

ADAPTIVE SIGNIFICANCE OF PERSONAL PRONOUN USE IN FAMILIES OF  
ADOLESCENT SUBSTANCE ABUSERS

by

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## ABSTRACT

A growing body of research suggests that patterns of personal pronoun use in couples – particularly *we*-talk (first person plural pronouns) and *you*-talk (second person pronouns) – are potentially meaningful markers of adaptive and maladaptive functioning, respectively. Despite this growing couple literature, very little is known about the relational implications of *we*-talk and *you*-talk in larger social units like families, where relevant interaction patterns are often triadic and involve members of different generations. The present study employed baseline observational and self-report data from a multi-site study of family therapy for adolescent substance drug abuse to (a) describe patterns of personal pronoun use in families consisting of two parent figures and at least one adolescent child, during conversations that had a collaborative (plan a menu) and a conflictual (discuss a recent argument) valence; and (b) explore associations between pronoun patterns and various indicators of adaptive adolescent and family functioning. As hypothesized, automated text analysis of transcripts from 74 English speaking families revealed more *we*-talk in the cooperative (menu) task, more *you*-talk and *I*-talk in the conflict (argument) task, and significant variations in pronoun frequency by family role (more *I*-talk by adolescents, more *we*-talk and *you*-talk by parents). Additional coding, guided by structural family systems theory, took into account the source and referent of each pronoun utterance (e.g., parent-parent *we*-talk, cross-generation *you*-talk), and these structural pronoun variables showed stronger associations with concurrently observed family interaction patterns than global

(raw count) pronoun variables did. Contrary to expectation, *you*-talk was a stronger predictor of concurrent family behavior and adaptive youth/family functioning than *we*-talk, and associations between pronoun patterns and indicators of adaptive functioning were stronger for the conflict task than the cooperation task. The results suggest that relational meanings of pronouns are substantially more complex in triadic intergenerational family interactions than in dyadic romantic relationships. Discussion of these results includes study limitations and possible directions for further research.

## BACKGROUND AND RATIONALE

A growing body of research suggests that patterns of personal pronoun use can mark both adaptive and mal-adaptive interpersonal processes, at least in couples. For example, automatic text analysis studies suggest that, in some contexts, the use of first-person plural pronouns (*we-talk*) by committed partners correlates with relationship satisfaction, effective problem solving, and benign physiological processes in couples, and can predict favorable health outcomes for individual partners (Rohrbaugh, Mehl, Shoham, Reilly, & Ewy, 2008; Rohrbaugh, Shoham, Skoyen, Jensen, & Mehl, 2012; Sillars, Shellen, McIntosh, & Pomegranate, 1997; Simmons, Chambless, & Gordon, 2008; Seider, Hirschberger, Nelson, & Levenson, 2009; Simmons, Gordon, & Chambless, 2005; Williams-Baucom, Atkins, Sevier, Eldridge, & Christensen, 2010). Other findings suggest an association between second-person pronoun use (*you-talk*) and relationship conflict (Simmons et al., 2005; Williams-Baucom et al., 2010). Thus, a reasonable working hypothesis is that *we-talk* and *you-talk* are potentially meaningful markers of collaboration/cohesion and conflict, respectively, perhaps especially when the context of interaction pulls in those directions.

Despite the growing couple literature on pronoun use in couples, very little is known about the relational implications of *we-talk* and *you-talk* in larger social units like families, where relevant interaction patterns are often triadic and involve members of different generations. While previous studies have relied solely on raw pronoun counts to demonstrate significant associations with a host of individual and couple level functioning indicators, this type of approach for families would likely

gloss over the nuances of triadic cross-generational interactions. Adequately addressing this additional layer of complexity may require taking into account not only the source of the pronoun use, but also its referent or object (e.g., whether “we” refers to parent-parent, parent-child, or whole family sub-systems). In this way, pronoun variations that incorporate information related to the family structure (i.e. *structurally-relevant pronouns*) have the potential to provide a degree of specificity in terms of increased predictive power and interpretation of significant findings that raw pronoun counts (i.e. *global pronouns*) can not.

The present study utilized observational and self-report data from a multi-site study of family therapy for adolescent substance drug abuse (Shoham & Rohrbaugh, 2010; Szapocznik, Hervis, & Schwartz, 2003) to examine the adaptive significance of personal pronoun use in intergenerational family systems consisting of two adults and a child. To do this, the present study aimed to (1) describe patterns of global and structurally relevant personal pronoun use in these families, and (2) explore associations between pronoun use and various indicators of adolescent and family functioning. The main study hypotheses were that: (a) *we*-talk, as compared to *you*-talk, should be more prevalent in collaborative contexts, with the opposite pattern observed in conflictual contexts, (b) global *we*-talk should be associated with better functioning while global *you*-talk should be associated with poorer functioning and (c) associations between structurally-relevant pronouns and functioning indicators should not necessarily follow the same patterns as the global pronouns but instead be more linked to structural implications of the specific pronoun patterns.

## **Pronouns and Relationships**

A growing body of research has focused on linguistic markers of interpersonal relational processes (e.g. Pennebaker, Mehl, & Niederhoffer, 2003; Tausczik & Pennebaker, 2010). Pennebaker and colleagues, who developed the Linguistic Inquiry Word Count (LIWC) software typically used in this research, suggest that speech particles such as personal pronouns (e.g. *I, you, us, we*) reflect linguistic style more than content and are more resistant than regular nouns and verbs to conscious word choice (Pennebaker, Francis, & Booth, 2007). Thus, these particles of speech may serve as better indicators of fundamental psychosocial processes such as emotional states, cognitive styles, and social identity (Pennebaker et al., 2003). Additionally, the automatic text analysis methodology used to examine pronoun use may be less susceptible to social desirability bias than traditional interview and questionnaire methods often used to study relational processes (Pressman & Cohen, 2007). Accordingly, much of this literature has focused specifically on the use of first person plural pronouns (*we-talk*) and second-person pronouns (*you-talk*) as possible indicators of adaptive and (maladaptive) functioning in individuals, as well as couples.

A number of automatic text analysis studies have suggested that an individual's use of *we-talk* is a marker of a sense of shared or group identity or social connectedness. For instance, following a large-scale trauma, individuals increased their use of *we-talk* and decreased their use of *I-talk* when writing about the event. Also notable was that the use of *we-talk* generally referred to people in the participants' immediate setting. Put together these findings hint at a shift toward a

communal orientation in the face of a significant stressor (Pennebaker et al., 2003). In addition, a similar study found that individuals' use of *we*-talk increased after a victory of their home football team, suggesting increased sense of connection with a group identity (Cialdini et al., 1976).

Dyadic studies extend this work on individuals and suggest that *we*-talk and *you*-talk tend to be associated, respectively, with adaptive and maladaptive couple functioning. For example, studies relating couples' pronoun use to individuals' reports of relationship quality find that *we*-talk is associated with increased relational commitment, marital satisfaction, and shared identity as a couple (Borelli et al., 2013; Sillars et al., 1997; Simmons et al., 2008). Similarly, in observational studies of couple interaction, *we*-talk correlated with concurrent expression of positive emotion (e.g. affection, interest, joy), decreased negative emotional behaviors (e.g. anger, defensiveness, sadness), lower physiological arousal, and effective problem solving by relationship partners (Seider et al., 2009; Simmons et al., 2005; Williams-Baucom et al., 2010). Others still have focused on the prognostic significance of pronoun use (Rohrbaugh et al., 2008, 2012). For instance, in a study of heart failure patients and their spouses, *we*-talk by spouses during a conjoint coping-focused interview predicted a favorable symptom course for patients over the following six months, independent from what the patients' own *we*-talk predicted (Rohrbaugh et al., 2008).

Some studies, however, hint at the possibility that *we*-talk is not always associated with adaptive relationship functioning and, in fact, can sometimes reflect problematic couple patterns (e.g. Rentscher, Rohrbaugh, Shoham, & Mehl, 2013;

Rohrbaugh et al., 2012; Slatcher et al., 2008). For instance, Rentscher and colleagues, in a study of health-compromised couples, found that asymmetries in partners' use of *we*-talk while discussing a health-related disagreement co-occurred with spouse-demand/patient-withdraw interaction, a pattern itself associated with compromised patient health behavior and poor relationship functioning (Rentscher et al., 2013). Taken together, these studies suggest that the adaptive significance of at least first-person plural pronoun use may be rather dynamic – and perhaps moderated by the relational context in which it occurs. Similarly, in their study of health compromised smokers, Rohrbaugh et al. (2012) found that *we*-talk in dual-smoker couples actually correlates with indicators of “symptom system fit,” a specific interactional pattern implicated in maintaining the problem behavior. Finally, Slatcher and colleagues, after finding no association between *we*-talk and relationship quality in a study examining daily instant messaging between dating couples, cited contextual factors as a possible explanation. They posited that although *we*-talk in the context of problem-solving or mundane daily communication was not predictive, that *we*-talk in the context of positive relationship or future oriented discussion might correlate with relationship quality.

While less developed, the literature on *you*-talk suggests that second-person pronoun use is linked to problematic marital interaction and relationship satisfaction (Sillars et al., 1997; Simmons et al., 2005; Slatcher et al., 2008; Williams-Baucom et al., 2010). Specifically, studies have shown that higher rates of *you*-talk in couples correlates with greater observed negativity (Simmons, et al., 2005; Williams-Baucom et al., 2010) and increased relationship distress (Sillars et al.,

1997; Simmons et al., 2005; Williams-Baucom et al., 2010). Slatcher and colleagues found only a modest negative association between male partner *you*-talk and relationship satisfaction and no association with female partner *you*-talk. These mixed findings, too, might be related to the context in which conversations took place, as in all of the studies except Slatcher's, couples were instructed to engage in problem-focused discussions. Thus, for both *we*-talk and *you*-talk, associations with adaptive functioning might shape the context in which conversation occurs – and to date, no studies to date have addressed this question experimentally.

Even less developed is the literature on *I*-talk and associations with relational processes. Although studies on individual functioning have demonstrated that *I*-talk is related to an increased self-focus and psychological distress (e.g. Rude, Gortner, & Pennebaker, 2004; Stirman & Pennebaker, 2001), couples' studies have yielded mixed results in regards to associations with relationship quality (Sillars et al., 1997; Simmons et al., 2005; Slatcher et al., 2008; Williams-Baucom et al., 2010). Simmons et al (2005) demonstrated a modest positive association between *I*-talk and marital satisfaction while Slatcher and colleagues showed more robust possible associations with relationship satisfaction and relationship stability (Slatcher et al., 2008). One older study, however, showed a negative association between *I*-talk and marital satisfaction (Sillars, et al., 1997) and more recently Williams-Baucom and colleagues found that the relationship between *I*-talk and relationship satisfaction depended on whether the couple was distressed or not (i.e. *I*-talk correlating positively in distressed couple and negatively in nondistressed couples) (Williams-Baucom et al., 2010). In summary, the findings from existing studies make it

difficult to extrapolate any clear conclusions regarding the role of *I*-talk in dyadic interactions and possible associations with adaptive functioning.

Of note, because *we*-talk and *I*-talk tend to correlate negatively with each other, some researchers have combined them into a ratio score and found that the *we/I* ratio is sometimes a stronger predictor of health outcomes and relationship quality than *we*-talk alone (e.g. Robbins, Mehl, Smith, & Weihs, 2013; Rohrbaugh et al., 2008, 2012). In a study by Rentscher et al., (2013), however, *I*-talk (rather than *we*-talk) appeared to drive the significant effects, suggesting the advisability of examining *we*-talk and *I*-talk separately.

To date, only one study has examined pronoun use in families (Robbins et al., 2013). In this study of patients, partners, and children coping with breast cancer, results revealed concurrent associations between husband *we*-talk and adaptive relationship functioning, as well as between patient/husband *you*-talk and worse functioning. Son or daughter pronoun use, however, was unrelated to patient and family functioning. By widening the focus beyond the marital dyad, this study begins to explore the potential relevance of children's pronoun use to coping with parental health problems. The null findings for child pronouns are difficult to interpret, but may relate to methodological issues such as raw (global) pronoun counts not capturing triadic, multi-generational processes.

### **Beyond the Dyad: Structural Family Systems Theory**

Structural family systems theory (SFST), grounded in the early clinical observations of Salvador Minuchin, Jay Haley, and colleagues, provides a framework for thinking about the adaptive relevance of *we*-talk and *you*-talk in the context of

triadic interactions (Haley, 1967, 1976, 1980; Minuchin, 1974; Minuchin & Fishman, 1981; Minuchin, Montalvo, Guerney, Rosman, & Schumer, 1967; Minuchin, Rosman & Baker, 1978). SFST proposes that behavioral “symptoms” of an individual child or family member are inextricably interwoven with ongoing, circular sequences of family interaction, such that a symptom both maintains, and is maintained by, the system of interpersonal relationships in which it occurs. SFST holds that repetitive sequences of family interaction reflect problematic forms of “structure,” such as cross-generational coalitions, enmeshed or disengaged relationships, presumably play a key role in maintaining problem behavior, especially when they compromise the integrity of boundaries between members of different generations (parents and children) in the family hierarchy. Although structural assessment relies primarily on direct observation family behavior, the linguistic dimension of family interaction may be relevant as well. For example, structural constructs such as enmeshment, disengagement, cross-generational coalitions, and identified patienthood are replete with implications about “*we*-ness,” “*you*-ness,” and “*I*-ness” – so it appears likely these personal pronouns would mark structurally-relevant configurations of family behavior.

An increasing body of family research links structural family systems patterns to a variety of adolescent problems (e.g., Barber & Buehler, 1996; Davies, Cummings & Winter, 2004; Dunn, O’Connor & Cheng, 2005; Green, Loeber & Lachey, 1992; Tolan, 1988). More specifically, enmeshment has been associated with a host of internalizing and externalizing problems in adolescents (e.g., Barber et al., 1996, Jacobvitz, Hazen, Curran & Hitchens, 2004, Madanes, Dukes & Harbin, 1980). In one

study, for instance, heroin addicts and their families, had higher levels of parent-child enmeshment than schizophrenics and high-achieving normal controls (Madanes et al., 1980), while other investigations find associations exist between disengagement and youth externalizing behaviors (e.g., Yahav, 2002; Freidman, Utada & Morrissey, 1990; Kerig, 1995). Lastly, triangulation of adolescents into dyadic parental conflict has also been shown to relate to both adolescent internalizing and externalizing behavioral problems (Yahav & Sharlin 2000; Fosco & Grych, 2008; Dunn, et al., 2004; Kerig, 1995). It is important to note that in most instances these studies have relied heavily on self-report measures and underutilized behavioral observation. And in no case has a study of structural family relations examined personal pronoun use.

A challenge to extending the pronoun literature from dyadic to triadic interactions is differentiating pronoun use that occurs between members of the same generational subsystem (e.g. parental figure) and between members of different subsystems (e.g. a parent and adolescent) in order to maximize interpretability of significant findings. Unlike in dyadic couple interactions, assumptions cannot be made about who “*we-talk*” or “*you-talk*” is referring to, and both the source (who is speaking) and referent (to whom they are speaking) become particularly important when attempting to draw conclusions about the adaptive significance of pronoun use in triadic, family systems.

Borrowing from structural family systems theory, the present study identifies a number of structurally-relevant pronoun variations that might lend specificity to the associations between pronoun use and functioning indicators. For

the purpose of this study three variations of structurally-relevant *we*-talk were identified: (1) family-focused *we*-talk (referring to the family as a whole) (2) parent-parent *we*-talk (referring to the parental subsystem), and (3) cross-generation *we*-talk (referring to a parent-adolescent dyad). Structurally relevant variations of *you*-talk include (1) parent-parent *you*-talk (referring to the parent-parent subsystem) and (2) cross-generation *you*-talk (referring to a parent-adolescent dyad).

The present study set out to extend the existing dyadic literature on pronoun use and relational processes to triadic family interactions, utilizing observational and self-report data from a multi-site study of family therapy for adolescent drug abuse. The adolescent and consenting parental figure completed a series of baseline standardized self-report measures of family and adolescent functioning. In addition, the families participated in a baseline videotaped family interaction assessment task, which included both collaborative (e.g. plan a menu) and conflictual (e.g. discuss an argument) tasks. These interaction tasks afforded an opportunity to collect observational ratings global family functioning and more specific structural family systems constructs, as well as linguistic data. The present study had three main aims: (1) to describe patterns of both global and structurally relevant *we*-talk and *you*-talk in families as a function of task (collaborative vs. conflictual), family member (adolescent, mother and father figure), and biological parent participation (one parent vs. two bio parents participation in interaction task), (2) to determine whether specific forms of structurally-relevant *we*-talk and *you*-talk are associated with concurrent observations of structural family systems constructs, (3) to examine associations between global and structurally relevant pronoun use and

concurrent observational and self-report measures of adaptive adolescent and family functioning and (4) to determine whether structurally-relevant patterns of pronoun use have additional predictive power in terms of predictor measures of adaptive functioning.

With regard to the first aim of the study, one expectation was that pronoun use would vary significantly between family members, across tasks and biological parent participation status. Specifically, predictions included that: (a) levels of *we*-talk, as compared to *you*-talk, would be higher during the collaborative task and the opposite pattern (i.e. higher levels of *you*-talk) in the conflictual task, (b) adults would engage in higher levels of *we*-talk, while adolescents would engage in more *I*-talk and (c) higher levels of *we*-talk would occur in intact families, compared to blended families. In regards to structurally relevant pronoun patterns, it was expected that (a) high levels of family-focused *we*-talk would correlate with high levels of enmeshment and cross-generational *we*-talk with behaviorally observable cross-generational coalitions, and (b) high levels of cross-generation *you*-talk would correlate with higher levels of disengagement and identified patienthood, and parent-parent *you*-talk with parental conflict. Predictions related to associations between pronoun use and youth and adolescent functioning involved high levels of global and structurally-relevant *we*-talk (with the exception of cross-generation *we*-talk) correlating with higher levels of both observational and self-report measures of adolescent and family functioning, while the inverse being true for cross-generation *we*-talk and both global and structurally-relevant variations of *you*-talk.

## METHOD

### Overview

The present study utilized data collected as part of a large research project funded by the National Institute of Drug Abuse (NIDA) to investigate mediators and moderators of BSFT for adolescent substance abuse (Shoham & Rohrbaugh, 2010; Szapocznik et al., 2003). Prior to randomization, 74 families consisting of two parent figures and at least one child (including the identified patient, or IP) participated in Family Interaction Assessment Tasks (FIATS) that included both collaborative (plan a family menu) and conflictual (discuss a recent family argument) subtasks. Transcripts of these two FIAT tasks provided a basis for computer assisted linguistic word counts of relevant pronoun variables (*we-*, *you-*, and *I-talk*). Additional coding of structurally-relevant pronoun use, implemented by human raters, took into account the source and referent of all *we-talk* and *you-talk* (e.g., family-focused *we-talk*, parent-parent *we-talk*, cross-generational *you-talk*). Separate teams of human raters also completed observational coding of these interaction tasks including ratings of global family functioning (i.e. Global Assessment of Relational Functioning Scale) and more specific structural family systems constructs (i.e. Global Structural Family Systems Rating Scale). Also at baseline both the adolescent and a consenting parental figure completed standardized self-report instruments, including measures of adolescent and family functioning. Statistical analyses examined associations between these pronoun variables and concurrent observational measures of (a) structural family systems constructs (e.g., family enmeshment, parental conflict, identified patienthood) and (b) adaptive youth and family functioning during the

two interaction tasks. Additional analyses also examined pronoun associations with broader self-report measures of youth and family functioning, including family cohesion/conflict from the Family Environment Scale (Moos & Moos, 1994) and total problems from the well-established Youth Self-Report inventory (Achenbach & Edelbrock, 1987).

### **Participants**

Families participating in the present study ( $N = 74$ ) comprised a subset of the larger parent study sample ( $N = 458$ ). Inclusion criteria for the present study, were the following: (a) two parental figures present in the interaction task, (b) complete baseline self-report data for relevant measures, and (c) a usable baseline interaction task with adequate sound and audio quality. Given that a central aim of the study was to explore pronoun use associations with adaptive functioning in larger family systems the sample was limited to families with at least two parental figures present during the baseline family interaction task.

Adolescents included in the parent study were from eight community treatment agencies across the continental United States and Puerto Rico. The adolescent participants were between 12 and 17 years old and had either reported using illicit drugs other than alcohol or tobacco in the 30-day period preceding their baseline assessment or had been referred from an institution (e.g., detention, residential treatment) for the treatment of substance abuse. Another requirement was that adolescents reside in the same home as a parent figure. Adolescents were excluded if they reported suicidal or homicidal ideation or if they had current or pending severe criminal charges.

Participants in the final study sample included 74 monolingual English speaking adolescents and their families. Males represented 80% of the adolescents, who ranged in age from 12 to 18 years, with an average age of 16 years ( $SD = 1.23$ ). Caucasian adolescents comprised approximately half the sample (49.3%), with the remaining adolescents self-identified as Hispanic (36%), African-American (13.3%) or Other (1.3%). The sample included 31 families with only one biological parent present for the FIAT and 43 with two biological parents present. Additionally, a high percentage of interaction tasks involved siblings (68%), but stepparents (31%) and grandparents (11%) less so. In 84% of cases, the consenting parental figure was a female, and 57% of families had an annual family income less than \$50,000. The present study sample did not significantly differ from the full study sample in terms of adolescent gender or age. It did, however, differ in ethnic breakdown (i.e. higher percentage of white families), owing in part to the sampling of monolingual English-speaking families with two parental figures present.

## **Procedures**

**Family interaction assessment tasks (FIATs).** Prior to randomization and receiving treatment, all participating families completed a videotaped Family Interaction Assessment Task (FIAT) designed to capture relevant structural-systems dynamics. Research assistants (RAs) administered the FIATs in a location of the family's choosing and encouraged the inclusion of any family members in the household over the age of six, and any adult outside the household (e.g., biological parent, boyfriend or girlfriend of a custodial parent, aunt, uncle, grandparent) who played an important role in parenting the adolescent and for whom participation

was possible.

Each FIAT involved three separate structured tasks during which the family was asked to, (a) plan a menu, (b) describe what pleased and displeased them about each other, and (c) discuss a recent family argument. RAs delivered instructions to families via audiotape to ensure that they received the same information (See Appendix A for complete instructions). The proposed study focused specifically on the first (collaboration) and third (conflict) tasks because comparing these was directly relevant to study hypotheses. Family completed the interaction task either in the family's home (62%), in an agency office (35%) or another location of the family's choosing (3%). On average, families completed the collaborative task in 2.88 minutes ( $SD = 1.53$ ) and the conflict task in 5.4 minutes ( $SD = 3.39$ ). Family interaction tasks included an average of 4.4 members ( $SD = 1.34$ , range 3-8).

**Generation of linguistic pronoun variables.** A group of six undergraduate RAs prepared all FIAT transcriptions for linguistic analysis. Transcription procedures included complete transcription by one RA, while a second RA was instructed to review the transcription for accuracy and complete necessary transcript preparation, which involved replacing unrecognized abbreviations, contractions and non-fluencies, and eliminating distractor (filler) and non-sense words. Two graduate student RAs then reviewed the completed transcription, while simultaneously viewing the videotaped FIAT for contextual and behavioral cues, and coded the various forms of structurally focused *we*-talk (family-focused *we*-talk, parent-parent *we*-talk, cross-generation *we*-talk) and *you*-talk (parent-parent *you*-talk, cross-generation *you*-talk). Inter-rater reliability on a subset of transcripts

showed intra-class  $r_s > .90$ .<sup>1</sup> Automatic text analysis was performed on the transcripts using the Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2007) and produced separate pronoun counts for each family member.

**Observational coding of youth and family functioning.** Two separate teams of RAs completed ratings of adolescent functioning, global family functioning, and structural family systems constructs. Each team of RAs received two weeks of training and practice with their respective rating scheme. At least two RAs independently rated all FIATs and ratings were monitored for areas of disagreement. In cases where the discrepancy between ratings reached a pre-determined threshold, RAs met to resolve the discrepancy. If the RAs could not agree, a supervisory panel assigned the final rating. The raters also attended weekly supervisory meetings to ensure that they were consistent in their application of the rating schemes. Inter-rater reliability was satisfactory across all rating schemes, with intra-class  $r_s$  consistently  $> .60$ .

**Global structural family systems ratings (GSFSR).** The rating team consisted of nine graduate RAs. Raters coded for a series of structural constructs (e.g. enmeshment, disengagement, identified patienthood), adolescent functioning (e.g. internalizing and externalizing behavior) and family level environment (e.g. positive and negative affect) variables. Raters completed ratings of each construct separately for each of the FIAT tasks. At least two coders independently rated all FIATs.

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<sup>1</sup> ICC analyses revealed the following reliabilities for the various structurally-relevant pronouns: Family-focused *we*-talk,  $r = .99$ ,  $p < .001$ ; parent-parent *we*-talk,  $r = .95$ ,  $p < .001$ ; cross-generation *we*-talk = N/A; parent-parent *you*-talk,  $r = .99$ ,  $p < .001$ ; cross-generation *you*-talk,  $r = .99$ ,  $p < .001$ .

**Global assessment of relational functioning (GARF).** A team of five undergraduate RAs rated each FIAT using the Global Assessment of Relational Functioning (GARF) scale (Dausch, Miklowitz, & Richards, 1996). At least two raters coded each FIAT but unlike the GSFSR raters made their ratings based on the entire FIAT, rather than separately for each task.

**Collection of self-report adolescent and family functioning data.** The adolescent and consenting parental figure provided demographic information and completed a number of self-report instruments describing the adolescent's current and prior functioning. Among these was the Youth Self Report (Achenbach & Edelbrock, 1987), which provided useful indices of internalizing and externalizing problems from the youth's perspective. The adolescent and consenting parental figure also completed several self-report measures that capture the overall family functioning, including the Family Environment Scale (Moos & Moos, 1994).

### **Constructs and Measures**

**We-talk, you-talk, and I-talk.** Automatic text analyses performed with the LIWC 2007 software (Pennebaker et al., 2007) produced separate counts of all pronoun types used by the adolescent, mother and father figures during each interaction task. Examination of study hypotheses involved two sets of pronoun variables: (a) global pronoun variables, consisting of proportions of total words representing each pronoun type (first-person plural, second person, and first-person singular); and (b) structurally-relevant pronoun variables, which entailed additional observer-generated codes taking into account the source (speaker) and referent (object) of each relevant pronoun. Thus, global pronoun variables

represent all forms of *we*-talk, *you*-talk and *I*-talk, while structurally relevant variables are specific to certain source and referent *we*-talk and *you*-talk pairings. The different variations include: (a) family-focused *we*-talk (referring to the family as a whole), (b) parent-parent *we*-talk (referring to the parental dyad), (c) cross-generational *we*-talk (referring to a parent-adolescent dyad), (d) parent-parent *you*-talk (directed from one parent to another parent), cross-generation *you*-talk (directed from a parent to an adolescent or vice versa). Both global and structurally relevant pronoun variables represented the ratio of a specific type of personal pronoun (e.g. *we*-talk, *you*-talk, *I*-talk) and total words. Testing of the first set of hypotheses involved global and structurally relevant pronoun variables for each family member separately. Subsequent analyses utilized family-level variables aggregated across family members.

### **Observational Measures of Adolescent and Family Functioning.**

#### ***Structural family systems constructs***

*Global structural family systems ratings (GSFSR)*. The Global Structural Family Systems (GSFSR; Rohrbaugh, Hasler, Lebensohn-Chialvo & Shoham, 2007) coding scheme is an adaptation of the more micro-level Structural Family Systems Ratings (SFSR) developed at the University of Miami 's Center for Family Studies (Hervis et al., 1991; Robbins et al., 2001; Szapocznik et al., 1991). Like the SFSR, the GSFSR provides observational ratings of how families interact but with an aim at simplifying the former as well as making it more descriptive than evaluative, although some GSFSR descriptions remain inherently normative/evaluative by design. Global ratings appear at least as relevant as specific, bottom-up ratings

(Hasler, Rohrbaugh, Shoham & Barona, 2006). The GSFSR includes ratings made at the whole-family, dyadic, and triadic levels. All ratings were conducted on a 5-point scale where a “1” indicated no evidence of a particular construct and “5” indicated pervasive evidence of a particular construct. The only exception, the cross-generational coalition construct, was computed using dyadic alliances between the IP and each participating parent, as well as between the two parents themselves if they both participated. Parent-child triangle scores were computed by subtracting the stronger parent-adolescent alliance score from the mother-father alliance score. At least two independent raters provided ratings for each FIAT, and each structural family systems variable score reflected the mean of raters’ scores. Brief descriptions of the GSFSR structural family systems variables used in the present study follow, and more comprehensive descriptions appear in Appendix B.

*Enmeshment*- Enmeshment refers to a high level of interpersonal connectedness in the family as a group, regardless of how many family members are present.

Although enmeshment reflects the dissolution of boundaries between family members (e.g., undifferentiation or lack of emotional distance), it is not necessarily pathological. Blurring of interpersonal boundaries can occur when family members are warm and affectionate toward each other as well as hostile or critical. Means were as follows: menu task = 2.56 ( $SD = .73$ ), conflict task = 2.52 ( $SD = .87$ ).

*Disengagement*- This pattern is characterized by a low level of interpersonal connectedness in the family as a group. Here the boundaries are relatively impermeable and often associated with emotional distance. Again, this distance is not necessarily pathological, as disengagement can entail politeness, courtesy,

dignity, etc. Means were as follows: menu task = 1.79 ( $SD = .75$ ), conflict task = 2.29 ( $SD = .76$ ).

*Identified patienthood*- Refers to the extent to which the family tends to localize problems in the adolescent (here, the adolescent referred for treatment). Regardless of the degree of blame exhibited, when family interactions tend to organize around and focus on the adolescent and his or her perceived symptoms, there appears to be a high degree of identified patienthood. Means were as follows: menu task = 1.07 ( $SD = .27$ ), conflict task = 3.05 ( $SD = 1.27$ ).

*Parental conflict*- This dyad rating assessed the amount of covert and overt conflict observed between parental figures. Means were as follows: menu task = 2.50 ( $SD = .52$ ), conflict task = 2.97 ( $SD = .64$ ).

*Cross-generational coalition*- This construct assessed the extent to which either parent-adolescent alliance was stronger than the parent-parent alliance. A higher score indicated that there was likely a coalition between the adolescent and one parent figure against or to the exclusion of the other parent figure (e.g., Mom and IP against step-dad). Means were as follows: menu task = 1.97 ( $SD = .66$ ), conflict task = 1.85 ( $SD = .78$ ).

In addition to coding for the presence of structural constructs, the same coders also completed observational ratings that captured: (a) adolescent internalizing behavior, (b) adolescent externalizing behavior, and (c) family-level negative affect.

*Adolescent internalizing behavior*- This construct assessed the degree to which the IP showed distress, sadness, or anxiety during the family interaction task. Attention

was paid to facial expressions, nonverbal emotional expressions (e.g. slumped shoulders, low energy, fidgeting, wringing of hands, and speaking softly or in a faltering tone of voice), and speech content indicating dysphoria (e.g., self-deprecation and regret). Means were as follows: menu task = 1.30 ( $SD = .54$ ), conflict task = 1.82 ( $SD = .76$ ).

*Adolescent externalizing behavior*- Refers to what extent the adolescent displayed impulsive, oppositional, defiant, or belligerent behavior – in other words, behavior that could be characterized as under-controlled, insulting, disrespectful, noncompliant, disobedient, argumentative, annoying, blaming, angry, or vindictive. Means were as follows: menu task = 1.50 ( $SD = .88$ ), conflict task = 2.02 ( $SD = 1.02$ ).

*Family-level negative affect*- This construct assessed both the overall level of negative affect and positive in the family. Negativity includes both anger/hostility related negative emotions, as well as sadness/anxiety related emotions. Thus evidence of negativity includes both overt and more subtle evidence of anger, sadness, hostility, anxiety, depression, annoyance, etc. Positive affect includes both feelings associated with what family members say, as well as the content of what they say. Positive content includes expressing agreement, offering compliments, showing interest, humor, and expressing affection. Positivity can also be reflected in tone of voice (e.g., happy, upbeat, satisfied), facial expression (e.g., smiling, laughing), and body language (e.g., touching, leaning, frontal orientation). To capture the full range of affect expressed by the family this variable reflects the mean of the negative affect score and the reverse coded positive affect score. Means were as follows: menu task = 2.25 ( $SD = .72$ ), conflict task = 3.46 ( $SD = .85$ ).

*Global assessment of relational functioning (GARF).* The Global Assessment of Relational Functioning (GARF) scale applies ideas inherent in the DSM-IV-TR Global Assessment of Functioning (GAF) scale for individuals to a system of relationships. The GARF scale was developed by the Committee on the Family of the Group for the Advancement of Psychiatry (1996). Like the GAF, the GARF presents a continuum from 1-100 indicating a range from pathological (lower levels) to healthy family functioning (higher levels). It includes three domains of functioning derived from extant conceptual models of family functioning: joint problem solving, organization, and emotional climate. In methodological studies, the GARF has demonstrated good inter-rater reliability, as well as versatility in its application to a wide range of families (e.g. Dausch, et al., 1996; Denton, Nakonezny, & Burwell, 2010; Ross & Doherty, 2001). The mean for the study sample was 44.7 ( $SD = 13$ ).

**Self-report measures of adolescent and family functioning.**

*Youth self report- total problem scale (YSR).* The YSR (Achenbach & Edelbrock, 1987) is a widely used standardized adolescent self-report measure that assesses emotional and behavioral problems in youth aged 11-18 years. It consists of 118 questions answered on a 3-point Lickert Scale (0 = not true of me, 1 = somewhat true of me, and 2 = very true of me). It assesses internalizing (e.g. anxiety, depression and somatic complaints) and externalizing (e.g., delinquent, aggressive, hyperactive) behaviors. The Total Problem Scale reflects the summation of internalizing and externalizing problems the adolescent endorses and ranges from 0-192. This scale has shown strong reliability, validity, and cross-cultural generalizability across many studies (e.g., Rescorla, Achenbach, Ivanova, Dumenci,

Almqvist, Bilenberg, Bird, et al., 2007). The mean for the study sample was 53.87 ( $SD = 29.83$ ).

***Adolescent composite substance use.*** The adolescent's baseline drug use is reflected in a composite variable that includes (a) % substance use days, based on Time-line follow-back (TLFB) self-report of substance use between randomization and the baseline assessment; (b) any positive urine, given at least one valid test; and (c) type or level of use, based on TLFB or urine test (i.e. no use, alcohol or tobacco use only, marijuana use, and 'hard' use). More specifically, the TLFB provided dichotomous coding for every given day of the month (0=no drug use, 1= drug use), which were summed and converted to a percentage. A similar aggregation process was used for the dichotomous monthly urine analysis data (0 = negative for substance use, 1 = positive for any substance use). The final component of the aggregate substance use variable was the type of substance the target adolescent used (as shown by the TLFB data). These data were coded according to the level of harmfulness of each type of drug such that 0 = no use, 1 = alcohol or tobacco use, 2 = marijuana use, and 3 = "harder" drug use (e.g., cocaine, methamphetamine). The final step in creating the aggregate substance use variable involved adding together and z-scoring the three component variables. The mean for the study sample was .12 ( $SD = .84$ ).

***Family environment scale (FES).*** The FES (Moos & Moos, 1994), administered at baseline and the 4-month follow-up, was the main self-report measure of global family functioning. This instrument consists of 90 true-false items and assesses three dimensions of family life (relationship, personal growth and

system maintenance). The relationship dimension is comprised of three subscales, two of which are the Cohesion and Conflict subscales. The Cohesion subscale evaluates the degree of commitment, help and support family members provide to one another, while the Conflict subscale refers to the amount of openly expressed anger and conflict family members engage in with one another. The developers of this scale have demonstrated adequate internal consistency for the sub-scales, as well as test-retest reliability (Moos and Moos, 1994). The subscales were not combined but instead analyzed separately to examine specific pronoun use and conflict vs. cohesion associations. Additionally, even though adolescent and parent reports of family cohesion and conflict were moderately correlated ( $r = .38$   $p < .01$ ,  $r = .53$ ,  $p < .001$ ) they were also analyzed separately based on the established notion that youth and parent reports usually differ significantly and often warrant individual consideration (e.g. Achenbach, Krukowski, Dumenchi, & Ivanova, 2005; Achenbach, McConaughy, & Howell, 1987). The means for the study sample are as follows: adolescent cohesion = 6.04 ( $SD = 2.43$ ), parent cohesion = 5.98 ( $SD = 2.32$ ), adolescent conflict = 3.83 ( $SD = 2.44$ ), parent conflict = 3.25 ( $SD = 2.04$ ).

## RESULTS

### Preliminary results

Table 1 shows mean proportions for global and structural pronoun variables by family member and for the family as a whole. All variables occurred with sufficient frequency for analysis except cross-generation *we*-talk, which was therefore excluded from further analyses. Rates of global pronoun use in this intergenerational family sample were generally similar to those in previous couple studies (e.g. Rentscher et al., 2013; Rohrbaugh, et al., 2008; Williams-Baucom et al., 2010), with members of families and couples engaging in comparable levels of *you*-talk and *I*-talk. Surprisingly, families, especially in the collaboration task, appeared to have higher rates of *we*-talk than those reported in couple studies. This raises the possibility that triadic inter-generational interactions are inherently more likely to illicit communal pronoun use than dyadic intra-generational ones. Patterns of specific pronoun use appeared to vary across pronoun type, task and family members and the section below discusses these significant mean level differences in more detail.

Correlational analyses examined co-variation among the different pronoun patterns within each of the two tasks as well as the rank-order stability of these patterns across the tasks. In general, rates of *we*-talk, *you*-talk, and *I*-talk showed low-order correlations within and between family members. With pronoun scores collapsed across family members, significant negative correlations among global (family-level) pronoun variables emerged between *we*-talk and *you*-talk in the conflict task ( $r = -.32, p < .01$ ), and for structural variables between family-focused

*we*-talk and cross-generation *you*-talk in both tasks ( $r = -.25$  and  $-.24$ ,  $p < .05$ , for collaboration and conflict, respectively). A full table of these correlations appears in Appendix C.

As indicated in Table 2, rank-order stability across the two (collaboration and conflict) tasks was moderately strong for global *I*-talk ( $r = .47$ ,  $p < .001$ ) but not for global or structural pronoun variables involving *we*-talk or *you*-talk. This may indicate that rates of *we*-talk and *you*-talk are more strongly tied to specific social-contextual factors, such as the valence of conversation, while *I*-talk rates are more consistent and less sensitive to situational differences.

Table 3 shows the correlations among global and structural pronoun variables. Surprisingly, global *we*-talk during the collaboration task only showed a strong positive correlation with family focused *we*-talk while global *you*-talk correlated positively with both parent-parent and cross-generation *you*-talk. A similar pattern of associations were present during the conflict task with the addition of a moderate positive correlation between global and parent-parent *we*-talk and a slightly diminished positive association between global and parent-parent *you*-talk. Thus, the magnitude of these correlations suggest that the global and structural pronoun subtypes measure related, but distinct, constructs.

An additional set of analyses examined correlations among the non-pronoun study variables. Table 4 includes associations among the various measures of youth and family functioning, while Table 5 shows how these same functioning measures relate to youth and family demographics. As discussed earlier, the first set of youth and family functioning measures in these tables are observational, taken

concurrently with the pronoun measures and task specific. The only exception is the GARF, which is an overall global family functioning measure for the interaction task as a whole. The second set of measures is based on participants' self report, with youths providing the only perspective on their own behavior via the YSR-total problems scale and a composite measure of illicit substance use. Self-report measures of family functioning, on the other hand, include separate scores for parents and children. Finally, Tables 6 presents similar associations among observed structural family functioning (GSFSR) variables, and Table 6 shows correlations between these GSFSR and demographic variables.

All observational youth and family indicators with individual task scores demonstrated a moderate to strong degree of consistency across contexts (Table 4) and, with the exception of adolescent internalizing behavior, tended to correlate significantly with one another. In regards to reported youth and adolescent functioning, adolescent report of their own behavior, family cohesion and conflict were generally correlated with all other youth and family functioning indicators (with the exception of internalizing behavior), regardless of method. The same was true of parent reports, which only appeared to correlate with other self-report measures. Composite substance use was the only reported measure that did not correlate with most other indicators of functioning. Not surprisingly, within-method associations on average tended to be stronger, although some cross-method associations were present as well. For instance, YSR-total problems showed moderate associations with externalizing behavior and negative affect, and

adolescent report of family cohesion and conflict correlated with externalizing behavior, negative affect and GARF scores.

Youth and family functioning variables showed relatively few associations with demographic variables (Table 5). An exception was that female IP adolescents tended to have higher scores on the YSR-total problems scale ( $r = .36, p < .01$ ). In addition, biological parent participation correlated with externalizing behavior in both tasks (collaboration:  $r = .24, p < .05$ ; conflict:  $r = .37, p < .01$ ) and with negative family affect in the conflict task ( $r = .23, p < .05$ ). Thus, youth and families appeared to show more problematic behavior with two biological parents present than was the case for other configurations.

In contrast to the pronoun variables, observational ratings of structural family systems patterns and youth functioning showed moderate to strong stability across the collaboration and conflict tasks (Table 6). Identified patienthood was the only structural indicator that did not correlate across tasks, and it also showed weak associations with other structural variables. This suggests that identified patienthood, like some of the pronoun variables mentioned above, is more sensitive than other structural patterns to whether the immediate context of family interaction pulls for cooperation or conflict.

Expected clusters of structural variables were also present, with significant correlations between enmeshment and disengagement and associations between disengagement, parental conflict and cross-generation coalition (Table 6). Like the youth and family functioning measures, GSFSR variables showed little association with demographic variables (Table 7). Some exceptions were that male adolescents

were the focus of more identified patienthood than females, minority families showed less enmeshment and more parental conflict than whites, and families with two biological parents present were more disengaged than other family forms.

### **Pronoun Variations by Task, Family Role, and Biological Parent Participation**

As discussed earlier, the study hypotheses specified a number of differences in pronoun use related to task, family role, and biological parent participation. First, and most important, was the prediction that family members would engage in relatively more *we*-talk in the collaboration task and relatively more *you*-talk in the conflict task. Although naturalistic studies of pronoun use in couples give rise to this hypothesis, the current study's manipulation of task instructions begins to approach it experimentally. A second expectation was that parental figures would have relatively higher rates of *we*-talk while adolescents would have relatively higher rates of *I*-talk. Lastly, it was expected that intact families with two biological parents present in the interaction tasks would engage in more *we*-talk than other (e.g., one bio parent present) family types. A secondary study aim was to examine these same variations but with structurally relevant variables that distinguished source and referent of pronoun use.

**Global pronoun patterns.** For global pronoun patterns, an omnibus ANOVA examined frequency variations as a function of pronoun type (global family *we*-talk, *you*-talk and *I*-talk), task (collaboration vs. conflict), family member (adolescent, mother figure and father figure), and biological parent participation (presence of two biological parents). Because only family type was a between-case variable, each family included 18 scores representing combinations of the three within-case

variables. In addition to main effects for task and family member reflecting variations in overall pronoun use, this omnibus analysis yielded a significant main effect for pronoun type,  $F(2, 219) = 25.78, p < .001$ , and two significant interaction terms involving pronoun type – one with task,  $F(2, 219) = 23.03, p < .001$  and with family member ( $F(2, 219) = 20.83, p < .001$ ). There were no main effects or interactions involving biological parent participation, so this variable was not included in subsequent analyses of the global pronoun measures.

A graph of these results (Figure 1) suggests, as expected, that *we*-talk tended to predominate in the collaboration (menu) task while *you*-talk – and surprisingly, *I*-talk – appeared more prevalent in the conflict task, when family members discussed a recent argument. In addition, profiles of pronoun use appeared to vary substantially across family members, with parental figures engaging in relatively more *we*-talk and *you*-talk and adolescents engaging in relatively more *I*-talk. To examine these patterns in more detail, post hoc analyses focused on statistical task and family member effects for each type of pronoun separately. Consistent with study hypotheses, separate analyses showed task main effects for global *we*-talk ( $F(1, 219) = 15.87, p < .001$ ) and *you*-talk ( $F(1, 219) = 37.23, p < .001$ ), with these pronouns relatively more prevalent in the contexts of collaboration (planning a menu) and conflict (discussing a recent argument), respectively. *I*-talk also varied by task ( $F(1, 219) = 47.88, p < .001$ ), with higher frequencies evident during conflict than collaboration. These analyses also revealed main effects for family role, with parental figures appearing to exhibit higher frequencies than adolescents of both global *we*-talk,  $F(1, 219) = 6.25, p = .002$ , and global *you*-talk,  $F(1, 219) = 13.68, p <$

.001, Post-hoc analyses confirmed this impression, showing more *we*-talk and *you*-talk by adolescents than by mother or father figures ( $p < .01$ ), who did not differ from each other. The inverse was true for *I*-talk,  $F(1, 219) = 16.35, p < .001$ , where adolescents used more first-person singular pronouns than either mother and father figures ( $p < .001$ ), who again did not differ from each other.

**Structural pronoun patterns.** A second set of analyses examined similar associations but replaced global pronoun variables with the structural variations that take into account source and referent. The expectation here was that taking into account this additional specificity would sharpen associations with concurrent, structurally-relevant patterns of observed behavior, and perhaps also improve prediction of adaptive youth and family functioning.

Because not all family members had relevant scores for all structural pronoun variables (e.g. there were no parent-parent *we*-talk or *you*-talk scores for adolescents), it was not possible to do the same type of omnibus analysis as the one performed for the global variables. Accordingly, separate ANOVAs for each of the four structural variables – family-focused *we*-talk, parent-parent *we*-talk, parent-parent *you*-talk and cross-generation *you*-talk– examined task and family member as within-case independent variables. Means from these analyses appear in Figure 2.

As with the global variables, ANOVA results yielded a number of significant main effects for task and family role. With the exception of parent-parent *you*-talk, all other structural pronoun variables demonstrated significant task differences. For instance, family members engaged in significantly more family-focused *we*-talk in the collaboration task than in the conflict task,  $F(1, 219) = 61.28, p < .001$ . An

opposite pattern was observed in terms of parent-parent *we*-talk, with more occurring in the conflict task compared to the collaboration task,  $F(1, 146) = 50.69$ ,  $p < .001$ ). Also as predicted, cross-generation *you*-talk was more prevalent in the conflict task than in the collaboration task,  $F(1, 219) = 44.03$ ,  $p < .001$ . The results yielded only one main effect for family member role, with parental figures engaging in more family-focused *we*-talk than adolescents ( $F(2, 219) = 4.06$ ,  $p = .02$ ). Post-hoc analyses revealed that mother figures and adolescents differed significantly (adolescents-  $M = 1.75$ , mother figures-  $M = 2.50$ ,  $p < .05$ ), while the difference between father figures and adolescents approached significance (father figure  $M = 2.30$ ,  $p = .10$ ).

Taken together, the results from the global and structural sets of analyses suggest that, although the structural variations do not lend any additional predictive power, they do provide a more precise picture of family pronoun use. For instance, the greater prevalence of global *we*-talk in the collaboration task appears to be driven more by family-focused *we*-talk than by parent-parent *we*-talk, which was actually more prominent in the conflict task. This implies that some forms of *we*-talk do not occur more frequently in collaborative contexts, and that certain variations can also occur at higher rates in situations that pull for conflict. Similarly, the task effect for *you*-talk appears to have less to do with parent-parent *you*-talk than cross-generation *you*-talk. Lastly, it appears that family member differences in global *you*-talk have little to do with structural patterns of *you*-talk, as evidenced by similar frequencies for cross-generation and parent-parent *you*-talk across family members. Of the structurally relevant pronoun variables, only family-focused *we*-

talk parallels global *we*-talk results, with parental figures showing in higher rates than adolescents. As with the global pronouns, there were no main effects or interactions involving biological parent participation, so this variable was not included in subsequent analyses of the structurally relevant pronoun measures.

### **Pronoun Correlates of Family Systems Constructs**

Another study aim was to investigate how family pronoun patterns map onto concurrently observed structural patterns of family interaction. To do this, regression analyses examined associations between the four structural pronoun patterns above and each of the five structural constructs from the observational GSFSR coding scheme. The structural constructs serving as dependent variables in these analyses included family enmeshment, family disengagement, identified patienthood, parental conflict, and cross-generational coalitions. Of interest were proportions of variance ( $R^2$ ) in observed family behavior patterns explained by the structural pronoun variables as a set, in addition to unique contributions of specific pronouns.

Table 8 shows associations between the structural pronoun and GSFSR variables. Contrary to expectations, there was little association between structural pronoun use and enmeshment or disengagement. The only exception was the model examining associations between pronoun use and disengagement in the menu task. Family focused *we*-talk was the only significant predictor, such that higher levels of family-focused *we*-talk were associated with lower levels of disengagement when the family engaged in a cooperative menu planning task. The significant relationships between the structural pronoun variables and identified patienthood

in the conflict task were of particular interest. Not only did the full model reach significance, but both family-focused *we*-talk and cross-generation *you*-talk were significant predictors of adolescent-focused problem talk. While the direction of the association for cross-generation *you*-talk was in the expected direction (with higher rates of parent-youth and youth-parent *you*-talk predicting higher levels of identified patienthood), the directionality of the family-focused *we*-talk association was more surprising. The fact that higher rates of family focused *we*-talk were associated with higher levels of identified patienthood during a conflictual discussion again suggests that not all variations of *we*-talk mark adaptive patterns of family interaction. Both models involving parental conflict and cross-generational coalitions in the conflict task also reached significance ( $R^2 = .24, p < .001$ ;  $R^2 = .10, p < .05$ , respectively). Not surprisingly, parent-parent *you*-talk was a significant predictor of parental conflict ( $\beta = .42, p < .001$ ), as was cross-generation *you*-talk ( $\beta = .34, p < .001$ ). In regard to cross-generational coalitions in the conflict task, both cross-generation *you*-talk ( $\beta = .31, p < .01$ ) and parent-parent *we*-talk ( $\beta = -.23, p < .05$ ) were significant predictors. Parent-parent *you*-talk, on the other hand, was not a significant predictor of cross-generational coalitions. Taken together, these findings hint that linguistic markers of decreased parental alignment (i.e. less parent-parent *we*-talk) might be relatively more important than the amount of parental figure-point or overt conflict talk (i.e. parent-parent *you*-talk).

An additional set of analysis indicates that global pronoun patterns were not strongly related to these same structural constructs (Table 9), with only *we*-talk correlating with disengagement in the menu task and *you*-talk with parental conflict

in the argument task. Thus, the global pronoun variables do not appear to map onto observed structural behavior patterns as well as the structurally relevant pronoun variables do.

### **Global and Structural Pronoun Patterns as Predictors of Youth and Family Functioning**

Another primary aim was to examine possible links between family pronoun patterns and other measures of adaptive youth and family functioning. While many of the structural GSFSR dimensions discussed above also have adaptive implications, the focus here was on more general indicators of adaptation, including family patterns that are not so explicitly structural. A general prediction was that global *we*-talk would mark more adaptive functioning and *you*-talk less adaptive functioning. Also expected were stronger associations between family pronoun use and concurrently observed behavioral measures due to shared method variance, as both sets of variables derive from the same samples of family behavior. An open question was whether the adaptive significance of various pronoun patterns (i.e., their correlation with the various criterion measures) might itself vary with the context of family interaction (whether collaborative or conflictual) as some of the findings noted above begin to suggest. Finally, in addition to examining associations with global pronoun patterns, parallel sets of analyses sought to address whether structural pronoun patterns that take into account the source and referent of family members' pronoun use would sharpen associations with youth and family functioning variables, supporting the value of taking these additional dimensions into account.

Tables 10 and 11 show regression results linking global pronoun patterns to measures of youth and family functioning based on concurrently observed behavior (during the FIATs) and youth/parent self-report, respectively. For the observational measures (Table 10), two models involving the conflict task reached significance: Global pronoun patterns predicted adolescent externalizing behavior and family level negative affect during discussions of a recent family argument, and in both cases global *you*-talk was a clearly dominant predictor ( $\beta = .38, p < .01$ ;  $\beta = .39, p < .01$ , respectively). Separate follow-up correlational analyses examining individual family member pronoun use contributions suggest that adolescent and father figure *you*-talk drove these effects. There was also a low-order negative correlation between *we*-talk and youth externalizing behavior in the menu task, but pronoun associations in the context of collaboration were otherwise unremarkable.

For the report measures (Table 11), significant overall associations emerged between global pronouns and perceived family conflict, but specific pronouns contributed in different ways for adolescents and parent figures. For adolescents, the associations were generally as expected: FES reports of conflict correlated positively with global *you*-talk, especially in the conflict task, and negatively with global *we*-talk in the cooperation (menu) task. Separate correlational analyses for individual family members identified mother and father figure *we*-talk in the menu task and mother figure *you*-talk in the argument task as the major contributors to these associations. For parents, however, *I*-talk rather than *you*-talk or *we*-talk appeared most important in links to perceived family functioning in both the cooperation task ( $\beta = -.34, p < .05$ ) and conflict task ( $\beta = .29, p < .05$ ). Interestingly,

global pronoun variables were essentially unrelated to reported problems on the well-established Youth Self Report scale, and the only significant association for the composite substance use index (a positive  $\beta$  for *we*-talk in the conflict task) was in an unexpected direction.

In analogous manner, Tables 12 and 13 show associations for the structural pronoun variables. In terms of observational measures (Table 12), the results show cross-generation *you*-talk correlating strongly with concurrently observed youth externalizing behavior and negative family affect, especially in the conflict task. A few low-order associations also appear for parent-parent *you*-talk, but cross-generation *you*-talk appears to be the dominant concurrent correlate of problematic youth and family functioning. The self-report measures show relatively weak associations with structural pronoun patterns (Table 13), although cross-generation *you*-talk again appeared to carry more weight than parent-parent *you*-talk in predicting adolescent reports of family conflict. A notable correlation also appeared between family-focused *we*-talk in the collaboration/menu task and fewer reported youth problems on the YSR ( $\beta = -.29, p < .05$ ). In general, however, with the exception of cross-generation *you*-talk mapping strongly onto concurrent negative behavior, the structural pronoun variables do not show any additional associations with indicators of adaptive youth and family functioning that were not already captured by global pronoun variables.

## DISCUSSION

The results of the present study suggest that relational meanings of pronouns are substantially more complex in triadic intergenerational family interactions than in dyadic romantic relationships. Although patterns of *we*-talk and *you*-talk tended to vary as predicted with family role and with cooperative vs conflictual conversation topics, there were important and unexpected exceptions. In particular, *you*-talk appeared to correlate more strongly with concurrent family behavior and adaptive youth/family functioning than *we*-talk did, and associations between pronoun patterns and indicators of adaptive functioning were stronger for the conflict task than in the cooperation task.

The finding that *you*-talk was a more salient correlate of youth and family behavior than *we*-talk contrasts with the couple pronoun literature, where *we*-talk has received much more attention. In the present study, *we*-talk during the collaboration task showed modest associations with only a few youth and family functioning indicators. While these associations were all in the expected direction (i.e. higher levels of *we*-talk correlating with lower levels of youth externalizing behavior and parental reports of family conflict), they were largely unremarkable. *You*-talk, on the other hand, showed much more robust findings with regard to predicting concurrently observed adolescent externalizing behavior and family level negative affect, as well as adolescent and parent reported family conflict. In all cases, for both global and structurally relevant pronoun variables, higher levels of *you*-talk during the conflict task correlated with increased levels of all maladaptive

functioning indices. Thus, it would appear that *you*-talk in the context of triadic interactions captures more relevant familial processes than *we*-talk or *I*-talk.

Beyond the differences that might arise from expanding the focus from dyads to triads, it is also possible that the nature of sample, specifically the presenting complaint, might impact the associations between specific pronoun patterns and functioning. The existing studies involved couples experiencing relationship distress, facing a health problem (e.g. heart failure, smoking, cancer) or non-clinical controls. The present study, on the other hand, utilized a sample of families with primarily externalizing adolescents. It is possible that the nature of the presenting complaint might pull for certain types of pronoun use. For instance, in studies with couples facing a chronic or life threatening illness the presenting complaint may serve to promote engagement between the dyad (hence, more *we*-talk) while in families with substance abusing youth, it may promote more identified patienthood and conflict (hence, more *you*-talk).

Another significant finding is that *we*-talk in the context of triadic family interaction is not inevitably associated with adaptive communal processes. Thus, variations of *we*-talk were not always more prevalent in situations that pulled for more collaborative interactions between family members. In fact, parent-to-parent *we*-talk actually occurred more often when families discussed a recent argument than when the family engaged in menu planning. Additionally, some varieties of *we*-talk during the conflict task were associated with problematic patterns of family interaction and indicators of adolescent substance use. Specifically, family-focused *we*-talk was associated with increased levels of identified patienthood and both

global and family-focused *we*-talk showed modest associations with higher rates of baseline substance use. A possible explanation is that family members may engage in *we*-talk in the context of scapegoating, where references to the family as a whole serve the purpose of focusing attention on the adolescent problem person.

Interestingly, boundary conditions of adaptive *we*-talk are now receiving more attention in couple studies as well, as in Rentscher et al.'s finding that imbalanced pronoun use in couples coping with health problems maps (e.g., more *we*-talk by a spouse than by a patient) maps onto observed demand-withdraw interaction.

A unique feature of the present study was the experimental manipulation of conversation topic, which permitted comparing pronoun use in family interactions likely to be characterized by cooperation vs. conflict. Couple pronoun studies, even in the laboratory, have been primarily naturalistic in the sense of not explicitly examining pronoun patterns as a function of conversation topic. Although several investigators have speculated about the likely importance of interaction climate in moderating associations between *we*-talk and adaptive outcomes (Rohrbaugh et al., 2008, 2012; Williamson, Hanna, Lavner, Bradbury & Karney, 2013), there have been no prior attempts to examine this question systematically. Although formal moderation analyses were not conducted, the current study revealed not only clear differences in pronoun frequencies across collaborative vs. conflictual conversation contexts, but also differential associations between pronoun use and indicators of youth/family functioning across those contexts. The latter was especially true for *you*-talk during discussions of a family argument. *I*-talk, on the other hand, showed similar patterns regardless of conversation topic and predicted very little in terms

of youth and family functioning. It is important to note, however, that the task manipulation in the present study was completely confounded with order (i.e., the cooperative menu task was always first and the discuss-an-argument task was always last). Thus, it is possible that different results would obtain with a different order of tasks (e.g., due to familiarity or practice effects).

Another unique feature of the study was investigating whether additional coding of the source and referent of pronoun use adds to understanding their relational meanings. In several ways the answer appears to be yes: For one, structurally relevant variations of *we*-talk and *you*-talk help to clarify where the action is when these pronouns differ across family members and across cooperative vs. conflictual topics of conversation. For example, higher rates of global *we*-talk in the collaboration task appear driven by family-focused *we*-talk, just as elevated global *you*-talk in the conflict task is most related to cross-generation *you*-talk. In addition, the structural pronoun sub-categories appear to map more precisely onto structural dimensions of family behavior than global pronouns do, suggesting that structural family behavior patterns like identified patienthood, parental conflict, and cross-generational coalitions have distinct linguistic correlates. For example, structural variations of *you*-talk during the conflict task correlated with identified patienthood, parental conflict, and cross-generational coalitions. Variations of *we*-talk were less consistently associated with structural behavior patterns, although family-focused *we*-talk did relate to disengagement during the collaboration task (in the expected direction) and to identified patienthood in the conflict task (in an unexpected direction).

The present study has many limitations: Some concern the nature of the sample and generalizability of the results. Because this was a clinical sample of substance abusing adolescents, it is difficult to generalize the results to non-clinical (or even other clinical) populations. A related limitation is that the sample included only two-parent families. Although this design feature was intentional (owing to the focus on triadic family dynamics), it is possible that very different patterns and correlates of pronoun use would emerge in dyadic parent-child interactions or families with only one parental figure. For example, one might expect higher levels of cross-generation *we*-talk than occurred in the triadic family groups studied here, and this might well show stronger associations with indicators of adaptive youth/family functioning.

Another possible limitation is the absence of a minimum word count for including transcripts in the analyses, which would ensure that each family member at least said something, or that silent participants did not contribute to mean level pronoun counts. Some investigators of couple pronoun use have followed this practice, but the literature shows no clear or consistent rationale across studies. A guiding consideration in the present study was that establishing a minimum word count for either certain individuals or the family as a whole would have severely diminished the sample size. In addition, supplementary analyses suggested that a word count minimum for the adolescent did little to change results.

Finally, the present study's criteria for adaptive functioning were exclusively cross-sectional. To determine if family pronoun patterns truly *predict* youth and family outcomes, it would be necessary to undertake prospective analyses in which

pronoun predictor variables have temporal precedence with respect to youth and family outcomes. Although the parent study includes several waves of relevant follow-up assessments, those data were not included in the present analyses.

Looking ahead, some possible directions for future research include (a) prospective analyses of whether and how family pronoun patterns predict adaptive functioning; (b) possible moderation of those associations by demographic variables such as family composition (e.g., different degrees of bio and non-bio parent participation, and single-parent families); (c) more precise experimental analysis of conversation topic as a direct influence on family pronoun patterns and a moderating influence on their associations with adaptation; and (d) the possible utility of family member pronoun change as a marker or correlate of clinical (symptom) change.

While the scope of the current study was limited to concurrent associations, further examination of prospective associations between pronoun use and youth/family functioning is warranted. For instance, a logical extension of this study is whether *you*-talk is not only a strong predictor of concurrent functioning but shows equally robust findings in predicting future functioning. Another related question for future examination is whether context continues to play a strong role in prospective associations and if so, would similar findings hold. Additionally, future studies should explore whether prospective associations between pronoun patterns and youth/family functioning differ across observational vs. self-report indicators. Lastly, additional work is needed to explore the utility of structurally relevant

variations of pronouns and how they compare to global pronoun patterns in predicting future functioning.

Another avenue of future study involves examination of potential moderators of associations between pronoun patterns and both concurrent and prospective functioning. The findings from the present study clearly suggest that context (or conversation topic) moderates the relationships between task, family role and pronoun patterns, while other adolescent and demographic variables did not. The scope of the present study, however, did not include examination of these demographic variables as possible moderators of associations with concurrent functioning. Future studies should not only address whether adolescent gender, family ethnicity and parental participation moderate associations with concurrent functioning, but also prospective functioning. In addition to these potential demographic moderators, a recent study by Williamson et al. (2013) raises an interesting possibility about the moderating influence of problem severity. In their study of couples communication, Williamson and colleagues found that problem severity (i.e. the degree to which the topic discussed was a source of marital discord) moderated the association between communication patterns and couple functioning. Applying this to families, one possible avenue to explore is whether the severity of the problem discussed by the family during the interaction tasks moderates associations between pronoun patterns and concurrent or prospective functioning. For instance, certain variations of *we*-talk may be more protective for families who discuss a more difficult and problematic topic in a conflictual context, as compared to those who discuss a more neutral topic. Conversely, variations of

*you*-talk may show stronger associations with maladaptive youth and family functioning for families who discuss more problematic topics.

Additionally, more systematic experimentation of conversation topic is needed to firmly establish the moderating influence context has on the relationship between pronoun patterns and adaptive functioning. As mentioned earlier, although the interaction task was not designed with this purpose in mind it did allow for examination of differences in pronoun patterns in collaborative vs conflictual settings. A limitation of the current study design, however, was that family members always completed the menu task before the discuss-an-argument task. Also, the menu task was not initially designed to necessarily elicit collaboration among family members but instead as a “warm-up” to the other more problem-focused tasks. Thus, future studies might include a collaboration task designed to draw out more “real-life” family experiences (e.g. “discuss a recent time your family worked well together to overcome a difficult situation”) that would serve as a more precise counterpart to the conflict task (e.g. “discuss a recent family argument”). Lastly, future studies should also counterbalance the order of the tasks to remove the confounding effect of order.

One final area that might warrant further study, if prospective relationships are found to be significant, is to determine what role (if any) changes in pronoun use play in these associations. More specifically, do changes in pronoun use correlate with increased (or decreased) youth and family functioning? And if so, what specific pronoun use patterns are most related to improvements in functioning? If changes in specific pronoun use patterns do in fact correlate with youth or family

functioning, this would be the first hint that pronoun usage has potential clinical utility both as a point of intervention and markers of therapeutic improvements.

In summary, pronoun use patterns in triadic, intergenerational interactions appear to differ in significant ways from those observed in dyadic, romantic relationships. Not only did pronoun patterns vary by conversation topic and family member role, but contrary to expectation, *you*-talk (not *we*-talk) was the stronger predictor of concurrent adolescent and family functioning. Additionally, variations of personal pronouns that took into account source and referent showed stronger associations with concurrently observed family interaction patterns than global pronoun variables did. Although the present study begins to answer some questions about the adaptive significance of pronouns in triadic interactions, additional research is needed to more fully understand the relationship between pronoun patterns and these complex familial processes.

Table 1: Means and standard deviations for global and structural pronoun variables across collaboration (T1) and conflict (T2) tasks

	Adolescent		Mother figure		Father figure		Family (mean)	
	T1 (menu)	T2 (argue)	T1	T2	T1	T2	T1	T2
<i>Global variables</i>								
We-talk	2.64 (3.27)	1.72 (2.49)	3.80 (2.65)	2.75 (2.17)	3.47 (3.07)	2.50 (2.42)	3.31 (2.03)	2.31 (1.37)
You-talk	1.67 (2.38)	3.26 (3.27)	3.55 (2.65)	4.60 (2.87)	2.63 (2.26)	4.87 (3.30)	2.62 (1.60)	4.25 (2.06)
I-talk	5.11 (4.88)	8.54 (7.20)	3.01 (2.63)	4.44 (2.51)	3.36 (3.29)	4.94 (3.01)	3.83 (2.31)	5.98 (3.17)
<i>Structural variables</i>								
Family focused we-talk	2.58 (3.25)	.92 (1.58)	3.51 (2.66)	1.56 (1.64)	3.22 (3.05)	1.46 (1.92)	3.10 (2.06)	1.30 (1.11)
Parent-parent we-talk	n/a	n/a	.02 (.12)	.66 (1.19)	.02 (.12)	.69 (1.04)	.02 (.08)	.67 (.96)
Cross-generation we-talk	.01 (.06)	.15 (.57)	.02 (.09)	.15 (.50)	.01 (.06)	.08 (.23)	.01 (.04)	.13 (.31)
Parent-parent you-talk	n/a	n/a	.76 (2.05)	.71 (1.22)	.75 (1.34)	.92 (1.68)	.75 (1.45)	.81 (1.23)
Cross-generation you-talk	.80 (1.69)	2.09 (2.47)	1.00 (1.43)	2.16 (2.21)	.87 (1.42)	2.13 (2.65)	.89 (1.01)	2.12 (1.63)

Note: N= 74 families. Table entries include averages of adolescent, mother figure and father percentage of total word count accounted for by each pronoun type for the collaboration (T1) and conflict (T2) tasks. Family-level means represent the average of adolescent, mother figure and father figure percentages. By definition, parent-parent we-talk and you-talk means are not available for adolescents.

Table 2: Rank-order stability of global and structural pronoun variables across collaboration and conflict tasks (T1 and T2)

	Adolescent	Mother figure	Father figure	Family
<i>Global pronoun variables</i>				
We-talk	-.07	.08	.14	-.05
You-talk	.02	.14	-.17	.04
I-talk	.47***	.21†	.43***	.47***
<i>Structural pronoun variables</i>				
Family focused we-talk	-.16	.01	.18	-.09
Parent-parent we-talk	n/a	-.03	.05	-.02
Parent-parent you-talk	n/a	.08	.01	.12
Cross-generation you-talk	.03	.07	.07	.25*

Note: Scores for parent-parent we-talk and parent-parent you-talk are not available for adolescents. The family variable represents the mean of adolescent, mother figure, and father figure scores.

†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table 3: Correlations among global and structural pronoun variables

	T1- Global we-talk	T1- Global you-talk	T1- I-talk	T2- Global we-talk	T2- Global you-talk	T2- I- talk
T1- Family-focused we-talk	.99***	-.19	-.12	-.04	.10	.07
T1- Parent-parent we-talk	-.10	.11	.12	-.03	.01	-.10
T1- Cross-generation we-talk	-.03	.09	.12	-.06	.04	-.08
T1- Parent-parent you-talk	-.15	.53***	.07	-.04	-.25*	.04
T1- Cross-generation you-talk	-.27*	.58***	.25*	-.11	.17	.12
T2- Family-focused we-talk	-.10	-.06	.23*	.75***	-.32**	.01
T2- Parent-parent we-talk	.21†	-.06	-.15	.37**	-.22†	-.17
T2- Cross-generation we-talk	-.23*	-.18	-.01	.11	.11	-.04
T2- Parent-parent you-talk	.22†	.14	-.02	-.04	.22†	.13
T2- Cross-generation you-talk	.05	.01	.06	-.22†	.59***	.09

Note: T1= collaboration (menu) task and T2= conflict (argument) task.

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 4: Correlations among measures of youth and family functioning

	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Concurrent observation</b>													
<i>Youth functioning</i>													
1. T1- Internalizing	1												
2. T2- Internalizing	.33**	1											
3. T1- Externalizing	.30**	.06	1										
4. T2- Externalizing	.13	.07	.62***	1									
<i>Family functioning</i>													
5. T1- Negative affect	.44**	.02	.71***	.50***	1								
6. T2- Negative affect	.19	.28*	.51***	.61***	.55***	1							
7. GARF	-.14	-.07	-.47***	-.52***	-.49***	-.53***	1						
<b>Self-report measures</b>													
<i>Youth functioning</i>													
8. YSR - total problems	.15	.00	.35**	.32**	.29*	.20†	-.22†	1					
9. Comp. substance use	.14	.20†	.18	.13	.31**	.12	-.18	.31**	1				
<i>Family functioning</i>													
10. Cohesion- adolescent	-.34**	-.01	-.45***	-.36**	-.52***	-.36**	.30**	-.49***	-.29*	1			
11. Cohesion- parent	.02	.02	-.20†	-.22†	-.14	-.17	.14	-.31**	-.08	.38**	1		
12. Conflict- adolescent	.23*	.00	.32**	.42***	.39**	.31**	-.38**	.48***	.27*	-.58***	-.32**	1	
13. Conflict- parent	-.04	-.11	.13	.27*	.14	.22†	-.24*	.19	.09	-.25*	-.41***	.53***	1

Note: GARF= Global Assessment of Relational Functioning Scale. For concurrent observational measures (with the exception of GARF), T1= collaboration task and T2= conflict task and are derived from GSFSR ratings. For self report measures, YSR-total problems refers to the total problems subscale, which incorporates ratings of both internalizing and externalizing behaviors. The composite substance use variable includes (a) % substance use days, based on Time-line follow-back (TLFB) self-report of substance use; (b) any positive urine, given at least one valid test;

and (c) type or level of use, based on TLFB or urine test. Self-report family functioning variables include adolescent and parent versions of the Family Environment Scale with individual scores for the conflict and cohesion subscales. †  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table 5: Demographic correlates of youth and family functioning measures

	Female IP	Youth age	Minority status	Two biological parents
<b>Concurrent Observation</b>				
<i>Youth functioning</i>				
T1- Internalizing	-.03	-.06	.06	.21†
T2- Internalizing	-.10	.05	-.03	.10
T1- Externalizing	.04	-.02	.06	.24*
T2- Externalizing	.17	.09	-.05	.37**
<i>Family functioning</i>				
T1- Negative affect	.11	-.03	.16	.22†
T2- Negative affect	.15	.04	-.12	.23*
GARF	-.18	.04	-.11	-.05
<b>Self-Report</b>				
<i>Youth functioning</i>				
YSR total problems	.36**	-.10	.02	.03
Comp. substance use	-.14	-.02	.19	.00
<i>FES family functioning</i>				
Cohesion- adolescent	-.18	.01	.01	-.03
Cohesion- parent	-.01	-.04	.21†	-.03
Conflict- adolescent	-.15	-.15	.00	.17
Conflict- parent	-.03	-.04	-.06	.13

Note: For observational measures, T1= collaboration task and T2= conflict task. Dichotomous demographic variables include *female identified patient* (1= male; 2= female), *minority status* (1= White; 2= Black/Hispanic), and *two biological parents* participating in the FIAT (1= no, 2= yes). FES = Family Environment Scale (Moos & Moos, 1986).  
† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 6: Correlations among observational measures of structural family systems constructs

	Enmeshment	Disengagement	Identified patienthood	Parent conflict	Cross-gen. coalition
Enmeshment	<i><b>.52***</b></i>	-.22†	-.06	-.12	.27*
Disengagement	-.35**	<i><b>.47***</b></i>	.17	.31**	-.36**
Identified patienthood	-.21†	.21†	<i><b>.09</b></i>	-.20	-.32**
Parent conflict	.02	.17	.06	<i><b>.56***</b></i>	.45***
Cross-gen. coalition	.11	-.25*	-.15	.50***	<i><b>.34***</b></i>

Note: Italicized and bolded correlations in the diagonal represent stability coefficients for each structural construct across the collaboration and conflict tasks (T1 and T2). Coefficients above the diagonal are for T1; those below the diagonal are for T2.

†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table 7: Demographic correlates of observed structural family systems constructs for collaboration (T1) and conflict (T2) tasks.

	Female IP	Youth Age	Minority status	Two biological parents
T1- Enmeshment	.09	-.08	-.24*	-.08
T2- Enmeshment	.03	-.05	-.03	.01
T1- Disengagement	.12	.02	.22†	.24*
T2- Disengagement	.03	.06	-.03	.21†
T1- Identified patienthood	-.07	-.18	.16	-.04
T2- Identified patienthood	-.29*	.14	-.08	.13
T1- Parent conflict	.03	.08	.25*	.13
T2- Parent conflict	.07	.09	.11	.07
T1- Cross gen. coalition	.07	-.04	-.10	-.02
T2- Cross-gen. coalition	-.03	-.07	.02	-.20†

Note: Dichotomous demographic variables include *female identified patient* (1= male; 2= female), *minority status* (1= White; 2= Black/Hispanic), and *two biological parents* participating in the FIAT (1= no, 2= yes).

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 8: Structural pronoun associations with concurrently observed structural family systems constructs in the collaboration (T1) and conflict (T2) tasks

	Enmeshment		Disengagement		Identified patienthood		Parental conflict		Cross-generational coalition	
	T1 (menu) $\beta$	T2 (argue) $\beta$	T1 $\beta$	T2 $\beta$	T1 $\beta$	T2 $\beta$	T1 $\beta$	T2 $\beta$	T1 $\beta$	T2 $\beta$
<i>We-talk</i>										
Family-focused	-.06	-.15	-.33**	.16	-.06	.27*	.12	.08	.18	.06
Parent-parent	.08	-.21†	-.14	-.13	-.08	.04	-.17	-.15	-.10	-.23*
<i>You-talk</i>										
Parent-parent	-.05	.11	-.04	-.13	-.11	-.08	-.08	.42***	.06	.31**
Cross-generation	-.27*	-.19	.09	.09	.10	.55***	.17	.34***	.01	.04
<b>Model Adj. R<sup>2</sup></b>	<b>.03</b>	<b>.05†</b>	<b>.08*</b>	<b>.01</b>	<b>-.03</b>	<b>.29***</b>	<b>.02</b>	<b>.24***</b>	<b>.00</b>	<b>.10*</b>

Note: Columns show standardized beta weights and adjusted R<sup>2</sup> statistics from 10 multiple regression models. Structural constructs (e.g. enmeshment, disengagement, identified patienthood, parental conflict and cross-generational coalition) served as individual outcome variables, with all four structural pronoun variables entered as predictor variables. Pronoun variables are family-level means.

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 9: Global pronoun associations with concurrently observed structural family systems constructs in collaboration (T1) and conflict (T2) tasks

	Enmeshment		Disengagement		Identified patienthood		Parental conflict		Cross-generational coalition	
	T1 (menu) $\beta$	T2 (argue) $\beta$	T1 $\beta$	T2 $\beta$	T1 $\beta$	T2 $\beta$	T1 $\beta$	T2 $\beta$	T1 $\beta$	T2 $\beta$
We-talk	.01	-.07	-.33**	-.04	-.05	.11	.08	.05	.15	.06
You-talk	-.09	.23†	.11	-.09	-.03	.10	.07	.35**	-.06	.20
I-talk	-.21†	.06	.08	-.04	.11	-.01	-.05	.03	-.19	-.12
<b>Model Adj. R<sup>2</sup></b>	<b>.02</b>	<b>.03</b>	<b>.11*</b>	<b>-.03</b>	<b>-.03</b>	<b>-.03</b>	<b>-.03</b>	<b>.07*</b>	<b>.03</b>	<b>.01</b>

Note: Columns show standardized beta weights and adjusted R<sup>2</sup> statistics from 10 multiple regression models. Structural constructs (e.g. enmeshment, disengagement, identified patienthood, parental conflict and cross-generational coalition) served as individual outcome variables, with all three global pronoun variables entered as predictor variables. Pronoun variables are family-level means.

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 10: Global pronoun associations with concurrently observed measures of youth and family functioning collapsed across family members

	Youth functioning				Family Functioning		GARF $\beta$
	T1 - Internalizing $\beta$	T2 - Internalizing $\beta$	T1 - Externalizing $\beta$	T2 - Externalizing $\beta$	T1 - Neg. affect $\beta$	T2 - Neg. affect $\beta$	
<i>T1- Collaboration</i>							
We-talk	-.12		-.20†		-.11		.10
You-talk	.08		.09		.18		-.25*
I-talk	.23*		-.05		.01		.00
<i>T2- Conflict</i>							
We-talk		.10		-.09		-.01	-.01
You-talk		-.10		.38**		.39**	-.20
I-talk		.12		-.01		-.03	-.08
<b>Model Adj.R<sup>2</sup></b>	<b>.05†</b>	<b>.00</b>	<b>.01</b>	<b>.14**</b>	<b>.01</b>	<b>.12**</b>	<b>.05</b>

Note: T1= collaboration task and T2= conflict task. Columns show standardized beta weights and adjusted R<sup>2</sup> statistics from seven multiple regression models. Youth and family functioning variables served as individual outcome variables, with the three corresponding task pronoun variables entered as predictor variables. Pronoun variables are family-level means.

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 11: Global pronoun associations with self-report measures of youth and family functioning collapsed across family members

	Adolescent functioning			Family functioning		
	YSR total problems	Composite substance use	Adolescent FES cohesion	Parent FES cohesion	Adolescent FES conflict	Parent FES conflict
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
<i>T1- Collaboration</i>						
We-talk	-.20	-.03	.11	.08	-.33**	-.22†
You-talk	-.09	.03	-.02	.00	.14	.13
I-talk	.05	.14	-.02	.25†	-.08	-.34*
<i>T2- Conflict</i>						
We-talk	.17	.27*	-.01	-.04	.00	-.09
You-talk	.12	.03	-.13	-.10	.27*	.09
I-talk	.02	.07	-.03	-.25†	.16	.29*
<b><i>Model Adj. R<sup>2</sup></i></b>	<b>.00</b>	<b>.03</b>	<b>.00</b>	<b>.00</b>	<b>.15**</b>	<b>.12*</b>

Note: Columns show standardized beta weights and adjusted R<sup>2</sup> statistics from six multiple regression models. Youth and family functioning variables served as individual outcome variables, with six pronoun variables entered as predictor variables. For youth/family functioning variables, YSR-total problems refers to the total problems subscale, which incorporates ratings of both internalizing and externalizing behaviors. The composite substance use variable includes (a) % substance use days, based on Time-line follow-back (TLFB) self-report of substance use; (b) any positive urine, given at least one valid test; and (c) type or level of use, based on TLFB or urine test. Self-report family functioning variables include adolescent and parent versions of the Family Environment Scale with individual scores for the conflict and cohesion subscales. Pronoun variables are family-level means.

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 12: Structural pronoun associations with concurrently observed measures of youth and family functioning collapsed across family members

	Adolescent functioning				Family functioning		GARF $\beta$
	T1 - Internalizing $\beta$	T2 - Internalizing $\beta$	T1 - Externalizing $\beta$	T2 - Externalizing $\beta$	T1 - Neg. Affect $\beta$	T2 - Neg. Affect $\beta$	
<i>T1 - Collaboration</i>							
Family-focused we-talk	-.14		-.15		-.05		.01
Parent-parent we-talk	-.13		.03		-.02		-.02
Parent-parent you-talk	-.22†		-.05		-.07		-.11
Cross-generation you-talk	.20†		.22†		.29*		-.25†
<i>T2 - Conflict</i>							
Family-focused we-talk		.14		-.09		.01	-.02
Parent-parent we-talk		.07		-.05		.03	.11
Parent-parent you-talk		-.05		.03		.27*	-.15
Cross-		.14		.50***		.44***	.00

generation  
you-talk

<b>Model</b>	<b>.06†</b>	<b>.00</b>	<b>.03</b>	<b>.23***</b>	<b>.04</b>	<b>.20**</b>	<b>.03</b>
<b>Adj.R<sup>2</sup></b>							

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Note: T1= collaboration (menu) task and T2= conflict (argument) task. Columns show standardized beta weights and adjusted R<sup>2</sup> statistics from seven multiple regression models. Youth and family functioning variables served as individual outcome variables, with the four corresponding structural pronoun variables entered as predictor variables. For youth/family functioning variables, GARF= Global Assessment of Relational Functioning Scale. All other variables are derived from GSFSR ratings. Pronoun variables are family-level means. † p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table 13: Structural pronoun associations with self-report measures of youth and family functioning collapsed across family members

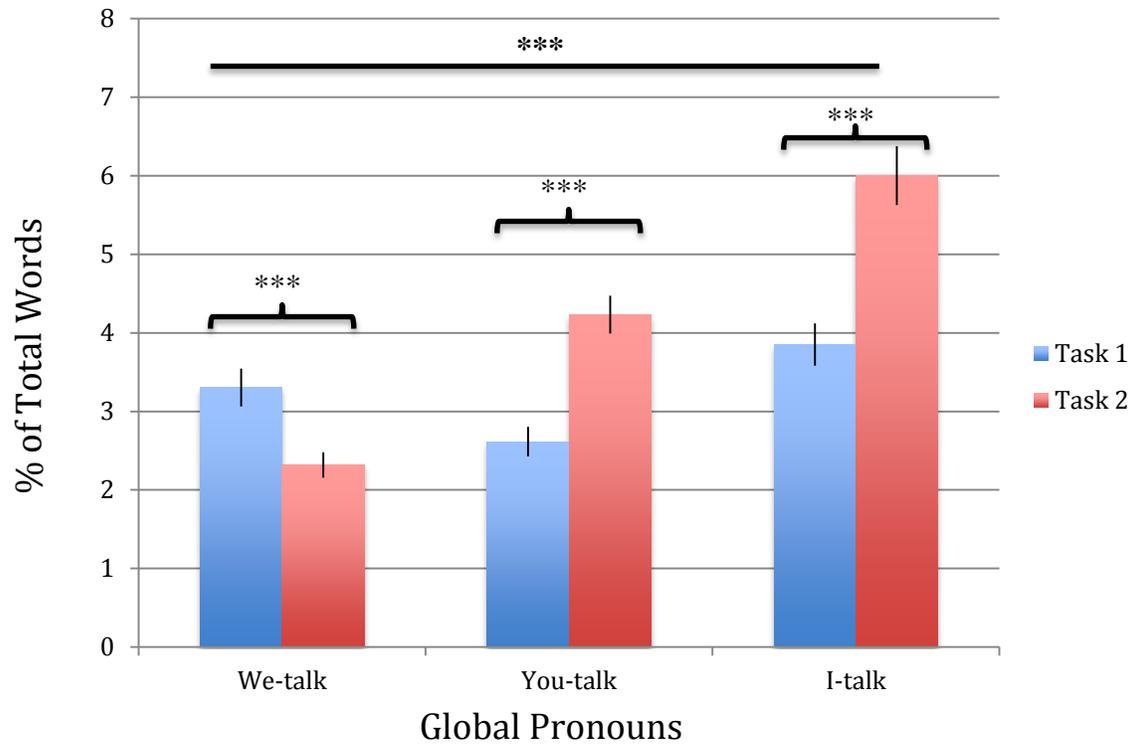
	Adolescent functioning			Family functioning		
	YSR- total problems $\beta$	Comp. substance use $\beta$	Ad. FES cohesion $\beta$	Par. FES cohesion $\beta$	Ad. FES conflict $\beta$	Par. FES conflict $\beta$
<i>T1- Collaboration</i>						
Family-focused we-talk	-0.29*	0.01	0.10	0.01	-0.27*	-0.15
Parent-parent we--talk	-0.16	-0.09	0.15	0.27*	-0.18	-0.15
Parent-parent you-talk	-0.10	0.03	0.21†	-0.19	-0.07	0.13
Cross-generation you-talk	-0.14	0.11	-0.12	-0.18	0.20	-0.05
<i>T2- Conflict</i>						
Family-focused we-talk	0.13	0.21†	0.03	-0.07	-0.03	-0.18
Parent-parent we--talk	0.20†	0.07	-0.05	0.12	-0.07	-0.14
Parent-parent you-talk	-0.02	-0.12	0.09	0.19	-0.09	0.03
Cross-generation you-talk	0.23†	0.16	-0.01	-0.21†	0.16	0.07
<b>Model Adj. R<sup>2</sup></b>	<b>0.06</b>	<b>0.00</b>	<b>0.00</b>	<b>0.08†</b>	<b>0.12*</b>	<b>0.00</b>

Note: T1= collaboration (menu) task and T2= conflict (argument) task. Columns show standardized beta weights and adjusted R<sup>2</sup> statistics from six multiple regression models. Youth and family functioning variables served as individual outcome variables, with the four

corresponding structural pronoun variables entered as predictor variables. For youth/family functioning variables, YSR-total problems refers to the total problems subscale, which incorporates ratings of both internalizing and externalizing behaviors. The composite substance use variable includes (a) % substance use days, based on Time-line follow-back (TLFB) self-report of substance use; (b) any positive urine, given at least one valid test; and (c) type or level of use, based on TLFB or urine test. Self-report family functioning variables include adolescent and parent versions of the Family Environment Scale with individual scores for the conflict and cohesion subscales. Pronoun variables are family-level means.

†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

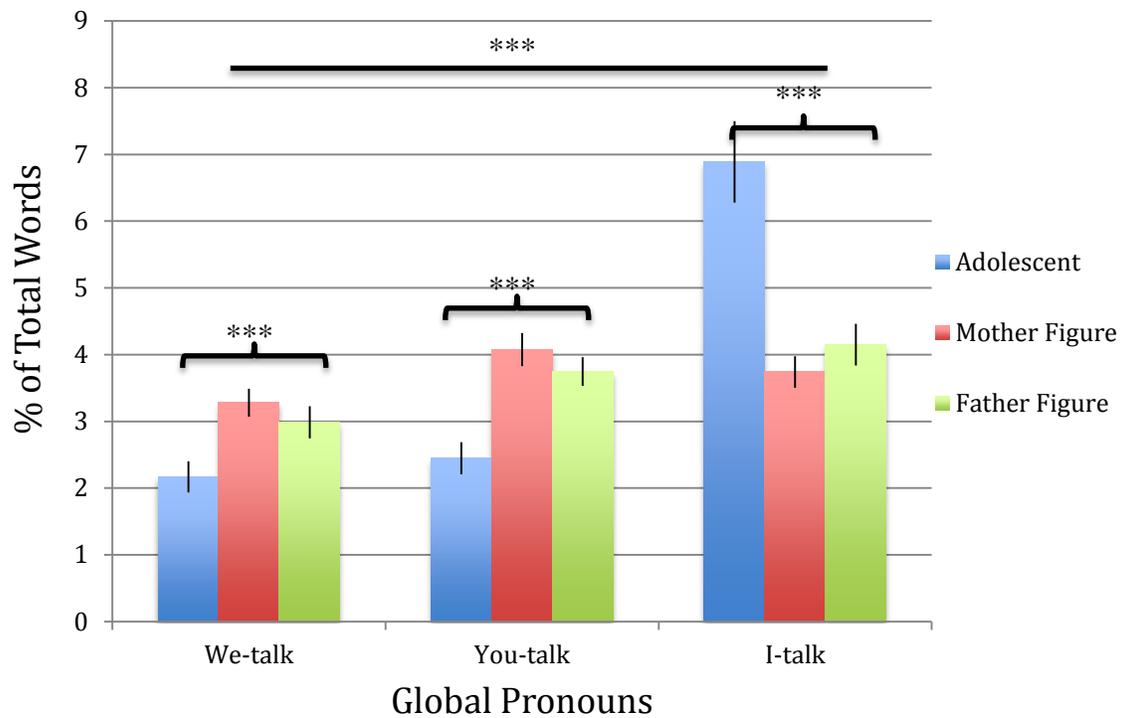
Figure 1: Global pronoun patterns across collaboration (task 1) and conflict (task 2) conversation topics.



Note: Task 1= menu planning task, Task 2= discuss- an- argument task. Pronoun variables reflect the mean of adolescent, mother figure and father figure.

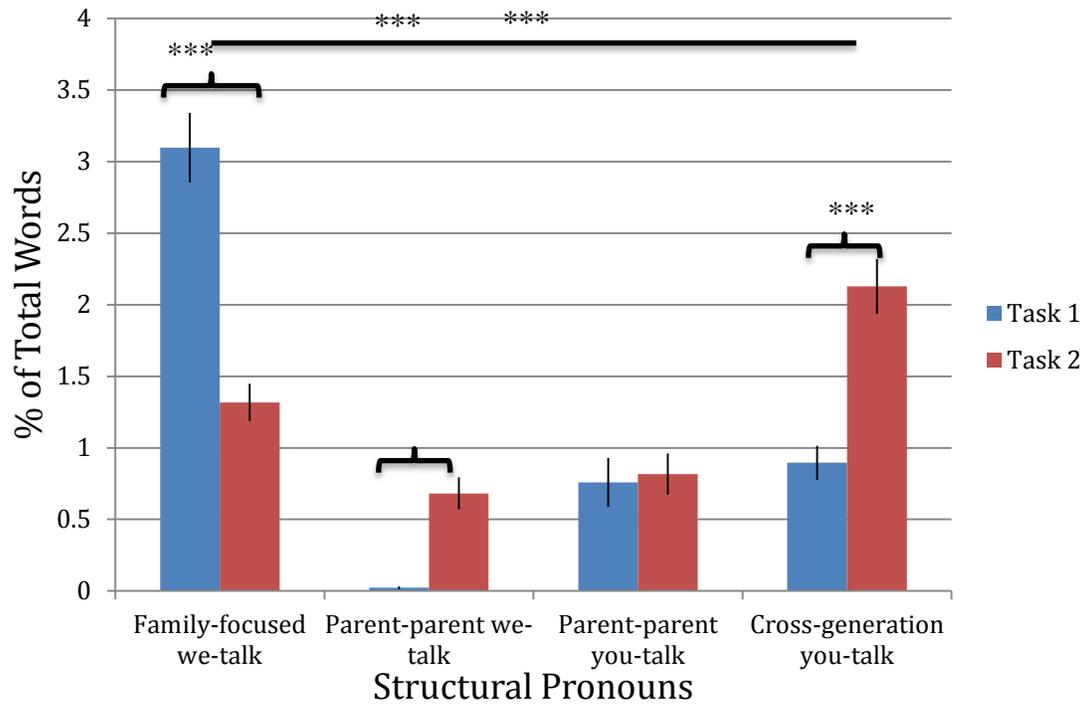
\*\*\*  $p < .001$ .

Figure 2: Global pronoun patterns across adolescent, mother figure and father figures.



Note: Pronoun use variables reflect mean of specific pronoun across tasks 1 and 2.  
\*\*\*  $p < .001$ .

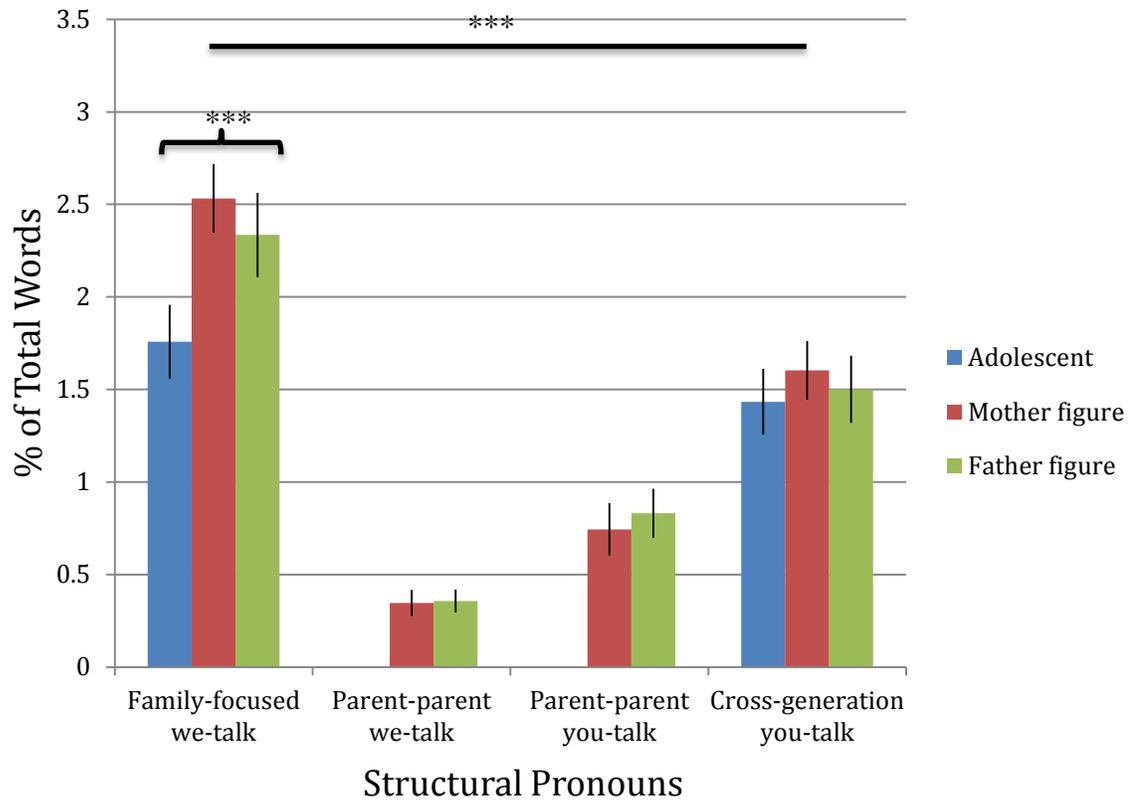
Figure 3: Structural pronoun patterns across collaboration (task 1) and conflict (task 2) conversation topics.



Note: Task 1= menu planning task, Task 2= discuss- an- argument task. Pronoun variables reflect the mean of adolescent, mother figure and father figure.

\*\*\* p<.001.

Figure 4: Structural pronoun patterns across adolescent, mother figure and father figures.



Note: Pronoun use variables reflect mean of specific pronoun across tasks 1 and 2.  
 \*\*\* p<.001.

## APPENDIX A

### FAMILY INTERACTION TASK (FIAT) INSTRUCTIONS

Each FIAT involved three separate structured tasks. After setting up the camera such that all participating members were visible and able to talk to one another, the research assistant was to introduce the family tasks via the following script:

“I’m now going to ask you to do the three family tasks we’ve told you about. You will hear the instructions for each task from a tape I will play. We’ll do one task at a time, and you will have about five minutes to complete each task. If you do not understand the instructions, let me know and I will play them again. You can begin as soon as I leave the room. This exercise will be video recorded, so please speak clearly. Any questions?”

Task instructions were delivered to families via audiotape to ensure that families in the study all received the same instructions. Research assistants were instructed not to answer any family members’ questions about the task, although they were free to replay the instructions if a family member expressed uncertainty about them. If the family did not have any questions about the instructions, the research assistant was to say “I will come back in five minutes,” then leave the room, but remain in earshot of the family conversation. If families finished a task in under the allotted time, the research assistant would play the instructions for the next task. Additionally, if family members required more time, the research assistant was to allow them up to 10 minutes to complete the task. Research assistants were also instructed to try not to provide feedback to any family about their performance on a task.

Task instructions were as follows:

*Task 1* (plan a menu): “Suppose all of you had to work out a menu tonight and would all like to have your favorite foods for dinner, but you can only have one meat, two vegetables, one drink, and one dessert. I’d like you to talk together about this and decide on ONE meal you would all enjoy that has one meat, two vegetables, one drink, and one dessert. Remember, you must end up agreeing on just one meal that everyone would enjoy. Okay, go ahead.”

*Task 2* (likes and dislikes): “We all have things we like and dislike about the people in our family. Next we’d like you to talk together about the things that please you and make you feel good about each other, and also the things people do in the family that make you unhappy or mad. Everyone should try to give his or her own ideas about this. Okay, go ahead.”

*Task 3* (discuss a conflict): “In every family things happen now and then that cause a fuss or disagreement. Next we’d like you to talk together about an argument, fight, or disagreement you’ve had at home. As you discuss the argument, try to remember what started it, who said and did what, and what people were arguing about. See if you can remember what it was all about. Take your time. Okay, go ahead.”

## APPENDIX B

### GSFSR CONSTRUCTS AND ANCHORS

**FAMILY-LEVEL ENMESHMENT-** Enmeshment refers to a high level of interpersonal connectedness in the family as a group, regardless of how many family members are present. Although enmeshment reflects the dissolution of boundaries between family members (e.g., undifferentiation or lack of emotional distance), it is not necessarily pathological. Blurring of interpersonal boundaries can occur when family members are warm and affectionate toward each other as well as hostile or critical.

Observable behaviors that indicate enmeshment include family members speaking for one another, reading each others' minds, speaking of the family as an undifferentiated unit (e.g., "We like that," referring to everyone in the family), touching one another, invasions of personal space, interrupting or continuing each other's speeches, speaking simultaneously, acting as if family members control one another, or sharing joint emotional reactions (e.g., laughing or crying together). Enmeshment can also be indicated by the content of what family members say (e.g., invasions of privacy).

Note, however, that loss of physical distance required by the structure of the FIAT task (e.g., grouping members of a large family close together so they can all appear on camera) is not in itself an indication of enmeshment.

#### *Anchors for rating:*

- 1 *No* evidence of enmeshment is apparent among the family members at any time during the task.
- 2 *Some* evidence of enmeshment—apparent among *a portion* of the family members *occasionally* during the task, but there is no particularly salient example during the task.
- 3 *Moderate* evidence of enmeshment—apparent either among *a portion* of the family members during *approximately half* the task, or among *most or all* of the family members *occasionally* during the task, or there is a highly salient example during the task.
- 4 *Substantial* evidence of enmeshment—apparent either among *a portion* of the family members *throughout most of* the task, or among *most or all* of the family members during *approximately half* the task, or there are several highly salient examples during the task.
- 5 *Pervasive* evidence of enmeshment—apparent among *most or all* of the family members *throughout* most of the task, and there are at least a few salient examples during the task.

**FAMILY-LEVEL DISENGAGEMENT-** Disengagement refers to a low level of interpersonal connectedness in the family as a group. Here the boundaries are relatively impermeable and often associated with emotional distance. Again, this

distance is not necessarily pathological, as disengagement can entail politeness, courtesy, dignity, etc. As much as possible, disengagement should be rated independently of warmth/affection and hostility/criticism.

Behaviors indicating disengagement can appear in how family members interact with one another or how they approach the task. Thus, disengagement might include the *absence* of communication, affective relating and participation in the task and/or the *presence* of other behaviors that express a desire to be excluded from the task, from some other family activity, or from the family in general. Although the absence of overt emotional support and empathy among family members is particularly indicative of this construct, raters should attach relatively more importance to the *commission* of disengagement-associated behaviors than to the *omission* of disengagement-incompatible behaviors. Finally, when selecting an anchor, only core family members (i.e., nuclear family and/or household members) can qualify as a “portion” of the family.

*Anchors for rating:*

- 1 *No* evidence of disengagement is apparent among the family members at any time during the task.
- 2 *Some* evidence of disengagement —apparent among *a portion* of the family members *occasionally* during the task, but there is no particularly salient example during the task.
- 3 *Moderate* evidence of disengagement —apparent either among *a portion* of the family members during *approximately half* the task, or among *most or all* of the family members *occasionally* during the task, or there is a highly salient example during the task.
- 4 *Substantial* evidence of disengagement —apparent either among *a portion* of the family members *throughout most of* the task, or among *most or all* of the family members during *approximately half* the task, or there are several highly salient examples during the task.
- 5 *Pervasive* evidence of disengagement —apparent among *most or all* of the family members *throughout most of* the task, and there are at least a few salient examples during the task.

IDENTIFIED PATIENT-HOOD- Identified patient-hood (IP-hood) refers to the extent that the family tends to localize problems in the IP (here, the adolescent referred for treatment). When family interactions tend to organize around and focus on the IP and his or her perceived symptoms there is a high degree of IP-hood. Thus, family members may ascribe problems only to the IP without taking into account how their own behavior (or family interaction more generally) may play a role in this.

Observable behaviors that indicate identified patient-hood include criticisms or personal attacks directed at the IP, the tendency for the IP to be the topic of conversation, and statements that suggest that the IP is the primary cause of most or all the family’s problems.

*Anchors for rating:*

- 1 *No* evidence of IP-hood is apparent among the family members at any time during the task.
- 2 *Some* evidence of IP-hood—apparent among *a portion* of the family members *occasionally* during the task, but there is no particularly salient example.
- 3 *Moderate* evidence of IP-hood—apparent either among *a portion* of the family members during *approximately half* the task, or among *most or all* of the family members *occasionally* during the task, or there is a highly salient example during the task.
- 4 *Substantial* evidence of IP-hood—apparent either among *a portion* of the family members *throughout most of* the task, or among *most or all* of the family members during *approximately half* the task, or there are several highly salient examples during the task.
- 5 *Pervasive* evidence of IP-hood—apparent among *most or all* of the family members *throughout* most of the task, and there are at least a few salient examples during the task.

FAMILY-LEVEL NEGATIVE AFFECT (adapted from the SCIFF NEGATIVITY & CONFLICT scale)- This scale assesses the overall level of negative affect in the family. Negativity includes both anger/hostility related negative emotions, as well as sadness/anxiety related emotions. Thus evidence of negativity includes both overt and more subtle evidence of anger, sadness, hostility, anxiety, depression, annoyance, etc. Relevant here is both the *content* of what family members say (e.g., put downs or criticisms) and the non-verbal or paralinguistic manner in which they relate to each other. Thus, negativity may be reflected in tone of voice (e.g., loudness or sounding depressed), facial expressions (e.g., smirking, frowning, rolling eyes, pouting) or body language (e.g., crossed arms, fidgetiness, shaking fists, looking downcast).

*Anchors for rating:*

- 1 *Very Low*. The family shows little or no negative affect. If any evidence of is present, it is fleeting, momentary, and quickly resolved. Moments of negativity tend to be of low intensity (e.g., no one in the family appears to feel particularly hostile or depressed).
- 2 *Low*. The family generally does not demonstrate negativity, but there appear to be some instances of it (e.g., one family member remains somewhat anxious, despondent or hostile even though others do not).
- 3 *Moderate*. The family demonstrates some negativity, but the overall tone of the interaction is mixed, with negativity occurring only about half of the time and/or appearing in some but not all family members. The level of negativity may be variable (at times subtle and at times more obvious), and at least one family member typically exhibits at least moderate levels of annoyance, hostility, anxiety or dysphoria.
- 4 *Moderately High*. Negative affect, although not pervasive, is fairly intense. Although there are clear moments when negativity is not present, its presence is fairly easy to identify. Or even if there is no clear instance of

negativity, there remains a clear undercurrent of it in the family. The overall ambience of the family is hostile, anxious, or depressed.

- 5 *High*. Clear negative affect, such as tension, anger, or depression, is present through most or all of the interaction. Negativity is fairly intense, easy to identify, and present in most of the family members.

FAMILY-LEVEL POSITIVE AFFECT (adapted from the SCIFF POSITIVE AFFECT scale)- This code reflects the overall positive emotional tone in the family. Positive affect can be expressed in the feeling associated with what family members say, as well as the content of what they say. Positive content includes expressing agreement, offering compliments, showing interest, humor, and expressing affection. Positivity can also be reflected in tone of voice (e.g., happy, upbeat, satisfied), facial expression (e.g., smiling, laughing), and body language (e.g., touching, leaning, frontal orientation).

*Anchors for rating:*

- 1 *Very Low*. The family shows little or no positive affect. If moments of positivity occur at all, they are infrequent and of low intensity, or they may not appear genuine. The overall tone of the interaction tends to be flat or negative.
- 2 *Low*. There are a few times when family members display positive affect, but this is neither predominant (it clearly occurs less than half the time) nor typical of the family's interactions. The overall tone of the interaction is likely to be flat or mixed, with neutral or negative exchanges more common than positive ones.
- 3 *Moderate*. Family members demonstrate at least some positive affect about half of the time, but there are neutral or mildly negative exchanges as well.
- 4 *Moderately High*. Positive affect is clearly present during more than half of the interaction.
- 5 *High*. Positive affect, such as laughter, smiles, and enthusiasm, is present throughout most, if not all, of the discussion. Positive affect is fairly intense and easy to identify in all family members.

POSITIVE ALLIANCE PATTERNS- A positive alliance between members of a dyad is characterized by cohesion, reciprocity, and respect. This can be seen in the content of what family members say to each other (e.g., voicing agreement, identifying similar interests, sharing confidences, etc.), in who talks to whom, and in how participants relate to each other nonverbally (e.g., patterns of proximity, body orientation, eye contact, smiling, etc.).

The low end (or absence) of positive alliance can be characterized by either emotional distance and disengagement or by conflict and negativity. Positive alliance can/should be coded independently of hierarchical arrangements such as the reversal of parent-child roles.

As before, the number of dyadic positive alliance ratings depends upon who participates in the FIAT. Thus, if only one parent and the IP are present, only one of

the seven possible dyads will be rated. In larger, more complex family configurations, on the other hand, the picture will be different.

*Anchors for rating:*

- 1 The alliance between these two family members is weak (characterized by emotional distance or negativity).
- 2 (intermediate between anchors 1 and 3)
- 3 The alliance is relatively neutral.
- 4 (intermediate between anchors 3 and 5)
- 5 The alliance is very strong and positive. The two family members appear close and connected.

## APPENDIX C

## TABLES

Table A: Correlations among adolescent, mother figure and father figure global pronoun variables

	1	2	3	4	5	6	7	8	9
1. Adol. we-talk	<b><i>-.07</i></b>	.19	.20†	.03	-.08	.10	-.24*	.14	.01
2. Mother we-talk	-.10	<b><i>.08</i></b>	.19†	-.03	-.24*	-.05	-.08	.01	.07
3. Father we-talk	-.05	.17	<b><i>.14</i></b>	-.17	-.31	.02	.04	.14	-.33**
4. Adol you-talk	-.12	-.10	-.01	<b><i>.02</i></b>	.13	.06	-.18	-.02	.17
5. Mother you-talk	-.05	-.10	-.27*	<b><i>.28*</i></b>	<b><i>.14</i></b>	<b><i>.26*</i></b>	.18	-.12	.03
6. Father you-talk	-.05	-.20†	-.17	-.05	.22†	<b><i>-.17</i></b>	.03	<b><i>.36**</i></b>	.01
7. Adol. I-talk	-.23*	.15	-.05	-.03	-.04	-.12	<b><i>.47***</i></b>	-.09	.22†
8. Mother I-talk	-.06	-.16	-.26*	.11	.07	-.05	-.18	<b><i>.21†</i></b>	.12
9. Father I-talk	-.17	<b><i>.32**</i></b>	-.26*	.02	.07	-.15	<b><i>.36**</i></b>	.11	<b><i>.43***</i></b>

Note: Italicized and bolded correlations in the diagonal represent stability coefficients for each pronoun type across the collaboration and conflict tasks (T1 and T2). Coefficients above the diagonal are for T1; those below the diagonal are for T2.

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table B: Correlations among global pronoun variables by task collapsed across family members.

	We-talk - coll.	We-talk - con.	You-talk - coll.	You-talk - con.	I-talk - coll.	I-talk - con.
We-talk - coll.	1					
We-talk - con.	-.05	1				
You-talk - coll.	-.19	-.12	1			
You-talk - con.	.09	-.32**	.04	1		
I-talk - coll.	-.10	.12	.10	-.18	1	
I-talk - con.	.06	-.16	.10	-.07	.47**	1

Note: Coll. = Collaboration (Task 1), Con. = Conflict (Task 2), †  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table C: Correlations among adolescent, mother figure and father figure structural pronoun variables

	1	2	3	4	5	6	7	8	9	10
1. Adol family-focused we-talk	<b><i>-.16</i></b>	.20†	.21†	.01	-.13	-.09	.03	.04	-.17	-.07
2. MF family-focused we-talk	-.03	<b><i>.01</i></b>	.22†	-.04	-.21†	-.14	-.12	-.10	-.21†	-.13
3. FF family focused we-talk	.09	.28*	<b><i>.18</i></b>	-.15	.04	-.16	-.03	-.15	-.22†	-.08
4. MF parent-parent we-talk	-.02	-.17	-.16	<b><i>-.03</i></b>	-.03	.09	-.12	.02	.06	-.13
5. FF parent-parent we-talk	-.10	.11	.28*		<b><i>.05</i></b>	-.06	-.04	-.08	-.08	.07
6. MF parent-parent you-talk	.11	.00	-.10	-.08	-.06	<b><i>.01</i></b>	.44***	.07	-.07	-.01
7. FF parent-parent you-talk	.09	-.09	-.13	.03	-.05	.43***	<b><i>.12</i></b>	.28*	.19	.01
8. Adol cross-gen. you-talk	-.12	-.12	-.02	-.16	-.01	.01	.16	<b><i>.03</i></b>	.11	.05
9. MF cross-gen. you-talk	-.24*	-.07	-.11	-.03	.18	-.14	-.02	.21†	<b><i>.07</i></b>	.40***
10. FF cross-gen. you-talk	-.07	-.07	-.14	-.06	.21†	-.10	-.24*	.00	.31**	<b><i>.07</i></b>

Note: Italicized and bolded correlations in the diagonal represent stability coefficients for each pronoun type across the collaboration and conflict tasks (T1 and T2). Coefficients above the diagonal are for T1; those below the diagonal are for T2.

†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table D: Correlations among structurally-relevant pronoun use variables collapsed across family members

	1	2	3	4	5	6	7	8
1. T1- Family-focused we-talk	1							
2. T2 Family-focused we-talk	-.09	1						
3. T1- Parent-parent we-talk	-.16	.00	1					
4. T2- Parent-parent we-talk	.22†	-.02	-.02	1				
5. T1- Parent-parent you-talk	-.16	.06	-.04	-.07	1			
6. T2- Parent-parent you-talk	.22†	-.05	-.13	-.04	.08	1		
7. T1- Cross-generation you-talk	-.25*	-.04	-.05	-.06	.12	.14	1	
8. T2- Cross-generation you-talk	.06	-.24*	.05	.03	-.14	-.09	.25*	1

Note: T1 = Collaboration task, T2 = Conflict task. †  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table E: Correlations among structural family systems constructs and structural pronoun variables collapsed across family members for collaboration (T1) and conflict (T2) tasks

	T1 - Enmesh.	T2 - Enmesh.	T1 - Diseng.	T2 - Diseng	T1 - IPhood	T2 - IPhood	T1 - Parent conflict	T2 - Parent conflict	T1 - CG coalition	T2 - CG coalition
T1- Family- focused we-talk	.00	-.06	-.32**	-.16	-.05	-.01	.11	.07	.18	-.02
T2- Family- focused we-talk	-.10	-.10	.06	.15	.00	.14	-.06	-.02	-.03	.04
T1- Parent-parent we-talk	.10	.00	-.09	.00	-.07	.17	-.19	-.11	-.13	-.09
T2- Parent-parent we-talk	.04	-.21†	-.28*	-.12	.08	.06	-.09	-.16	.09	-.24*
T1- Parent-parent you-talk	-.07	-.07	.03	.07	-.09	-.03	-.07	.08	.03	.08
T2- Parent-parent you-talk	.20†	.14	.00	-.14	-.04	-.15	.38**	.39**	.39**	.31**
T1- Cross- generation you-talk	-.26*	-.09	.17	.02	.11	.10	.14	.23*	-.02	.20†
T2- Cross- generation you-talk	-.26*	-.17	.07	.06	.13	.50***	.09	.28*	-.07	-.01

Note: Structural family systems constructs derived from GSFSR ratings. Enmesh. = Enmeshment, Diseng. = Disengagement, IPhood = Identified patienthood, CG coalition= Cross-generational coalition. T1= collaboration task, T2= conflict task.

† p<.10; \* p<.05; \*\* p<.01; \*\*\* p<.001.

Table F: Correlations among structural family systems constructs and youth and family functioning measures

	T1 - Int.	T2 - Int.	T1 - Ext.	T2 - Ext.	T1 - Neg. aff.	T2 - Neg. aff.	GARF	YSR- total problems	Comp. substance use	Cohesion- adol	Cohesion- parent	Conflict- adol	Conflict- parent
T1- Enmesh.	-.29*	-.05	-.08	-.08	-.35**	-.09	.07	.01	-.18	.20†	.03	-.03	.11
T2- Enmesh.	-.14	-.25*	.01	.09	.01	-.08	-.12	-.16	-.10	.07	-.03	.03	.12
T1- Diseng.	.41***	.06	.50***	.37**	.60***	.37**	-	.31**	.13	-.41***	-.15	.35**	.18
T2- Diseng	.12	.21†	.31**	.16	.29*	.30**	-.25*	.17	.19	-.28*	-.19	.23*	.25*
T1- IPhood	.38**	.13	.12	-.07	.10	.00	.04	.20†	.12	.07	.17	-.02	-.07
T2- IPhood	-.02	.40***	.09	.20*	.06	.36**	.08	.04	.19	.03	-.09	.06	-.12
T1- Parent conflict	.06	-.18	.20†	.25*	.52***	.33**	-.38**	.05	.14	-.23*	-.08	.14	.09
T2- Parent conflict	.15	.06	.31**	.44***	.52***	.59***	-	.09	.12	-.30*	-.19	.23*	.19
T1- CG coalition	-.37**	-.22†	-.27*	-.01	-.17	.11	-.05	-.25*	-.17	.13	.06	-.08	-.07
T2- CG coalition	.01	-.21†	-.17	-.19	.05	-.09	.04	-.25*	-.08	.09	.02	-.02	-.08

Note: GARF= Global Assessment of Relational Functioning Scale. For concurrent observational measures (with the exception of GARF), T1= collaboration task and T2= conflict task and are derived from GSFSR ratings. Int. = adolescent internalizing behavior, Ext. = adolescent externalizing behavior, Neg aff. = Negative affect. For self report measures, YSR-total problems refers to the total problems

subscale, which incorporates ratings of both internalizing and externalizing behaviors. The composite substance use variable includes (a) % substance use days, based on Time-line follow-back (TLFB) self-report of substance use; (b) any positive urine, given at least one valid test; and (c) type or level of use, based on TLFB or urine test. Self-report family functioning variables include adolescent and parent versions of the Family Environment Scale with individual scores for the conflict and cohesion. †  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

## REFERENCES

- Achenbach, T. M., & Edelbrock, C. (1987). *Manual for the youth self-report and profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Achenbach, T.M., Krukowski, R.A., Dumenci, L., & Ivanova, M.Y. (2005). Assessment of adult psychopathology: Meta-analyses and implications of cross-informant correlations. *Psychological Bulletin*, *131*, 361-382.
- Achenbach, T.M., McConaughy, S.H., & Howell, C.T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*, 213-232.
- Barber, B.K. & Buehler, C. (1996). Family cohesion and enmeshment: Different constructs, different effects. *Journal of Marriage and the Family*, *58*, 433-441.
- Borelli, J.L., Sbarra, D.A., Randall, A.K., Snavely, J.E., St. John, H.K., & Ruiz, S.K. (2013). Linguistic indicators of wives/attachment security and communal orientation during military deployment. *Family Process*, *52*, 535-554.
- Cialdini, R. B., Borden, R. J., Thorne, A., Walker, M. R., Freeman, S., & Sloan, L. R. (1976). Basking in reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology*, *34*, 366-375.
- Dausch, B.M., Miklowitz, D.J., & Richards, J.A. (1996). Global assessment of relational functioning scale (GARF): II. Reliability and validity in a sample of families of bipolar patients. *Family Process*, *35*, 175-189.
- Davies, P.T., Cummings, E.M., & Winter, M.A. (2004). Pathways between profiles of family functioning, child security in the interparental subsystem, and child psychological problems. *Development and Psychopathology*, *16*, 525-550.
- Denton, W.H., Nakonezny, P.A., & Burwell, S.R. (2010). Reliability and validity of the global Assessment of relational functioning (GARF) in a psychiatric family therapy clinic. *Journal of marital and family counseling*, *36*, 376-387.
- Dunn, J., O'Connor, T.G., & Cheng, H. (2005). Children's responses to conflict between their different parents: Mothers, stepfathers, nonresident fathers, and nonresident stepmothers. *Journal of Clinical Child and Adolescent Psychology*, *34*, 223-234.
- Fosco, G.M. & Grych, J.H. (2008). Emotional, cognitive, and family systems mediators of children's adjustment to interparental conflict. *Journal of Family Psychology*, *22*, 843-854.

- Friedman, A., Utada, A., & Morrissey, M. (1990). Families of adolescent drug abusers are 'rigid': Are these families either 'disengaged' or 'enmeshed,' or both? *Family therapy for adolescent drug abuse* (pp. 145-168). Lexington, MA: Lexington Books/D. C. Heath and Com.
- Green, S.M., Loeber, R., & Lahey B.B. (1992). Child Psychopathology and deviant family hierarchies. *Journal of child and family studies*, 1, 341-349.
- Group for the Advancement of Psychiatry Committee on the Family (1996). Global assessment of relational functioning (GARF): I. Background and rationale. *Family Process*, 35, 155-172.
- Grych, J.H., Raynor, S.R., & Fosco, G.M. (2004). Family processes that shape the impact of interparental conflict on adolescents. *Development and Psychopathology*, 16, 649-655.
- Haley, J. (1967). Towards a theory of pathological systems. In G. Zuk & I. Boszormenyi-Nagy (Eds.), *Family therapy and disturbed families*. New York, NY: Science and Behavior Books.
- Haley, J. 1976. *Problem-Solving Therapy*. San Francisco, CA: Jossey-Bass.
- Haley, J. (1980). *Leaving home: The therapy of disturbed young people*. New York: McGraw-Hill.
- Hasler, B.P., Rohrbaugh, M.J., Shoham, V., & Barona, N. (2006). *Global structural family systems ratings for adolescent treatment research* (poster, Western Psychological Association annual convention, April 2006).
- Jacobvitz, D., Hazen, N., Curran, M., Hitchens, K. (2004). Observations of early triadic family interactions: Boundary disturbances in the family predict symptoms of depression, anxiety, and attention-deficit/ hyperactivity disorder in middle childhood. *Development and Psychopathology*, 16, 577-592.
- Hervis, O.E., Szapocznik, J., Mitrani, V.B., Rio, A.T., & Kurtines, W.M. (1991). *Structural Family Systems Ratings: A Revised Manual* [Technical Report]. Miami, FL: University of Miami School of Medicine, Department of Psychiatry, Center for Family Studies.
- Kerig, P.K. (1995). Triangles in the family circle: Effects of family structure on marriage, parenting, and child adjustment. *Journal of Family Psychology*, 9, 28-43.
- Madanes, C., Dukes, J., & Harbin, H. (1980). Family ties of heroin addicts. *Archives of General Psychiatry*, 37, 889-894.

- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.
- Minuchin, S., & Fishman, H. C. (1981). *Family therapy techniques*. Cambridge, MA: Harvard University Press.
- Minuchin, S., Montalvo, B., Guerney, B.G., Rosman, B.L., & Schumer, F. (1967). *Families of the slums: An exploration of their structure and treatment*. New York: Basic Books.
- Minuchin, S., Rosman, B.L., & Baker, L. (1978). *Psychosomatic families: Anorexia nervosa in context*. Cambridge, MA: Harvard University Press.
- Moos, R. H., & Moos, B. S. (1994). *Family environment manual: Development, applications, research* (3rd ed.). Palo Alto, CA: Consulting Psychological Press, Inc.
- Pennebaker, J. W., Mehl, M. R., & Niederhoffer, K. G. (2003). Psychological aspects of natural language use: Our words, ourselves. *Annual Review of Psychology*, *54*, 547-577.
- Pennebaker, J. W., Francis, M. E., & Booth, R. J. (2007). Linguistic inquiry and word count (LIWC): LIWC 2007 [Computer program]. Mahwah, NJ: Erlbaum.
- Pressman, S. D., & Cohen, S. (2007). Use of social words in autobiography and longevity. *Psychosomatic Medicine*, *69*, 262-269.
- Rentscher, K.E., Rohrbaugh, M. J., Shoham, V., & Mehl, M. R. (2013). Asymmetric partner pronoun use and demand-withdraw interaction in couples coping with health problems. *Journal of Family Psychology*, *27*, 691-701.
- Rescorla, L., Achenbach, T.M., Ivanova, M.Y., Dumenci, L., Almqvist, F., Bilenberg, N., Bird, H., et al. (2007). Epidemiological comparisons of problems and positive qualities reported by adolescents in 24 countries. *Journal of Consulting and Clinical Psychology*, *75*, 351-158.
- Robbins, M. L., Mehl, M. R., Smith, H. L., & Weihs, K. L. (2013). Linguistic indicators of patient, couple, and family adjustment following breast cancer. *Psycho-Oncology*, *22*, 1501-1508.
- Robbins, M.S., Hervis, O., Mitrani, V.B., & Szapocznik, J. (2001). Assessing changes in family interaction: the structural family systems ratings. In Kerig, P.K. & Lindahl, K.M. (Eds.), *Family observational coding systems: Resources for systemic research* (pp. 207-224). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

- Rohrbaugh, M.J., Hasler, B.P., Lebensohn-Chialvo, F., & Shoham, V. (2007). *Manual for the Global Structural Family Systems Ratings (GSFSR)*. Tucson, AZ: Family Research Laboratory, University of Arizona.
- Rohrbaugh, M. J., Mehl, M. R., Shoham, V., Reilly, E. S., & Ewy, G. A. (2008). Prognostic significance of spouse we talk in couples coping with heart failure. *Journal of Consulting and Clinical Psychology, 76*, 781–789.
- Rohrbaugh, M. J., Shoham, V., Skoyen, J., Jensen, M., & Mehl, M. R. (2012). We-talk, communal coping, and cessation success in a couple focused intervention for health-compromised smokers. *Family Process, 51*, 107–121.
- Ross, N.M & Doherty, W.J. (2001). Validity of the global assessment of relational functioning (GARF) when used by community-based therapists. *American Journal of Family Therapy, 29*, 239-253.
- Rude, S. S., Gortner, E., & Pennebaker, J. W. (2004). Language use of depressed and depression-vulnerable college students. *Cognition & Emotion, 18*, 1121–1133.
- Seider, B. H., Hirschberger, G., Nelson, K. L., & Levenson, R. W. (2009). We can work it out: Age differences in relational pronouns, physiology, and behavior in marital conflict. *Psychology and Aging, 24*, 604–613.
- Shoham, V., & Rohrbaugh, M.J. (2010). Mediators and moderators of brief strategic family therapy (BSFT) for adolescent drug use: Final report. National Institute on Drug Abuse, award 1-R01-DA17539-01.
- Sillars, A., Shellen, W., McIntosh, A., & Pomegranate, M. (1997). Relational characteristics of language: Elaboration and differentiation in marital conversations. *Western Journal of Communication, 61*, 403– 422.
- Simmons, R. A., Gordon, P. C., & Chambless, D. L. (2005). Pronouns in marital interaction: What do “you” and “I” say about marital health? *Psychological Science, 16*, 932–936.
- Simmons, R.A., Chambless, D.L., & Gordon, P.C. (2008). How do hostile and emotionally overinvolved relatives view relationships? What relatives’ pronouns tell us. *Family Process, 47*, 405–419.
- Slatcher, R. B., Vazire, S., & Pennebaker, J. W. (2008). Am “I” more important than “we”? Couples’ word use in instant messages. *Personal Relationships, 15*, 407–424.
- Stirman, S. W., & Pennebaker, J. W. (2001). Word use in the poetry of suicidal and nonsuicidal poets. *Psychosomatic Medicine, 63*, 517–522.

- Szapocznik, J., Hervis, O., & Schwartz, S. (2003). *Brief strategic family therapy for adolescent drug abuse*. (NIH Publication No. 03-4751). Bethesda, MD: National Institute on Drug Abuse.
- Szapocznik, J., Rio, A.T., Hervis, O.E., Mitrani, V.B., Kurtines, W.M., & Faraci, A.M. (1991). Assessing change in family functioning as a result of treatment: The Structural Family Systems Rating Scale (SFSR). *Journal of Marital and Family Therapy, 17*, 295-310.
- Tausczik, Y.R., & Pennebaker, J.W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology, 29*, 24-54.
- Tolan, P. (1988). Socioeconomic, family, and social stress correlates of adolescent antisocial and delinquent behavior. *Journal of Abnormal Child Psychology, 16*, 3, 317-331.
- Williams-Baucom, K. J., Atkins, D. C., Sevier, M., Eldridge, K. A., & Christensen, A. (2010). "You" and "I" need to talk about "us": Linguistic patterns in marital interactions. *Personal Relationships, 17*, 41-56.
- Williamson, H.C., Hanna, M.A., Lavner, J.A., Bradbury, T.N., & Karney, B.R. (2013). Discussion topic and observed behavior in couples' problem-solving conversations: Do problem severity and topic choice matter? *Journal of Family Psychology, 27*, 330-335.
- Yahav, R. (2002). External and internal symptoms in children and characteristics of the family system: A comparison of the linear and circumplex models. *The American Journal of Family Therapy, 30*, 39-56.
- Yahav, R. & Sharlin, S.A. (2000). The symptom-carrying child as a preserver of the family unit. *Child and Family Social Work, 5*, 353-364.