al., 2015; Bovin et al., 2016). Following completion of the LEC-5, participants were asked to identify the single traumatic event they believe affected their parent the most. The primary investigator reviewed reported index traumas to establish whether each participant's parent had experienced a traumatic event involving actual or threatened death, serious injury, or sexual violence (consistent with DSM-5 criteria for index traumas; American Psychiatric Association, 2013), and to code the index traumas across the following major categories: motor vehicle accident, health/medical issue, sexual trauma, interpersonal violence, exposure to war/combat, child abuse, and "other." These coded categories were used in later analyses to determine whether trauma type influenced offspring perception of parental trauma communication. Of note, 28 participants did not provide a brief description of the specific trauma in question.

Parent PTSD Symptoms. The PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013b) is a 20-item questionnaire that assesses the degree to which respondents have been bothered by symptoms of PTSD within the last month. The PCL-5 has demonstrated strong psychometric properties, including internal consistency, test-retest reliability,

convergent and discriminant validity, and diagnostic utility (Blevins et al., 2015). A cutoff score of 31-33 out of 80 has been recommended to indicate probable PTSD (Weathers et al., 2013b). In this study, participants completed the PCL-5 to provide their report of their parent's PTSD symptoms during their lifetime, to the best of their knowledge. Others have successfully utilized earlier versions of the PCL-5 to obtain informant-report measures of another individual's PTSD symptoms (e.g., Taft et al., 1999). Prior research also indicates that adult offspring are reliable retrospective reporters of their parent's PTSD symptoms, including on brief screeners when compared to structured clinical interviews administered by licensed clinical psychologists to parents (Yehuda et al., 2006). Internal consistency on this version of PCL-5 in my sample was high ($\alpha = .94$).

Trauma Communication Patterns. Participants indicated how they first learned about their parent's traumatic event via fixed-response options (see Appendix A), and they also reported their age when they first learned about it. Additional information on the general nature of parent-child trauma communication in their lifetime, such as the approximate number of times they had discussed the event with their parent and the average length of such discussions, was also gathered (see Appendix A). Questions were adapted from prior research exploring trauma communication patterns in Japanese-American families affected by internment (Nagata, 1993). Additionally, participants were asked to rate on a single, face-valid item how comfortable they have been in discussing the traumatic experience with their parent in general, on a Likert scale from 1 (*not at all comfortable*) to 7 (*very comfortable*). Finally, participants were asked whether or not they

believed their parent should discuss their traumatic experience with them (Yes/No). If participants responded “Yes,” they were asked at what age range they believed it would be most appropriate for their parent to have first shared their traumatic experience with them (see Appendix A).

Communication Quality. To evaluate participants’ perception of their parent’s openness to discussing their trauma, as well as their trauma-related communication competence, I adapted a 5-item measure of communication about sex between parents and children that was previously employed by Miller and colleagues (2009). Item responses were on a Likert scale from 1 (*not at all true*) to 3 (*very true*), with greater scores indicating greater openness and competence. Internal consistency of the original scale was high ($\alpha = .80$; Miller et al., 2009). For my study, the words “sex topics” were replaced with “their trauma” on all 5 items, and items were rewritten to assess the perspective of offspring rather than parents (see Appendix B). Example adapted questions include: “If I asked my parent a question about their trauma, they would be glad I asked” and “My parent feels comfortable talking to me about their trauma.” For the present study, internal consistency of the adapted trauma-focused items on this Parent-Child Trauma Communication Scale (PCTCS) was strong ($\alpha = .89$).

Trauma Conversation Recall. Participants were asked whether their parent had ever discussed their traumatic event with them directly. Those who indicated yes ($n = 138$) were asked to recall and write about such a conversation. My prompt, adapted from a study of emerging adults and perceptions of parental openness during disclosures (Donovan et al., 2017), was as follows: “Please think about a time when you and your

parent discussed their traumatic event. This discussion should be the most memorable or significant discussion of the traumatic event, to the best of your memory. If you cannot think of a specific memorable or significant discussion, please think about a typical discussion you would have had with your parent about their traumatic event. Take the next 10 minutes to describe this conversation as thoroughly as possible. For example, how did the conversation start? Who said what? How did it end?" Following the recall task, participants were asked the degree to which they believed they recalled the conversation accurately on a Likert scale from 1 (*very slightly*) to 5 (*extremely*). Participants reported recalling the conversation with at least moderate accuracy ($M = 3.47$, $SD = 1.09$).

After completing the writing task, participants answered a series of questions about their perceptions of the conversation. Questions were generated from a range of questionnaires and previous studies examining communication, particularly between parents and their offspring. First, I used 12 semantic differential items (e.g., sensitive/insensitive, upsetting/reassuring, useless/useful) with a 7-point Likert scale from a well-validated measure of communication, the Multidimensional Evaluation of Enacted Social Support (MEESS; Goldsmith & Griscom, 2017). For the present study, internal consistency of these items was high ($\alpha = .85$). In addition, I used 5 semantic differential items, again answered on a 7-point Likert scale, adapted from the Disclosure to Offspring Semantic Differential Instrument (DOSDI) that evaluated offspring attitudes towards married and divorced parents' disclosures (Kang et al., 2017). Internal consistency of these five items in my sample was also high ($\alpha = .89$).

Procedures

Participants were recruited from an undergraduate research pool of students taking introductory psychology courses at a large, public university in the mid-Atlantic region. In order to sign up for the study, interested participants must have known or suspected that a biological parent experienced a traumatic event (consistent with DSM-5 criteria; American Psychiatric Association, 2013), and were raised by that parent for at least 50% of their upbringing. If more than one of their parents had experienced a traumatic event, participants were asked to report on the parent whose trauma they believed affected them (the participant) the most. Participants were informed that they would be asked to complete a series of questionnaires about communication of stressful events in their families, as well as questions about their mood and psychological functioning. Eligible participants provided informed consent, and then completed an online survey in exchange for research participation credit. Participants first completed basic demographic questions about themselves and their parent. If their parent had experienced more than one traumatic event, participants were asked to provide a brief description of the trauma that they believed affected their parent the most, and then complete all subsequent survey questions in reference to that trauma.

At the end of the survey, participants were asked if they would be interested in having the primary investigator contact their parent to complete a similar questionnaire. Likewise, participants were invited to complete a follow-up laboratory session to assess biological responses to stress. Only two parents completed the respective parent survey,

and only two undergraduate participants completed the laboratory session. Thus, I do not report on results from those study components here.

Data Analysis

I first evaluated basic descriptive information for offspring reports of parental trauma history and parental PTSD symptoms, as well as parent-child trauma communication patterns. I also evaluated the mean, standard deviation, and item-total correlations for items on each of the MEESS, DOSDI, and PCTCS, as well as separate confirmatory factor analyses (CFAs) for each measure with one latent variable that had the individual measure items as observed indicators, using AMOS 26.0 (Arbuckle, 2019). Subsequently, to explore convergent and divergent validity, bivariate correlations and one-way ANOVAs were used to analyze the associations among different offspring ratings of parental trauma communication (i.e., PCTCS, MEESS, DOSDI, single face-valid item about comfort in discussions), offspring reports of trauma communication patterns (e.g., estimated trauma communication frequency, average trauma conversation length), and other potential covariates (i.e., perceived parent PTSD symptoms, age of child when first learned about parent's trauma, age of first trauma communication discussion, parent age at time of trauma, parent trauma type, parent sex, child sex, parent race/ethnicity, and child race/ethnicity). Results of the CFAs, measure-specific item-total correlations, and bivariate correlations were considered when selecting a dependent variable for regression analyses as a primary measure of communication perceptions by offspring. Of note, for trauma type, some individuals reported traumas falling into multiple categories and combinations of index traumas. Thus, I created a dichotomous

variable for each trauma type, and then conducted individual ANOVAs to examine differences in the selected dependent variable, based on trauma type. Any variable demonstrating an association with a significance level of $p < .10$ was included as a covariate in the subsequent regressions.

For the second study aim, I conducted two hierarchical regression analyses, each predicting a final scale of offspring perceptions of trauma communication by (1) communication frequency and (2) communication length. Due to the overlap in these independent variables, I evaluated them in separate regressions. Relevant covariates (identified from preliminary analyses described above) were entered into step 1 of each regression model. In step 2, a centered version of communication frequency (or length) and a quadratic version of that variable (created by squaring the centered version of the variable) were entered as independent variables. The quadratic term allowed for a test of my hypothesis that both high and low trauma communication frequency (and length) would be associated with poorer offspring perception of overall communication.

Of note, 20 participants completed the survey in reference to a parent's traumatic event that might not involve actual or threatened death, serious injury, or sexual violence (e.g., arranged marriage, financial strain). Regression analyses were replicated excluding these participants, but no significant differences in the patterns of results or effect sizes emerged. As such, I report results from the entire dataset, to better account for the range of traumatic events an individual's parent may experience.

Results

Offspring ratings of parental PTSD symptom severity were mild across the sample ($M = 19.17$, $SD = 16.13$), as reported by offspring on the PCL-5, but nearly one-quarter of offspring ($n = 52$) reported parental PTSD symptoms that they perceived as falling in the clinical range (i.e., PCL-5 score ≥ 31). The most common trauma types that offspring reported parents experienced were as follows: interpersonal violence ($n = 47$), motor vehicle accident ($n = 36$), child abuse ($n = 30$), exposure to war/combat ($n = 29$), health/medical issue ($n = 28$), and sexual trauma ($n = 11$). Fifty-two participants identified a trauma outside of the categories listed above (e.g., extreme poverty, religious persecution), and 39 participants identified traumas falling into multiple categories (e.g., childhood physical and sexual abuse).

Parent-Child Trauma Communication

Most participants indicated that they had spoken with their parent 1-5 times about the trauma, with conversations most frequently lasting 1-5 minutes (see Table 1.1). Many participants became aware of their parent's trauma in adolescence, and on average reported that they first heard or saw any reference to their parent's trauma at 12.65 ($SD = 5.23$) years of age (see Table 1.1). In general, participants indicated on the single, face-valid item that they were moderately comfortable discussing the traumatic experience with their parent ($M = 4.63$, $SD = 1.91$). Eighteen participants indicated that they were "not at all comfortable" during said conversations, while 51 reported that they were "very comfortable." Likewise, most participants (83.3%) expressed a belief that their parent should have discussed their traumatic experiences with them, with the majority (50.9%)

of these indicating that it would have been most appropriate to have such discussions when they were between the ages of 12 and 17, 0.5% indicating in infancy (0-2 years), 1.9% indicating in early childhood (3-8 years), 10.2% indicating in middle childhood (9-11 years), 17.6% indicating in emerging adulthood (18-25 years), and 1.4% indicating in adulthood (26+ years).

Most participants endorsed engaging in a specific trauma discussion with their parent and, thus, completed the recall task ($n = 138$). On average, participants were 15.36 years old ($SD = 3.44$) during the recalled discussion. Means, standard deviations, and corrected item-total correlations for the items from the MEESS and DOSDI in relation to this recalled discussion are shown in Tables 1.2 and 1.3. Corrected item-total correlations suggested that most MEESS items were strongly related to the MEESS overall total score, and all the DOSDI items were strongly related to the DOSDI total score. The overall item averages across the MEESS ($M = 5.10$, $SD = 1.56$) and DOSDI ($M = 5.33$, $SD = 1.45$) were reflective of positive reactions to the recalled trauma discussions.

Means, standard deviations, and corrected item-total correlations for each item on the PCTCS are shown in Table 1.4. The corrected item-total correlations indicated that all five items were at least moderately related to the total score. Overall, participants' scores on this measure were reflective of favorable ratings of parents' communication quality, with an item average of 2.35 ($SD = 0.72$) on the 3-point response scale.

As shown in Table 1.5, the MEESS and DOSDI total scores were strongly correlated with each other. The PCTCS total score was significantly and positively correlated with the MEESS but not DOSDI. The PCTCS score was also significantly and

positively correlated with each of the overall communication frequency and communication length variables, whereas the MEESS and DOSDI ratings of the specific recalled discussion were not. Of note, the face-valid item assessing participants' overall comfort in discussing trauma with their parent was also significantly and positively correlated with all other communication items, particularly the PCTCS, which was suggestive of good convergent validity for the PCTCS items. Results of CFAs suggested modest goodness of fit for a single-factor for the MEESS and DOSDI, and strong goodness of fit for a 1-factor model of the PCTCS items (see Table 1.6). Taking all results together, I concluded that the PCTCS provided the strongest unitary assessment of offspring perception of parental communication about trauma. The PCTCS was thus used in subsequent analyses.

Next, I evaluated the relationships between the PCTCS and a number of potential covariates. Analyses revealed that PCTCS scores were significantly negatively associated with offspring perceptions of parents' PTSD symptom severity (see Table 1.7), and with offspring report of the parent having experienced a sexual trauma ($M = 9.91$, $SD = 3.02$ vs. $M = 11.87$, $SD = 2.98$ for other traumas). Although the association between parent sex and PCTCS scores was non-significant, the significance level met the cutoff for inclusion as a covariate in subsequent analyses ($p = .092$), with offspring tending to rate communication quality lower when the parent affected was a father ($M = 11.17$; $SD = 3.01$) rather than a mother ($M = 12.06$; $SD = 2.89$). Associations between other potential covariates (e.g., parent or child race/ethnicity, child sex, other trauma types) and the PCTCS were nonsignificant.

Frequency and Length in Relation to Ratings of Parent-Child Trauma

Communication

The regression of PCTCS scores on relevant covariates and communication frequency was significant ($F[5, 173] = 10.27, p < .001; R^2 = .23$), and both the frequency variable and the quadratic version of the variable were significant (see Table 1.8). The addition of the frequency variable and its quadratic accounted for an additional 15% of the variance in predicting the PCTCS. Results supported the study hypothesis, as a curvilinear relationship emerged between the frequency of parent-child trauma communication and offspring's perceptions of parental openness and communication competence (see Figure 1.1).

Likewise, the regression predicting the PCTCS by communication length was significant ($F[5, 172] = 12.68, p < .001; R^2 = .27$). The communication length variable and its square were significant and accounted for an additional 19% of variance in predicting the PCTCS (see Table 1.9). As with the frequency variable, a curvilinear relationship emerged between average estimated length of parent-child trauma discussions and offspring ratings of parental communication quality (see Figure 1.2).

Discussion

Following a traumatic event, some parents may desire to disclose information about prior traumatic experiences to their children for a variety of reasons: to try to obtain social support from them, to educate their children (e.g., provide information about safety in the world), or to help explain certain behaviors (e.g., avoiding fireworks because it reminds them of combat). However, parents may hesitate to do so out of uncertainty

regarding how to go about it, or from fear of negatively impacting their child's mental health or their relationship with the child (e.g., Sherman et al., 2015). Parents may also wish to avoid such discussions due to their own discomfort in recalling or actively talking about past traumatic events. These are all understandable barriers to engaging in trauma-focused communication with one's child. Existing research suggests that modulated communication may be one means to combat concerns about negative impacts on children. However, we as a field have yet to establish specific components of trauma communication that can be employed by parents who do wish to engage in effective trauma disclosure, particularly from the perspective of offspring.

Overall, I found that most offspring were comfortable hearing about their parent's traumatic experiences, and believed it was appropriate for their parents to engage in trauma disclosure to some degree. The majority of participants shared the belief that trauma discussions between themselves and their parent would be most appropriate in adolescence, which is also consistent with prior research (e.g., Lichtman, 1984). Most participants also reported learning about their parent's trauma in their teenage years and reported moderate comfort on average during trauma discussions recalled from this time period. Thus, if parents aspire to implement modulated trauma communication, they may find that offspring are most equipped for and receptive to such discussions when they are adolescents. I also found that ratings of communication quality were lower for fathers compared to mothers, consistent with prior research on other topics of communication (e.g., sex talks; Feldman & Rosenthal, 2000; Noller & Callan, 1989). Further research is necessary to determine whether differing approaches are most effective across mothers

and fathers, and to what degree specific interventions should be tailored based on parent sex.

To address the limited quantitative tools for assessing parent-child trauma communication, I adapted a number of existing communication measures for this population. I found that a global measure of trauma communication, adapted from an existing measure of parent-child sex communication, appeared to capture offspring's perceptions of communication about trauma well. The resulting 5-item *Parent Child Trauma Communication Scale* (PCTCS) reflects offspring perceptions of their parent's communication quality, via perceived openness in discussing trauma and communication competence. This measure reflected offspring's global perceptions of communication across their upbringing, whereas the MEES and DOSDI assessed reactions to a specific, recalled conversation. Results on these latter measures may have been limited by offspring's memory of a conversation that happened years prior; moreover, the conversation they recalled might not have been reflective of the broader communication tendencies of their parents over the course of their upbringing. Thus, I determined that the PCTCS provided the best assessment of parent-child trauma communication, as it evaluated communication quality more broadly across the child's lifetime. With regard to style of communication, we might infer that the PCTCS represents offspring perceptions of modulated communication, as these constructs (i.e., openness, communication competence) can be considered reflective of conscientious openness by parents. It is still possible, however, that there are additional important components of parent-child trauma communication that were not captured in this adapted measure. Future research in this

area would benefit from exploring other facets of communication identified in the vast qualitative studies to possibly expand this measure. However, I did find that this measure appeared appropriate for assessing communication quality across a variety of traumatic experiences, addressing a prior gap in this area of research.

Using this measure, I found that communication quality ratings were lowest among offspring whose parent had survived a sexual trauma. These types of traumas may be especially difficult for parents to disclose, and for offspring to hear, relative to other types of traumatic events. One possible explanation for this is the difficulty that parents and children report when discussing sex as a topic more generally, even for the purposes of sex education (see review by Flores & Barroso, 2017). Parents often report discomfort and uncertainty about engaging in ‘sex talks’ with their children (Flores & Barroso, 2017). Thus, it stands to reason that sharing one’s experience of sexual trauma with a child may be especially difficult for parents, and all the more difficult to receive by offspring. I also found that, as perceived parental PTSD symptoms increased, communication quality ratings by offspring decreased. It is possible that in our sample, parents with higher levels of perceived PTSD symptoms evidenced poorer communication competence. However, it may also be that offspring perceived their parents’ communication quality as low when their parent exhibited avoidance or reluctance to revisit or discuss trauma memories. Future research may help to identify ways to make such conversations as helpful and effective as possible, particularly for parents exhibiting PTSD symptoms, and also for parents who have survived sexual trauma.

Offspring appeared to respond to trauma discussions most favorably at moderate levels of communication frequency (i.e., 31-35 instances) and moderate conversation length (i.e., 21-30 minutes). Importantly, these findings are not meant to be prescriptive; I am not suggesting parents aim for 31-35 discussions of 21-30 minutes each across their child's lifetime. Instead, what we might infer is that offspring view their parents as more open and competent communicators when they engage in at least some conversation about their traumatic experiences, but not so much communication that it becomes excessive or overwhelming. Offspring may benefit most when parents have multiple conversations with them as they age, of sufficient length to promote shared understanding, and within the context of their emotional development. Indeed, such effects have been observed following trauma disclosure to romantic partners by individuals with PTSD (e.g., Renshaw et al., 2014). However, the results may have been artificially influenced by how the fixed-response choices were designed. For example, participants who viewed their parent's communication as more extreme (e.g., silent, or inappropriately open and perseverative) may have been more likely to select options at either pole, with less attention to the actual numbers associated with those poles. Drawing from the literature on sex talks between parents and children, extant findings suggest that multiple, ongoing conversations tend to elicit more positive responses from offspring than infrequent, limited discussion (see reviews by DiIorio et al., 2003; Flores & Barroso, 2017). Likewise, offspring tend to report more positive perceptions of parent-child sex talks when their parents take an open, collaborative approach (Flores & Barroso, 2017). In addition, it is important to note that these results reflect only the perceptions of

offspring. It may be that parents have a much different experience related to frequency and length of such conversations. Future research should endeavor to examine perceptions from both parents and offspring.

There are limitations to the study that warrant careful attention. Participants represented a convenience sample of college students who knowingly agreed to participate in a study exploring trauma communication. Consequently, results of the present study may not generalize to the broader population, particularly if there are individuals who did not enroll in higher education as a partial consequence of intergenerational trauma, or individuals who avoided the study due to distress associated with discussions of trauma with their parent. Such individuals may have been less likely to rate their parent's trauma communication favorably, compared to the present sample. Likewise, on average, offspring report of parental PTSD symptoms was in the mild range. It is unclear whether similar patterns of offspring report would have emerged among individuals raised by parents with clinically significant PTSD symptoms. In addition to these limitations, our sample was comprised entirely of adults, reporting retrospectively on their parent's trauma disclosures across their lifetime. Memories of their parent's trauma communication may have changed over time. Relatedly, the distribution of reported communication frequency was skewed for this sample; the majority of participants endorsed communication frequency in the low range (i.e., 1-5 instances). Had participants reported a normal distribution of instances of trauma communication with their parent, alternative findings may have emerged (e.g., differing patterns among individuals who recalled a more moderate or high number of instances

across their lifetime). Finally, the present study is a cross-sectional exploration of parent-child trauma communication. As the present data were collected during the Covid-19 global pandemic, environmental stressors may have influenced recruitment and results. Ideally, future research will involve longitudinal exploration of parent-child trauma communication across childhood and into adulthood to better account for long-term effects of intergenerational trauma.

In the future, it may be especially beneficial to also obtain parent report of such communication, in order to compare parent and offspring perceptions of trauma disclosure. As with the sex communication literature, it is likely that parent and child perceptions of such conversations differ (Feldman & Rosenthal, 2000). Indeed, as noted above, conclusions drawn from the present study are limited, in that parent perspectives were not captured to evaluate both parties' perspectives of optimal communication patterns. Should similar findings emerge among parents, there might be more support for 'moderate' levels of communication frequency and duration mutually benefitting parents and their children. For example, if parents are firm in their belief that silence about or avoidance of trauma is best for themselves and/or their child, engaging in multiple conversations about their experiences may not be helpful or productive for either party. Additionally, relying entirely on offspring report may have accounted for the variance in the PCTCS explained by communication quality and duration/frequency, and artificially inflated the associations found. While there was limited evidence in this sample to suggest that trauma type plays a role in offspring perception, larger studies may be better able to detect potential effects of trauma type. I likewise did not find any differences

based on race/ethnicity in my sample. However, future research might uncover differences in willingness to discuss or share traumatic experiences with children (e.g., Dalgaard & Montgomery, 2015), and perceived appropriateness based on cultural norms. Indeed, prior research suggests that emphasis on parent-child trauma communication is largely a Western ideal (Rousseau et al., 2013).

In spite of these limitations, results of the present study represent a positive step towards structured assessment of parent-child trauma communication. Overall, communication frequency and length each appear to play a significant role in offspring perception of parental trauma communication, and should be taken into account when trauma survivors consider discussing their traumatic experiences with their children.

ASSOCIATIONS OF OFFSPRING RATINGS OF PARENT PTSD SYMPTOMS AND OFFSPRING DISTRESS: THE ROLE OF PARENT-CHILD TRAUMA COMMUNICATION

Introduction

The experience of trauma does not occur in a vacuum; rather, the consequences of traumatic events often extend to a survivor's loved ones and others in their support network (Galovski & Lyons, 2004; Horesh & Brown, 2018). Compared to offspring reared by those without a history of trauma, children raised by parents who have survived traumatic events are more likely to exhibit psychopathology, such as anxiety or depression, and greater likelihood for trauma exposure themselves (Castro-Vale et al., 2019; Yehuda et al., 2001). Secondhand or indirect experience of trauma (and its effects) has been labeled with a variety of terms, such as *co-victimization*, *secondary traumatic stress*, and *vicarious traumatization* (see review by Dekel & Goldblatt, 2008). Among parents and their offspring, this phenomenon has also been coined *intergenerational trauma*.

The concept of intergenerational trauma first received academic attention when it was observed that the adult children of Holocaust survivors demonstrated unexpectedly high rates of psychological distress (Rakoff, 1966; Rakoff et al., 1976). Since then, academics have attempted to elucidate the processes by which the effects of trauma are “transmitted” across generations. Findings regarding the multigenerational effects of simple exposure to trauma in parents have been mixed, but a majority of findings suggest that it is parental *psychopathology* in the aftermath of trauma, most typically represented

by symptoms or a diagnosis of posttraumatic stress disorder (PTSD), that is associated with deleterious outcomes in offspring (see meta-analyses by Lambert et al. 2014; Leen-Feldner et al., 2013; van IJzendoorn et al., 2003). These outcomes include greater incidence of anxiety and PTSD, behavioral problems, and poorer resilience in offspring, relative to offspring of healthy controls (Field et al., 2013; O'Toole et al., 2017; Roberts et al., 2012; Shrira et al., 2019; Vaage et al., 2011).

To date, several factors have been evaluated as potential mechanisms of the effects of trauma in the second generation (see review by Leen-Feldner et al., 2013). Biological underpinnings, such as genetic alterations, neurobiology, and stress reactivity may breed diatheses in offspring that later confer risk for adverse outcomes in the face of life stressors (see review by Bowers & Yehuda, 2016). In addition, consistent with a biopsychosocial perspective, environmental and/or family factors are likely to play a role (Kellerman, 2001). For instance, a parent's functioning (or dysfunction) in the aftermath of trauma may influence offspring cognitions, coping strategies, and emotion regulation, among other outcomes (Leen-Feldner et al., 2013). Often, the family environment serves as the milieu for a child's emotional development and the development of their beliefs about themselves and the world (Danieli et al., 2016). Thus, the way in which a parent responds to trauma, and the subsequent impact of that response on the family environment may be one conduit for the transmission of trauma's effects across generations (Leen-Feldner et al., 2013). Prior research has already found that psychosocial and interpersonal factors (e.g., parenting styles, attachment, parent mental health symptoms) appear to play a causal role in offspring outcomes (Berthelot et al.,

2015; Field et al., 2013; Flanagan et al., 2020; Sorscher & Cohen, 1997). Also, maladaptive cognitions, behaviors, and coping strategies of parents with PTSD symptoms have been linked to negative impacts on the family dynamic (Ancharoff et al., 1998; Leen-Feldner et al., 2013; Liga et al., 2020; Wiseman et al., 2006), as well as poorer coping and resilience in offspring (Fossion et al., 2015).

Another hypothesized psychosocial mechanism by which intergenerational trauma occurs in family systems is parent-child trauma communication (Kellerman, 2001; Wiseman et al., 2002; Wiseman et al., 2006). In their recent meta-analysis on mechanisms of intergenerational trauma in asylum-seeking refugee families, Flanagan and colleagues (2020) found that parental trauma exposure indirectly affected offspring well-being via a number of psychosocial factors, including family communication styles. Healthy communication styles (e.g., child-centered communication) helped to mitigate the effects of parental trauma exposure on offspring, while dysfunctional family communication negatively impacted offspring well-being via child attachment and adjustment (Flanagan et al., 2020).

Compared to parents who display openness about their traumatic experiences, adult offspring who remember their parents' communication about the Holocaust as silent, fragmented, or otherwise limited have been found to demonstrate worse outcomes as evidenced by greater reports of loneliness, interpersonal distress, anxiety, victimization, and terrifying worldview (Braga et al., 2012; Wiseman, 2008). Moreover, mutual silencing between parents and children has been linked to anger and frustration in offspring, as well as inhibition of their own emotional expression in order to protect

trauma-exposed parents (Wiseman et al., 2006). Offspring have also been found to experience feelings of sadness or incompleteness in response to their parent's secrecy or silence about traumatic experiences (Nagata, 1993), as well as guilt about their parent's trauma despite bearing no responsibility (Wiseman et al., 2006). Thus, restricted or incomplete communication about trauma by parents may be one mechanism for the transmission of trauma's effects across generations. From this literature, we might infer that low communication frequency itself has a unique impact on offspring outcomes, distinct from communication considered to be of 'low quality' by offspring.

On the other hand, excessive or unfiltered communication may also be problematic. Among children of Holocaust survivors, for example, early studies indicated that exposure to frequent, detailed trauma communication from a young age was associated with poor outcomes (e.g., increased hospitalizations, adjustment difficulties, anxiety, paranoia, and guilt; Greenblatt, 1978; Lichtman, 1984; Trossman, 1968). Also, if a parent who survives a trauma has developed maladaptive cognitions related to safety and trust, the parent may communicate their maladaptive beliefs when disclosing their trauma history to their child. In response to that communication, the child may also go on to develop maladaptive cognitions about safety and trust.

Unfortunately, we as a field have yet to determine specific aspects of parent-child trauma communication (e.g., frequency) that result in optimal outcomes for both offspring and parents. From the existing literature, we might infer that 'moderate' levels of trauma disclosure by parents are most helpful for offspring, falling somewhere between silence and 'oversharing.' Indeed, I found evidence of this in Paper 1, whereby

offspring ratings of parent's trauma communication quality were highest at moderate levels of communication frequency and length. The large body of qualitative research in this area also has suggested that 'modulated' communication by parents, or conscientious openness that takes into account a child's emotional and developmental needs, is beneficial to children, as compared to 'silent' or 'unfiltered' communication (see Dalgaard et al., 2016). However, such findings have yet to be explored in depth through quantitative research.

Another important limitation to the extant literature is a predominant focus on families of Holocaust survivors and refugee families. While important, it is difficult to generalize the findings of studies involving these populations, given the uniqueness of those experiences (Fazel, 2019). Such traumas may be salient and well-known within the family, regardless of the level of parental disclosure to their offspring. Indeed, discussion of such cultural or ethnic historical traumas may serve unique functions within a given family, for example, facilitating intergenerational healing (Cohn & Morrison, 2018; Lehrner & Yehuda, 2018; O'Rourke et al., 2016). Less is known about the effects of other types of events that might be more individually experienced and less overtly evident to a child. Thus, the literature on intergenerational trauma would benefit from the exploration of traumatic events likely to occur in the general population (e.g., motor vehicle accidents, assault), when offspring may have limited knowledge about or perhaps only *suspect* that their parent has survived a traumatic event. To my knowledge, there are no published quantitative studies examining whether and how parental PTSD impacts offspring perceptions of communication about a wide range of individually experienced

traumas and what role, if any, such communication might play in the potential negative impacts of parental PTSD symptoms on offspring mental health.

In line with the recent call for additional exploration of parent-child trauma communication (Flanagan et al., 2020), the goal of the present study was to address these gaps by exploring communication as a potential mechanism for the transmission of trauma across parents and children. Specifically, I examined the moderating effect of how frequently offspring reported having such discussions and also sought to understand the effects of perceived parental PTSD symptoms on offspring distress via offspring perceptions of parents' communication quality when discussing trauma. Importantly, by not restricting recruitment to a specific group or type of trauma, I was able to explore the effects of a range of traumatic experiences likely to occur in the general population.

Study hypotheses were as follows:

Hypothesis 1. The association between offspring ratings of parental PTSD symptoms and offspring psychosocial outcomes would be at least partially mediated by offspring perceptions of parent-child communication quality. More specifically, I hypothesized that:

- (a) perceived parent PTSD symptoms would be positively associated with psychological distress in offspring, and both of these variables would be negatively associated with offspring perceptions of parent-child trauma communication quality; and
- (b) the indirect path from perceived parent PTSD symptoms to offspring distress via trauma communication quality would be significant.

Hypothesis 2. Communication frequency would moderate the association between perceived parent PTSD symptoms and offspring distress, such that the association would weaken in the context of higher communication frequency.

Method

Participants

Two hundred sixteen adult undergraduate students who knew or suspected that a parent experienced a traumatic event (which they did not also witness or experience) participated in this study. The parent in question must have been a biological parent by whom the participant was raised for at least 50% of their upbringing. The sample was predominantly female ($n = 157$) and fairly diverse in terms of race/ethnicity. A plurality of participants (37.0%) identified as non-Hispanic White, followed by 26.4% as Asian, 15.3% as Black/African-American, 13.4% as Hispanic/Latino, and 7.9% as Other. Participants ranged in age from 18 to 43 years old ($M = 20.60$, $SD = 3.37$).

Most participants identified their mother as the parent whose trauma had the greatest impact on them growing up ($n = 128$), with 76 identifying a father and 12 participants not identifying the biological sex of the parent in question. The vast majority of participants indicated that their parent was still living (95.4%), with a mean parent age of 51.04 years old ($SD = 7.12$ years). Reported race/ethnicity of parents was virtually identical to that of participants.

Measures

Demographic Factors. Participants reported first on basic demographic factors about themselves (e.g., age, sex, race/ethnicity), then about the parent whose trauma had the greatest impact on them growing up.

Parent Trauma Exposure. The Life Events Checklist (LEC-5; Weathers et al., 2013a) assesses exposure to a variety of traumatic events. It is a well-validated, 17-item measure, having been employed across a variety of populations and index traumas (see Blevins et al., 2015; Bovin et al., 2016). Participants were asked to complete the LEC-5 in reference to their parent's trauma history, to the best of their knowledge. After completing the LEC-5, participants were asked to briefly describe the trauma they believed had the greatest impact on their parent. I reviewed responses for consistency with DSM-5 criteria for index traumas (i.e., including actual or threatened death, serious injury, or sexual violence; American Psychiatric Association, 2013) and then coded index traumas based on the following categories: motor vehicle accident, health/medical issue, sexual trauma, interpersonal violence, exposure to war/combat, child abuse, and "other."

Parent PTSD Symptoms. The PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013b) assesses the degree to which respondents have been bothered by symptoms of PTSD within the last month. It is comprised of 20 items, with a cutoff score of 31 to 33 out of 80 suggested as indicative of probable PTSD (Weathers et al., 2013b). The PCL-5 is considered a gold-standard diagnostic tool for PTSD, evidencing high internal consistency, test-retest reliability, and convergent and discriminant validity (Blevins et al., 2015). Adult offspring have been found to provide reliable retrospective report on their parent's PTSD symptoms via brief screeners, even when compared to structured,

diagnostic interviews of parents administered by licensed psychologists (Yehuda et al., 2006). Likewise, others have used previous versions of the PCL-5 to provide informant report on another's functioning (e.g., Taft et al., 1999). I adapted the PCL-5 measure in order for participants to report on their parent's PTSD symptoms, based on their observations of their parent across their own lifetime. This adapted version of the PCL-5 had strong internal consistency in the current sample ($\alpha = .94$).

Trauma Communication Quality. Based on the results of Paper 1, I employed a global measure of offspring perceptions of their parent's openness and competence in discussing trauma (Parent-Child Trauma Communication Scale; PCTCS). Participants selected the extent to which they agreed with a set of 5 statements on a Likert scale ranging from 1 (*not at all true*) to 3 (*very true*), where greater scores indicated more positive perceptions of parental communication openness and competence. This measure was adapted from a previous study on parent-child sex communication conducted by Miller and colleagues (2009) by replacing the words "sex topics" with "their trauma" on all 5 items and modifying the language to reflect offspring perceptions rather than that of parents (see Paper 1). Example adapted questions include: "If I asked my parent a question about their trauma, they would answer my question" and "My parent knows how to talk with me about their trauma." As with the original measure (Miller et al., 2009), internal consistency of the adapted trauma-focused items was very high in this sample ($\alpha = .89$).

Psychological Distress. Participants also completed the Depression Anxiety and Stress Scales – Short Form (DASS-SF; Lovibond & Lovibond, 1995a) to provide an

index of psychological distress. The DASS-SF is a 21-item measure that assesses depression (7 items), anxiety (7 items), and stress (7 items) over the past week. The DASS-SF has demonstrated high internal consistency and validity in prior research (Lovibond & Lovibond, 1995b). Internal consistency of the overall DASS-SF in the present sample was high ($\alpha = .95$).

Procedures

The study was comprised of adult, undergraduate students at a large, public university on the East coast. Participants were recruited from introductory psychology courses in exchange for research participation credit. After providing informed consent, participants were invited to complete an online survey. Information about the participants' demographic information was gathered, as well their parent. Should parents have experienced more than one traumatic event in their lifetime, participants were asked to identify the single traumatic event they believed affected their parent the most and complete the remaining survey questions in reference to that event.

Of note, 20 participants completed the survey in reference to a parent's traumatic event that may not have involved actual or threatened death, serious injury, or sexual violence (e.g., arranged marriage, financial strain). Analyses involving the final models were replicated excluding data from these 20 participants, with no significant differences in the patterns of results or effect sizes. Given the range of traumatic events that an individual may experience, I report here on results from the most inclusive version of the dataset.

Upon survey completion, participants were also invited to complete an in-person laboratory study to assess biological factors associated with intergenerational trauma and parent-child trauma communication. However, due to the Covid-19 pandemic, only two participants completed the laboratory portion. As part of the online survey, participants were likewise asked whether they would be interested in study researchers contacting their parent to complete a parent version of the online survey. Since only two parents completed the online survey, I do not report on results for the laboratory session or parent surveys here.

Data Analysis

Basic descriptive statistics for the primary variables of interest (i.e., PCL-5, DASS-SF, PCTCS, communication frequency) were examined. Next, I conducted Pearson correlations to evaluate bivariate relationships among variables. For the first study aim, I utilized AMOS 26.0 (Arbuckle, 2019) to test a model of factors predicting offspring psychosocial outcomes via path analysis. Offspring reports of parent PTSD symptoms (i.e., PCL-5) were entered as an exogenous predictor of both communication quality (i.e., PCTCS), and offspring psychosocial distress (i.e., DASS-SF), with an additional pathway from the communication variable to the offspring psychosocial distress variable.

To test the second hypothesis, I created an interaction term from the product of a centered version of the PCL-5 score and a centered version of the communication frequency variable, and added both communication frequency and the interaction as observed predictors of both communication satisfaction and psychological distress. Given

the results of Paper 1, a squared version of the centered communication frequency variable was also incorporated into the same model as a predictor of communication satisfaction and psychological distress. This variable was included to account for the prior finding that ‘moderate’ frequency of parent-child trauma communication led to better perceptions of parental trauma communication by offspring compared to very high or very low levels of communication. Moreover, since offspring ratings of communication quality may be less meaningful for families in which parents engaged in minimal trauma communication, I included communication frequency alone as a potential moderator of the association between parent and child distress. The initial model was fully saturated, and I subsequently dropped paths from the interaction term to other variables if they were nonsignificant to provide degrees of freedom.

Upon detecting a significant interaction term, I created high and low versions of the communication frequency variable to conduct probes of the interaction. I did this by adding 1 *SD* to the centered communication variable for the low probe and subtracting 1 *SD* from the centered communication frequency variable for the high probe, and then creating new corresponding interaction terms, as recommended by Aiken and West (1991). I then substituted the new probe variables into the model to evaluate change in the association between the PCL-5 score and the relevant variable. Finally, I used bootstrapping with 5,000 resamples to evaluate potential indirect pathways from predictors to my dependent variable (of note, this analysis was conducted only with participants who provided full data; $n = 202$). All models were evaluated using full information maximum likelihood (FIML). Model fit was then evaluated using the

Normed Fit Index, Comparative Fit Index, and Root Mean Square Error of Approximation using previously recommended cutoff values (Marsh et al., 2004).

Results

The majority of participants indicated that they had engaged in discussions about their parent's trauma with them 1-5 times ($n = 108$), followed by 6-10 times ($n = 42$), and 11-15 ($n = 11$) times (see Paper 1). A small portion ($n = 9$) indicated that they had never discussed their parent's experience of trauma with them directly in their lifetime.

Descriptive information for all variables of interest is presented in Table 2.1. On average, offspring ratings of parental PTSD symptoms fell in the subclinical range ($M = 19.17$, $SD = 16.13$). However, approximately 25% of offspring ($n = 52$) reported levels of PTSD symptoms in their parents that were clinically significant (i.e., PCL-5 score ≥ 31). The most commonly cited traumas were as follows: interpersonal violence ($n = 47$), motor vehicle accident ($n = 36$), child abuse ($n = 30$), exposure to war/combat ($n = 29$), health/medical issue ($n = 28$), and sexual trauma ($n = 11$). Nearly a quarter of participants ($n = 52$) identified a trauma outside of the categories listed above (e.g., extreme poverty, religious persecution), while 28 did not provide a brief description of the trauma in question. Of note, 39 participants endorsed index traumas falling into more than of the above categories (e.g., childhood physical and sexual abuse).

Offspring reports of parent PTSD on the PCL-5 were significantly positively correlated with communication frequency and offspring distress, and significantly negatively correlated with the PCTCS (see Table 2.1). Scores from the PCTCS were

significantly and positively correlated with communication frequency, while they were inversely correlated with offspring distress.

In the fully saturated path analysis model, the path from the interaction term to the PCTCS was nonsignificant. After dropping this path, the model provided an excellent fit for the data ($\chi^2[1] = 1.83, p = .176$; NFI = .99; CFI = .99; RMSEA = .06). As shown in Figure 2.1, greater offspring ratings of parent PTSD were significantly associated with lower ratings of communication quality and higher levels of offspring distress. Communication frequency and its square were both significantly associated with PCTCS scores, in line with prior findings (see Paper 1), but neither variable was significantly related to offspring distress. Finally, communication quality was significantly, negatively associated with offspring distress.

To test the indirect effect from offspring report of parent PTSD symptoms to offspring distress via the PCTCS, an identical model was run using bootstrapping with 5,000 resamples. To allow for bootstrapping in AMOS, I used the subset of participants with complete data for all variables in the model. Of note, results for each parameter in the model were similar to those that emerged from the original model using the full sample, with good model fit ($\chi^2[1] = 1.79, p = .181$; NFI = .99; CFI = .99; RMSEA = .06), identical patterns of significance, and similar effect sizes. As hypothesized, the indirect effect of perceived parent PTSD symptoms on offspring distress via PCTCS was significant ($b = .04, p = .016$) in this model, demonstrating partial mediation.

Finally, the path from the interaction term to offspring distress was significant, indicating that the association of perceived parental PTSD symptoms with offspring

distress differed based on communication frequency. Thus, probe analyses were conducted with the high and low versions of the communication frequency variable. These probes revealed that the relationship between offspring ratings of parents' PTSD symptoms and their own distress was strongest when communication frequency was 1 *SD* below the sample mean ($b = .57, p = .001$), and weakened as communication frequency increased ($b = .28, p < .001$ when frequency was 1 *SD* above the sample mean).

Discussion

While much empirical attention has been paid to biological underpinnings associated with the transmission of intergenerational trauma, a growing body of literature suggests that psychosocial factors, such as communication, warrant further consideration. This paper sought to explore the role of parent-child trauma communication in the relationship between parent and offspring distress. Consistent with hypotheses, the relationship between perceived parent PTSD symptoms and offspring distress was partially accounted for by offspring reactions to their parent's trauma communication. In addition, offspring ratings of parents' PTSD symptoms had a weaker association with offspring distress when offspring reported more frequent communication about the trauma with their parent. Overall, these findings highlight the importance of parent-child trauma communication in terms of both frequency and quality, even in the context of individually experienced traumas that occur in the general population.

One interpretation of these findings is that greater perceived parental PTSD symptoms leads to poorer quality of communication, and that this is linked to greater offspring distress. However, it may also be the case that parents experiencing symptoms

of PTSD are less likely to engage in trauma disclosures out of avoidance or reluctance to revisit trauma memories, and that such behavior results in poorer perceptions of communication quality by offspring. It is also possible that adult offspring with high levels of current distress (e.g., depression, anxiety), may have been more likely to recall their parent's functioning and communication as problematic. Although these alternative possibilities are viable, these findings suggest that parent-child communication about trauma is an important construct to consider when working to understand the interactions of trauma survivors with their children.

Understandably, there are a number of barriers to disclosing experience of trauma to one's children. Contrary to what some parents may fear (see Sherman et al., 2015), though, I found that when parents engage in multiple, ongoing conversations about trauma and demonstrate openness and competence (from the perspective of offspring), these behaviors are associated with less psychological distress in one's children. Moreover, the impact of minimal or nonexistent communication is not neutral – in fact, I found that lower communication frequency and lower perceived openness were each associated with more distress in offspring. My findings support the notion that, when done conscientiously (e.g., taking the child's emotional and cognitive capacity into consideration), parents' communication about their experienced traumas may help to build resilience in offspring. Such benefits have already been observed following disclosure by trauma survivors to their romantic partners (e.g., Renshaw et al., 2014). Although research also demonstrates the benefits to trauma survivors from disclosing their traumas to others (e.g., Balderrama-Durbin et al., 2013), such research has not

historically focused on disclosure to survivors' children. Thus, further research to better understand these effects in families is needed.

Overall, these findings lend support to the notion that intra-familial trauma communication is one mechanism by which intergenerational trauma occurs. When parents are avoidant or otherwise reticent to discuss their experiences of trauma, offspring may be left feeling confused about their parent's behavior or trauma-related cognitions. Prior research suggests that offspring are susceptible to feelings of anger and guilt as a consequence of limited trauma communication, despite not being victims or perpetrators of trauma themselves (Wiseman et al., 2006). Moreover, when offspring have limited information, whether due to silent or otherwise fragmented communication, they may fantasize about the trauma their parent experienced in an effort to "fill in" gaps of their knowledge (Ancharoff et al., 1998). Such fantasies may include horrifying or graphic imagery, constructed in an effort to reconcile what they observe and experience with what is explicitly communicated within their family (Montgomery, 2004). By contrast, offspring appear to benefit most when parents demonstrate an openness and willingness to engage in conversation that is age appropriate, and of sufficient frequency to promote shared understanding and closeness in the parent-child relationship.

Future research involving reports from both parents and offspring may help to further elucidate the processes by which communication contributes to intergenerational trauma. Such information may also help to identify clinical interventions most beneficial to both parties. While results of the present study suggest that multiple, ongoing discussions are associated with positive outcomes in offspring, frequent communication

may not always be helpful, particularly for parents. For example, such conversations may not be productive in parent-child dyads where parents feel strongly that disclosing their trauma history is not appropriate, or for parents who exhibit extreme reactions to trauma-related stimuli. Though offspring may desire to have open communication about their parent's traumatic experiences, parents might not feel ready or prepared to have such discussions. While parents should serve as the primary expert on what is developmentally and emotionally appropriate for their child, they may benefit from considering the merits of modulated trauma disclosure over the course of their child's upbringing to help minimize the likelihood of intergenerational trauma. We as a field would benefit from developing and evaluating parent-child communication interventions to supplement traditional trauma treatment, particularly in the face of trauma-related distress in families. In doing so, we may help to offset the impact of parental PTSD on offspring, and mitigate the likelihood of intergenerational trauma.

While study findings represent an important next step in understanding the implications of parent-child trauma communication, there are several limitations that warrant consideration. First, as a cross-sectional study, we cannot make any definitive conclusions about causality. As noted above, several other interpretations of our findings are plausible. An additional limitation is that the study was comprised of a convenience sample of college students who agreed to participate in a study on trauma, and parent PTSD symptoms (as reported by offspring) were in the mild range. Thus, the results may not generalize to the broader population, possibly including individuals for whom answering questions about a parent's trauma would be particularly distressing,

individuals not enrolled in higher education, and individuals raised by a parent with clinically significant PTSD symptoms. Indeed, for parents with more severe symptoms, limited frequency of trauma-focused discussions may have been an appropriate, conscientious decision representing efforts towards modulated communication. Future longitudinal investigations, particularly those with data from parents and offspring together (cf., Feldman & Rosenthal, 2000), can help to better elucidate the processes by which parent-child trauma communication interact with parent and child psychopathology to produce deleterious outcomes.

Results of Paper 1 indicated that race and ethnicity were not significant predictors of offspring perceptions of communication above and beyond communication frequency. However, future studies may find that cultural background does play a role in the relationship between trauma-related communication and psychopathology in families. Indeed, prior research has found that disclosure of trauma to one's children is generally a Western practice (Rousseau et al., 2013). Likewise, others have found that withholding information about traumatic experiences from one's children is considered an appropriate response by parents (see review by Dalgaard & Montgomery, 2015; Rousseau & Drapeau, 1998). Another potential limitation was the skewed distribution of communication frequency in this sample, with the majority of participants reporting communication frequency in the low range (i.e., 1-5 instances). Alternative findings may have emerged with a normal distribution of communication frequency, such that more moderate and high levels of communication were represented. Finally, as the study was

conducted during the Covid-19 global pandemic, environmental stressors may have influenced eligible participants' willingness to participate, and overall findings.

Taken together, these findings represent a promising next step in the literature by highlighting communication as a likely mechanism for the transmission of intergenerational trauma, even in the context of individually experienced trauma. My findings suggest that communication frequency, specifically, may be one facet of communication deserving of clinical attention in the future, with an eye towards also assessing offspring perceptions of their parent's openness and competence engaging in such conversations. Continuing to identify the precise characteristics of modulated communication would likely be a fruitful area of exploration in the future. In doing so, we will begin to uncover concrete targets for clinical intervention to assist families struggling in the aftermath of trauma.

APPENDIX A

Questions about Trauma Communication Patterns (adapted from Nagata, 1993)

The following questions ask you to think about the ways in which you learned about your parent's traumatic experiences. Although your memories about the following items may seem vague, please try to answer each question as best as you can.

First, I would like you to stop a minute and think about your earliest recollection of your parent's trauma. The earliest memory should be the first moments you can remember hearing or seeing anything about your parent's trauma, even if your understanding of it was incomplete or incorrect at that time. Now, please answer the following:

1. Approximately how old were you (in years) when you first recall hearing/seeing *any* reference to your parent's trauma? _____ (drop-down ranging from 1-120 years)
2. Approximately how many times in your life have you talked about your parent's traumatic experience with them?

_____ 0 times	_____ 26-30 times
_____ 1-5 times	_____ 31-35 times
_____ 6-10 times	_____ 36-40 times
_____ 11-15 times	_____ 41-45 times
_____ 16-20 times	_____ 46-50 times
_____ 21-25 times	_____ more than 50 times
3. On average, how long would conversations with your parent about their traumatic experience last?

_____ less than 1 minute
_____ 1-5 minutes
_____ 6-10 minutes
_____ 11-20 minutes
_____ 21-30 minutes
_____ 31-45 minutes
_____ 46-60 minutes
_____ more than 60 minutes
_____ not applicable

APPENDIX B

PCTCS Items (adapted from Miller et al., 2009)

Please rate how true you find the following statements:

1	2	3
not at		very
all true		true

- _____ 1) If I asked my parent a question about their trauma, they would be glad I asked
- _____ 2) If I asked my parent a question about their trauma, they would answer my question
- _____ 3) My parent feels comfortable talking to me about their trauma
- _____ 4) My parent knows how to talk to me about their trauma
- _____ 5) My parent feels prepared to talk with me about their trauma as I grow up

APPENDIX C

Table 1.1

Frequencies of Variables Related to Trauma Discussions with Parents

	Number of Participants	Percentage
Frequency of Discussions		
0 times	9	4.2
1-5 times	108	50.0
6-10 times	42	19.4
11-15 times	11	5.1
16-20 times	6	2.8
21-25 times	4	1.9
26-30 times	8	3.7
31-35 times	3	1.4
36-40 times	3	1.4
41-45 times	3	1.4
46-50 times	1	0.5
More than 50 times	8	3.7
Typical Length of Discussions		
Not applicable	6	2.8
Less than 1 minute	12	5.6
1-5 minutes	57	26.4
6-10 minutes	40	18.5
11-20 minutes	20	9.3
21-30 minutes	27	12.5
31-45 minutes	11	5.1
46-60 minutes	19	8.8
More than 60 minutes	13	6.0
Age When First Learned of Trauma		
Infancy (ages 0-2)	1	0.5
Early Childhood (ages 3-8)	40	18.5
Middle Childhood (ages 9-11)	40	18.5
Adolescence (ages 12-17)	94	43.5
Emerging Adulthood (ages 18-25)	24	11.1
Adulthood (ages 26+)	1	0.5

Table 1.2*MEESS Scale Reliability Analyses*

Item	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation
Sensitive (7) to Insensitive (1) ^a	5.55	1.57	.28
Upsetting (1) to Reassuring (7)	3.53	1.94	.13
Useless (1) to Useful (7)	4.90	1.95	.53
Comforting (7) to Distressing (1) ^a	4.40	1.70	.48
Encouraging (7) to Discouraging (1) ^a	4.63	1.51	.63
Heartless (1) to Compassionate (7)	5.72	1.34	.66
Supportive (7) to Unsupportive (1) ^a	5.38	1.64	.55
Helpful (7) to Hurtful (1) ^a	5.15	1.45	.57
Ignorant (1) to Knowledgeable (7)	5.45	1.47	.66
Selfish (1) to Generous (7)	5.07	1.43	.73
Inconsiderate (1) to Considerate (7)	5.57	1.33	.65
Misunderstanding (1) to Understanding (1)	5.80	1.34	.67

^a Item was reverse-scored.

Table 1.3*DOSDI Scale Reliability Analyses*

Item	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation
Bad (1) to Good (7)	5.08	1.59	.78
Wrong (1) to Right (7)	5.19	1.51	.78
Unhealthy (1) to Healthy (7)	5.29	1.47	.75
Harmful (1) to Beneficial (7)	5.51	1.34	.74
Inappropriate (1) to Appropriate (7)	5.58	1.34	.63

Table 1.4*PCTCS Scale Reliability Analyses*

Item	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation
If I asked my parent a question about their trauma, they would be glad I asked	2.15	0.70	.64
If I asked my parent a question about their trauma, they would answer my question	2.62	0.62	.69
My parent feels comfortable talking to me about their trauma	2.32	0.72	.78
My parent knows how to talk to me about their trauma	2.31	0.77	.76
My parent feels prepared to talk with me about their trauma as I grow up	2.33	0.77	.77

Table 1.5*Pearson Correlations of Primary Communication Variables of Interest*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. MEESS	61.08	11.58	-					
2. DOSDI	26.66	6.06	.73**	-				
3. PCTCS	11.72	2.98	.29**	.16	-			
4. Comfort	4.63	1.91	.37**	.34**	.61**	-		
5. Frequency	2.36	2.57	.17	.07	.31**	.22**	-	
6. Length	3.73	2.11	.04	.03	.31**	.31**	.35**	-

Note. MEESS = Multidimensional Evaluation of Enacted Social Support; DOSDI =

Disclosure to Offspring Semantic Differential Instrument; PCTCS = Parent-Child

Trauma Communication Scale.

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

Table 1.6*Results of Confirmatory Factor Analyses*

Model	χ^2	<i>df</i>	χ^2/df	CFI	RMSEA
MEESS	192.34 ***	54	3.56	.80	.14
DOSDI	32.81 ***	5	6.56	.93	.20
PCTCS	13.83*	5	2.77	.98	.09

Note. MEESS = Multidimensional Evaluation of Enacted Social Support; DOSDI = Disclosure to Offspring Semantic Differential Instrument; PCTCS = Parent-Child Trauma Communication Scale.

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

Table 1.7

Pearson Correlations of the PCTCS with Continuous Potential Covariates

	Correlation with the PCTCS
Offspring ratings of parent PTSD via the PCL-5	-.14*
Age of child when first learned about trauma	.05
Age of child during recall discussion	-.11
Parent's age during traumatic event	-.00

Note. PCTCS = Parent Child Trauma Communication Scale; PTSD = posttraumatic stress disorder; PCL-5 = PTSD Checklist for DSM-5.

* $p < .05$.

Table 1.8*Linear Regression Predicting the PCTCS from Communication Frequency*

Variable	Model 1				Model 2			
	<i>B</i>	$\frac{SE}{B}$	β	<i>t</i>	<i>B</i>	$\frac{SE}{B}$	β	<i>t</i>
Step 1								
(Constant)	12.86***	0.42		30.51	13.46***	0.42		33.11
Father	-1.44**	0.47	-.23	-3.09	-0.79*	0.45	-.13	-1.74
Sexual Trauma	-2.38*	0.93	-.19	-2.57	-1.51*	0.87	-.12	-1.74
Offspring Ratings of Parent PTSD	-0.02	0.01	-.12	-1.66	-0.04**	0.01	-.20	-2.83
Step 2								
Frequency	-	-	-	-	0.92***	0.18	.78	5.08
Frequency ²	-	-	-	-	-0.09**	0.03	-.50	-3.29

Note. $R^2 = .08$ for Model 1, $p < .01$; $R^2 = .23$ for Model 2, $p < .001$; $\Delta R^2 = .15$. PCTCS =

Parent Child Trauma Communication Scale; PTSD = posttraumatic stress disorder.

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

Table 1.9*Linear Regression Predicting the PCTCS from Communication Length*

Variable	Model 1				Model 2			
	<i>B</i>	$\frac{SE}{B}$	β	<i>t</i>	<i>B</i>	$\frac{SE}{B}$	β	<i>t</i>
Step 1								
(Constant)	12.86***	0.42		30.51	13.57***	0.40		33.58
Father	-1.41**	0.47	-.28	-3.03	-0.83	0.43	-.13	-1.94
Sexual Trauma	-2.35*	0.93	-.19	-2.54	-1.86*	0.83	-.15	-2.24
Offspring Ratings of Parent PTSD	-0.02	0.01	-.13	-1.74	-0.03*	0.01	-.14	-2.02
Step 2								
Length	-	-	-	-	0.67***	0.11	.47	6.22
Length ²	-	-	-	-	-0.22***	0.04	-.37	-4.97

Note. $R^2 = .08$ for Model 1, $p < .01$; $R^2 = .27$ for Model 2, $p < .001$; $\Delta R^2 = .19$. PCTCS =

Parent Child Trauma Communication Scale; PTSD = posttraumatic stress disorder.

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

Table 2.1*Pearson Correlations of Primary Variables of Interest*

	<i>M</i>	<i>SD</i>	1	2	3	4
1. Offspring Ratings of Parent PTSD	19.17	16.13	-			
2. Frequency	2.36	2.57	.236**	-		
3. PCTCS	11.72	2.98	-.137*	.310**	-	
4. DASS-SF	29.30	26.76	.440**	.079	-.248**	-

Note. PTSD = posttraumatic stress disorder; PCTCS = Parent Child Trauma

Communication Scale; DASS-SF = Depression Anxiety and Stress Scales – Short Form.

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

APPENDIX D

Figure 1.1

Curvilinear Graph Predicting the PCTCS from Communication Frequency

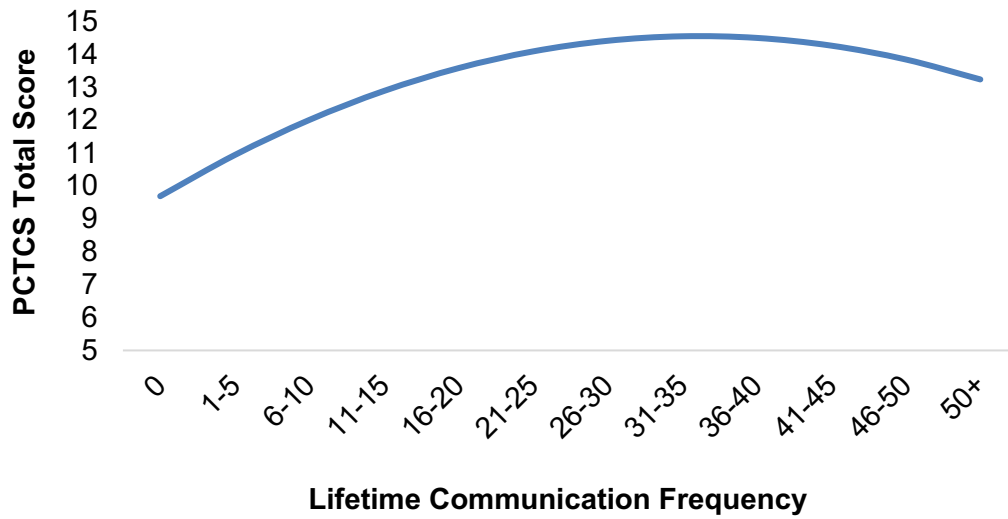


Figure 1.2

Curvilinear Graph Predicting the PCTCS from Communication Length

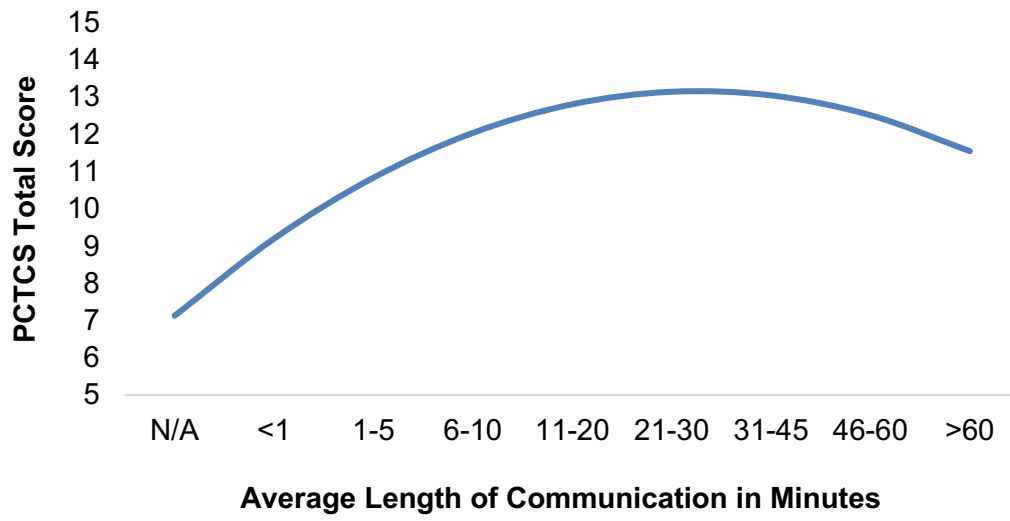
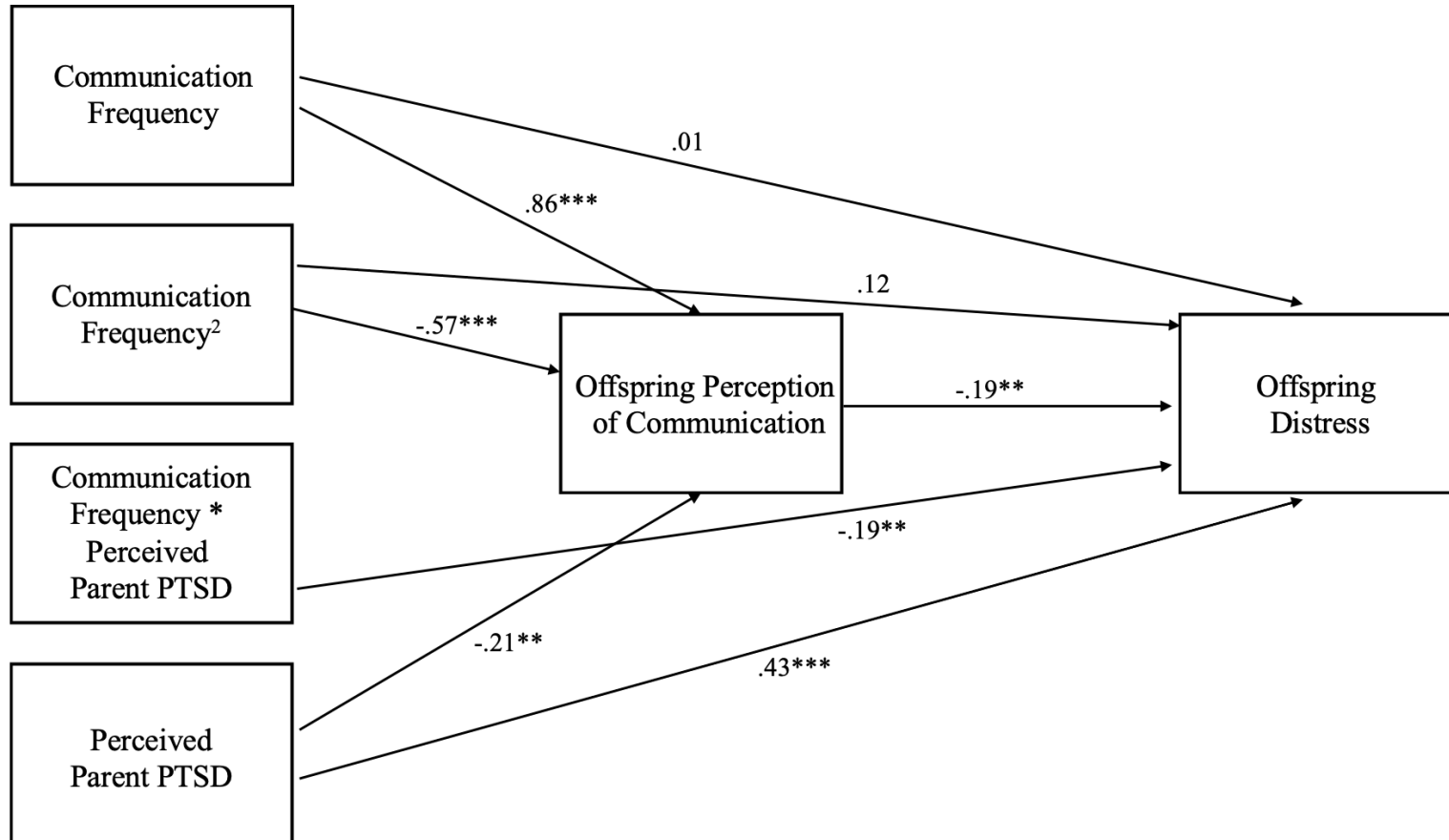


Figure 2.1

Path Analysis Predicting Offspring Distress from Perceived Parent PTSD Symptoms and Communication Variables



Note. Covariances among exogenous variables were included but are not pictured here. PTSD = posttraumatic stress disorder. ** $p < .01$. *** $p < .001$.

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BIOGRAPHY

Annie M. L. Fox received her Bachelor of Arts double-majoring in Psychology and Communication from the University of Maine in 2013, graduating with Highest Honors. Following employment as a research assistant at the National Center for PTSD/VA Boston Healthcare System, Annie began the Clinical Psychology doctoral program at George Mason University. She went on to receive her Master of Arts in Clinical Psychology from George Mason University in 2017.