

Capturing Children's Response to Parental Conflict and Making Use of It

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The aim of our study is to examine the interface between children's physiological changes and the specificities of parental conflict, and to develop a procedure in which such information can be shared with the family for therapeutic change. Children from 20 families were exposed to parental conflict discussion (CD) while their arousals were measured through skin conductance and heart rate sensors. It was found that regardless of the subject of the argument, 80% of the time they were complaining about each other. Likewise, 80% of the time the children were responding to the parents' own interpersonal tension, including moments of silence. The protocol established for the study, consisting of CD and debriefing, was found to be a powerful tool in moving parents toward conflict resolution.

Keywords: Family Assessment Protocol; Children; Couples; Physiological Response; Parental Conflict

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It has been well established in the field of child psychology that children's behavioral and emotional problems are well connected to parental conflict. A wide array of studies has illuminated the different aspects of children's development that can be affected by parental discourse, including cognitive growth and socializing behaviors (Cummings & Davies, 2002; Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006); psychological problems such as depression, anxiety, social withdrawal, and conduct-related difficulties in children (El-Sheikh, Harger, & Whitson, 2001; Gottman & Katz, 1989); as well as poor academic performance and health problems (El-Sheikh & Harger, 2001; El-Sheikh et al., 2001). Studies have also suggested a higher risk for cancer and heart attack in later years for children who have

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been exposed to prolonged family conflicts (Taylor, Eisenberger, Saxbe, Lehman, & Lieberman, 2006; Taylor, Lerner, Sage, Lehman, & Seeman, 2004).

While these studies provide rich information on some areas of children's responses to parental conflict, down to the details in gender and age differences, they are largely child-oriented to gain understanding of the long-term effects and coping processes of children. Furthermore, most of the studies have been designed to measure the physiological or biological changes of the child during exposure to simulated video or audio of interadult conflict. Other than some recent examples from Cummings, Ko-uros, and Papp (2007) and Fosco and Grych (2008), few studies have used actual conflict scenes displayed by subjects' parents. Some scholars may even consider it unethical to expose children to actual parental discourse. Subsequently, even fewer studies have addressed the systematic use of such information in family therapy.

CASE EXAMPLE

The idea of this project was conceived when we were asked to conduct a family consultation with an 8-year-old boy who was described as "emotionally and behaviorally unstable with no apparent reason." During the family assessment, we were not able to find any logical explanation to the child's behavior either. In fact, the boy hid his face on the couch most of the time and refused to have anything to do with the therapist. However, the mother described a scenario at a parent-teacher's gathering during which her son scolded her for not raising any questions in response to the teacher's invitation. He said, "If you don't work on your problems, how can you expect us to work on ours?"

This information suggested that the child had been watching his mother closely and we suspected that his behavior could be a reaction to the mother's internal turmoil (Stevenson-Hinde, Curley, Chicot, & Jóhannsson, 2007). Informed by the many studies in which physiological evidence was obtained to show children's reactions to parental conflict (Cummings & Davies, 2002), we designed a protocol where the parents were invited to take part in an exercise to discuss their differences in the presence of their child, while measuring the child's physiological changes with a biofeedback program. During the exercise, the couple's discussion was observed as benign with seemingly low levels of conflict. The mother was talking about her difficulties in child discipline but the underlying message was basically a complaint of the lack of support from her husband. The husband was unresponsive, dismissing her complaints as her own problem of setting unattainable expectations. While the boy sat quietly without showing any reactions during this time, the machine recorded internal upheavals that were otherwise unobservable, particularly at the moments when his parents failed to respond to each other.

In the debriefing session (DS) that followed, all of a sudden the child became animated and outspoken in giving feedbacks to his parents. He told his parents that they were like "water and oil that cannot be mixed." He advised his father to be more expressive while telling his mother to allow others more time to respond instead of "pouring her heart out relentlessly." He also counseled them to talk to each other more, preferably "in the morning when people are fresh and remember things better."

The child's level of verbal sophistication came as a surprise to everyone. It appeared that the protocol, which was intended for quantifying and acknowledging the child's

emotional arousal, also became a clinical tool to activate the boy in performing differently.

This case experience resembled an earlier study conducted by the Philadelphia Child Guidance Clinic (Minuchin, Rosman, & Baker, 1978), which measured children's arousal patterns during exposure to scenes of parents in argument. Blood samples were drawn from both parents and child at different intervals. By measuring the level of free fatty acids in the blood, an indicator of emotional arousal, the child's arousals were found to escalate when observing parents in conflict. On the other hand, the presence of the child had the effect of decreasing the level of parental conflict. This pioneer study introduced the concept of treating children in the context of the family (Coyne & Anderson, 1988). While drawing blood samples may be too daunting for a family therapy interview, modern technology has provided a more promising direction in the investigation of biological processes, for instance, the measure of skin conductance (SC) (El-Sheikh, 2007; El-Sheikh, Keller, & Erath, 2007); heart rate (HR) and blood pressure (Ballard, Cummings, & Larkin, 1993; El-Sheikh & Harger, 2001; Katz & Gottman, 1997; Taylor et al., 2004); and hormonal levels such as vagal tone, amygdala reactivity, and cortisol levels (El-Sheikh et al., 2001; Pendry & Adam, 2007; Taylor et al., 2006). Interestingly, while many new ways have been introduced by researchers to capture children's reactions to parental conflict, there is practically no study in the family therapy field that has explored how this information can be used to speed up the clinical processes.

FRAMEWORK FOR THE STUDY

The framework of our study is based on a family systems theory with specific focus on the triadic link, which addresses parent/child relationship in connection with husband/wife relationship. The systems perspective also offers a relational understanding of children's protective nature in playing the roles they do in the face of parental discourse.

Family therapists have always considered a child's presenting symptom as a way to maintain homeostasis in the family. However, there is little information on what exactly is within the parental system that affects a child's internal process; it is even harder to convince parents that their child's behavior may be reflective of what is happening at home without hinting blame.

The aim of our study is to examine the interface between children's physiological arousals and the specificities of parental conflict, and to develop a procedure in which such information can be shared with the family for therapeutic change.

METHOD

Sample Recruitment

The subjects were recruited from both the University of Hong Kong Family Clinic and the Boys' and Girls' Clubs Association, a local organization that provides various activities and support services to children. The inclusion criteria entailed: (1) couples with children from ages 6 to 15, (2) some behavioral or emotional concerns had been reported of the child, and (3) both parent and child were willing to take part in the exercise. All cases that met the inclusion criteria were invited to take part in the study.

The age group was selected based on Piaget's stages of cognitive development in children from preoperational (ages 4–7 years) to formal operational (ages 11–15 years) (Satterly, 1987). We began with the 6- instead of the 4-year-olds, as sufficient cognitive responses could be difficult for children younger than age 6, particularly during the debriefing process. We were also interested to see if age and gender would affect the children's responses.

Sample Characteristics

Twenty families were recruited for this study, consisting primarily of middle and working class from different geographical areas within Hong Kong. The couples were between 30 and 50 years of age. Their occupations included professionals, managerial staff, construction workers, taxi drivers, clerks, and housewives. The presenting problems of the children ranged from simpler issues including noncompliance, moodiness, and school concerns, to more serious ones such as eating disorders, attention-deficit hyperactive disorder, runaway youths, and suicidal ideations.

Instruments

The instrument we used to record the children's physiological arousals was the Biograph Infiniti Software, a multimodality encoder for computerized biofeedback and data acquisition. The sensors chosen for this study included the SC and HR. Although one physiological sensor measurement was often considered sufficient in the depiction of the child's arousal pattern in other studies (El-Sheikh, 2007; Katz & Gottman, 1997), we decided to utilize both sensors for comparison in case the younger children in our project could not remain still during the long duration of the exercise. The two-ended SC sensors were attached to the child's palm; one along the outer side of the palm, the other adjacent to the thumb and the index finger. The HR sensor was affixed to the tip area of the middle finger.

Procedure

The exercise contained three parts. The first was a baseline measurement that lasted for 10 minutes, followed by a 30-minute conflict discussion (CD), and a 30-minute DS. The entire exercise lasted slightly over an hour.

Signed consent was obtained from both parents and child. The child was then taken to the interview room, where the Biograph Infiniti program was introduced in a fun and adventurous manner, to establish the 10-minute baseline before the parents joined in.

During CD, parents were asked to discuss things that they had yet to reach an agreement for, without necessarily confining to child issues, in the presence of the child. There was no therapist present to guide the discussion at this phase, but a therapist was observing behind the one-way mirror to take notes on both the verbal and nonverbal exchanges. During the short break between CD and DS, the therapist compared notes with the preliminary reading of the child's physiological scores, and shared this information with the family during the DS phase. The debriefing was conducted systematically by "walking the parents through" their earlier discussion during CD segment by segment. During this process, the child was encouraged to give feedback to each point raised and share his/her perspective. The parents were also encouraged to talk to each other and to respond to the child. The purpose was to create a platform on which the child's voice was amplified to create an impact on the parents.

Inevitably, this process put the child in a parentified position; hence, the therapist had to make sure that the DS was concluded by strengthening the parental unit while returning the child to his/her appropriate position. Follow-up family therapy sessions were offered if required.

The entire exercise was video-recorded. During CD, the upper part of the child's body was superimposed on the screen that was recording the parents' interaction, so that the child's facial expression could be viewed alongside. During DS, the camera shifted to wide angle to capture the entire interview room.

The research team consisted of university faculty members including: a family therapist, two psychiatrists (one of whom is a biofeedback specialist), and two research assistants. All team members were involved with the project's conception, design, analysis, and monitoring. The project was approved by the Institutional Review Board of the University. The coding was conducted by two trained raters independently. Any discrepancy between the raters was aligned by extensive reevaluation of the data with at least one clinical member of the team to ensure reliability of the findings.

Data Analysis

The data analysis was conducted by matching the child's arousal durations to the specificities of the parents' CD. Before the 30-minute session began, the Biograph Infiniti Software recorded the subject's 10-minute resting mean SC and HR values and their standard deviations. Then, for every 1-minute segment of the session recording, an arousal was identified in that minute when both sensors (SC, HR) gave mean readings which show a deviation from their respective resting means beyond two standard deviations. The deviation can be in either the positive or the negative direction or both.

The identified arousal minutes were then matched to the corresponding video time where the related segments were extracted, transcribed, and coded for the themes, nature of conflict, and patterns of interaction.

Themes and nature of couple conflict

As the contents in a discussion could serve as a masquerade for underlying issues or interpersonal tension between couples, we were interested in not only what the couples were arguing about but also the way they argued about it. The extracted CD segments were coded into categories of themes by going through its transcripts sentence by sentence and counting the topic of argument in each sentence according to its frequency of occurrence. The underlying interpersonal messages were coded by observing the body language and tone of voice, and by comparing the verbal and non-verbal expressions of the couples in the corresponding video segments. As the child usually played a dominant role in parental discussions, we looked for how often parents discussed the child without implicating each other. It was coded Parent/Child (P/C) if the couple dealt purely with the child issue without any hint of interpersonal tension, but coded Parent/Parent (P/P) if they used the child or other subject matter as a façade to complain about each other. Conflict that did not categorize as P/C or P/P was enlisted under "Others" with specification.

Patterns of interaction

Because we were interested in understanding the nature of the couple conflict underneath the façade of the argument, naturally we became concerned with the

couple interactive patterns and how they correlated with the nature of the couple conflict. Although we coded only segments during CD that corresponded to the children's arousal scores for the themes and nature of conflict, we coded the entire half-hour CD for patterns of interaction as the extracted segments might not last long enough to depict a pattern. We identified three most commonly observed problematic interactive patterns in couples: (1) the demand/withdraw (DW), in which one spouse requests change through demands, criticisms, and complaints while the other spouse retreats through means of withdrawal (Heavey, Layne, & Christensen, 1993); (2) the mutually hostile (MH) pattern, in which both spouses directly attack each other's fundamental beliefs, feelings, and characteristics (Gottman, 1994); (3) the mutually withdrawn (MW), in which both spouses shut off from each other after their attempts to reach each other fail (Christensen & Heavey, 1990). We adapted Christensen's Couple Interactive Rating System Codes (Sevier, Simpson, & Christensen, 2004, p. 160), which included blaming, pressures for change, withdrawal, and avoidance. These codes were combined with the positive and negative affects from Gottman's Specific Affect Coding System (SPAFF) (Gottman, Coan, & McCoy, 1996), including contempt, anger, tension, and validation. Interactive patterns that did not fit any of the three clusters were enlisted under "Others" with specification.

FINDINGS

Arousal Scores and Duration

Four hundred and twenty-six minutes of arousal scores were derived from a sum of 600 minutes (20 cases \times 30 minutes) of CD, indicating that more than 70% of the parents' CDs had generated an arousal in the children.

All 20 children in this study exhibited arousal episodes during CD, suggesting that none of the children were emotionally immune to the exposure of parental conflict. Varied lengths in arousal durations were found in each child as shown in Table 1. While the average duration of each arousal recorded for each age group ranged from 2 to 29 minutes, there were variations within each episode from short and sudden

TABLE 1
Arousal Breakdown of the Children in Conflict Discussion

Age groups	No. of children	Total episodes of arousals	Average no. of arousal episodes per child	Total duration (minutes) of arousal episodes	Average duration (minutes) of one arousal episode	Total episodes of silent tension
6	3	8	2.66	35	4.37	5
7	2	10	5	59	5.9	8
8	1	1	1	29	29	6
9	1	3	3	13	4.33	3
11	2	8	4	55	6.87	5
12	3	12	4	70	5.83	3
13	2	12	6	57	4.75	6
14	5	15	3	98	6.53	4
15	1	5	5	10	2	1
Total	20	74	33.66	426	NA	41

peaks that often corresponded with sharp exchanges, to longer durations, which corresponded to units of conversation as well as changes in interactive patterns between the couples.

The child who showed high arousals continuously for 29 minutes was an 8-year-old whose parents displayed great hostility toward each other throughout the 30-minute CD. In another child (one of the 6-year-olds) where low arousals in both amplitude and frequency were shown, we discovered that the child had dozed off from the middle to the later part of the exercise.

Themes

Seven major clusters of themes were identified. Thirty-seven percent was on couple relationship issues, including themes on spousal dissatisfaction, direct criticisms, threats of marital dissolution, incompatible lifestyles, and extramarital interests; 34% was on children issues, including themes on schooling and homework, noncompliant behavior, children's social network and extracurricular activities, and methods of child discipline; 15% was on employment/finances, including themes on work, colleague, and financial matters; 5% was on household responsibilities, including themes on domestic helpers, chores, meals, and groceries; 4% was on health/diet, including themes on eating disorder, sleep apnea, and weight issues; 4% was on extended family issues, including themes on in-laws and families of origin; and 1% was on others, including themes on secrets and moving houses.

The results indicated that the couple issues were among the children's major concerns. The complaints on children issues ranked second. The themes on extended family seemed to be surprisingly low in frequency, considering the high number of multigenerational families that exist in this culture. It should be noted that within the category of couple issues, any threats to the family wellness such as divorce, separation, loss of business, or the health of one parent that were raised during CD had had detrimental effects on the children, as reflected in their arousal scores.

Nature of Parental Conflict

Although only 37% of the themes were directly related to couple issues (Table 2), the couples were found to be dissatisfied with each other 80% of the time (Table 3). The correlation between themes and nature of conflict implied that couples were mostly unhappy with each other regardless of the topic of dispute. It also indicated that even though 34% of the topic of CD was child oriented (Table 2), more often than

TABLE 2
Percentage of Major Themes Emerging in Conflict Discussion

Themes						
Couple relationship issues (%)	Children and parenting issues (%)	Employment/finances (%)	Health/diet (%)	Household responsibilities (%)	Extended family issues (%)	Others (%)
37	34	15	4	5	4	1

TABLE 3
Percentage of Nature of Conflict Identified in Related Conflict Discussion

Natures		
P/P (%)	P/C (%)	Others (%)
80	16	4

Note. P/C = Parent/Child; P/P = Parent/Parent.

not the parents were complaining about each other through talking about the child. Only 16% of the related video segments demonstrated that parents were able to talk about their concern of the child without implying dissatisfaction toward each other. The remaining 4% was on segments in which parents were able to discuss other issues without implying dissatisfaction toward each other. However, as revealed later in debriefing, some of the seemingly calm discussions between couples had references to previous histories of conflict.

Couple Interactive Patterns

We categorized each couple's interactive pattern by calculating the duration in which a particular pattern emerged. A pattern was considered predominant in a couple if it occurred more than 50% of the time during CD. It was interesting to note that 15 of the 20 couples predominantly displayed a DW pattern; this particular behavior also occurred 68% of the calculated time in the couple interaction across all couples in the study (Table 4). Consistent with Christensen and Heavey's (1990) study, the DW pattern was also gender specific. The husband demand/wife withdraw pattern was only found in 3 couples out of the 15.

The high percentage of DW in couple interactive pattern, when combined with the overwhelmingly high percentage of P/P, suggested that the couples' dissatisfaction toward each other was mostly portrayed through the females initiating complaints while the males reacted with passive inaction.

Comparatively, the MH and MW patterns, which were found to be displayed predominantly by only two couples, respectively, were less prominent. However, MH or MW behaviors also occurred intermittently among the predominantly DW couples or

TABLE 4
Interactive Patterns Identified in Conflict Discussion

	Interactive patterns			
	DW	MH	MW	Others
Number of couples with a predominant pattern	15 couples	2 couples	2 couples	1 couple
Percentage of each particular pattern displayed across all couples (%)	68	14	10	8

Note. DW = demand/withdraw; MH = mutually hostile; MW = mutually withdrawn.

vice versa. The MW pattern, in particular, deserved some attention as we suspected that it existed more often in the natural home environment. However, as the nature of the study required couples to sit and talk with each other for a certain duration, the MW pattern did not sustain long enough to become a chief pattern except for the two couples who could not contain their anger toward each other. Only two couples in our data were able to talk to each other in a cooperative fashion.

Silent tension

When parents were at the point of being MW, they often created moments of silent tension. A total of 41 episodes of various lengths of silent tension from 20 seconds to 6 minutes were identified within the 74 episodes of arousals recorded (Table 1). The arousal episodes of 15 of the 20 children (75%) contained silent moments, implying that the children often continued to be aroused, if not more, during these silent moments.

In short, the analysis of CD suggested that the children were largely aroused by the couple's own interpersonal tension, whether the parental conflict was expressed verbally or nonverbally, regardless of themes and interactive patterns. The impact of silent tension was also seen as equally significant in relation to children's responses.

As the children's responses in our data contained such an interpersonal nature, naturally, couple issues continued to be the focus in the debriefing that followed.

DEBRIEFING

The DS was originally designed to help the family calm down after the intense CD. However, the lengthy exposure to the parental conflict during CD had the apparent effect of activating the child to speak up and offer rarely expressed opinions to the parents, particularly with the younger group of children.

The following portrayed our attempts in categorizing the children's responses during the debriefing to provide a link between CD and DS, and to offer more detailed understanding to our earlier findings. This would also lead to the discussion of the use of the protocol for therapeutic processes.

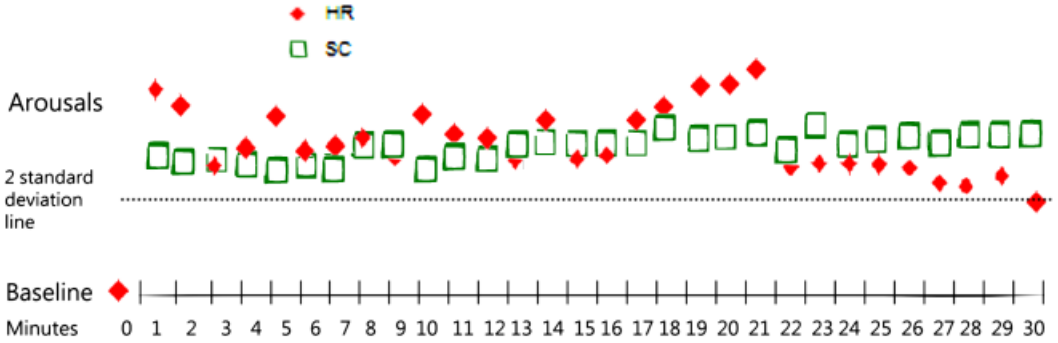
Younger Age Group

In contrast to findings from previous studies, which suggested that younger children did not have the same level of involvement in parental conflicts as older children (Cummings et al., 2006), we found the children between ages 6 and 9 to be very involved during debriefing, and the majority of them displayed a surprisingly high level of observation and verbal sophistication. A few of them who did not express themselves verbally spoke through vivid body languages.

Response to high conflict

In the case of an 8-year-old boy who had shown 29 minutes of prolonged arousals as discussed previously, his parents spent nearly the entire CD attacking each other on trivial matters such as who and how to do the dishes. The graph below illustrates the child's arousal pattern in the entire 30 minutes of CD. It showed that the child had high arousals throughout the session and reached the highest point at the 21st minute

when his mother called her husband a “moron.” He remained aroused at a lower level from then on to the end of the session.

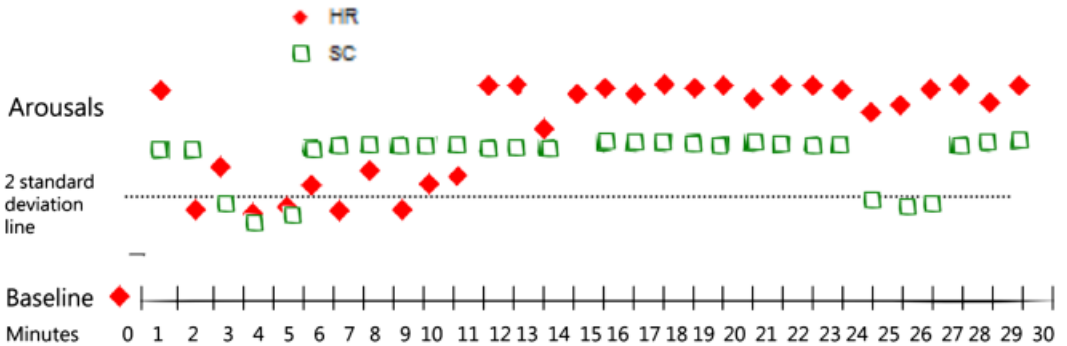


At the DS, the child put his parents’ hands together and said, “Daddy, Mommy, I want a happy family. Can you give me a happy family?” The father said, “Why are you unhappy, haven’t we been good to you?” The boy responded, “Uh, it is about the two of you. Can you give me a happy family?” When the mother eventually agreed, the child gave her a big “thank you!” obviously very pleased in getting the parents to join hands.

The child later revealed that his parents sometimes locked themselves in the bedroom and fought for hours. He was afraid that they would hurt each other. The child’s behavior supported the study of Cummings and his colleagues, who observed that children from aggressive homes are more attuned to parents’ behaviors toward conflict resolution and may hold onto any constructive and positive behaviors to regain or maintain their emotional security (Cummings et al., 2007).

Response to hidden conflict

Not all parental conflict displayed such overt mutual hostility. In our study, parents often discussed their differences in a low-key fashion, as in the following case of a 7-year-old boy. Here, the parents’ CD was focused on the child’s daily activities and they expressed their disagreements in somewhat detached manners. There were many moments of silence when the parents failed to respond to each other. The child’s arousal, however, was still recorded as significantly high and sustained for a large part of the session as indicated below:



During DS, both parents admitted that it was difficult for them to relate to each other.

The mother found her husband to be very quick tempered and preferred not talking to him, whereas the father described his wife as stubborn, particularly on matters concerning her family of origin. To avoid fighting, the couple adopted an avoidant stance toward each other.

As mentioned earlier, 15 of the 20 cases displayed arousals that were sustained, including cases where the parental conflict was low in aggression. This confirmed our analysis that conflict level between parents did not have to be overt in order to get the child aroused; any unresolved conflict could be perceived as high tension in the eyes of a young child. It also confirmed that children's sense of security tied strongly with the stability of the parents' relationship, as observed in many other studies (Cummings, Goeke-Morey, & Papp, 2003; Davies & Cummings, 1994). This example typified the majority of cases in which the child responded to the parents' hidden conflict.

Response to history of conflict

In the case of a 9-year-old boy, it appeared that even a family history involving transgenerational conflicts could have crucial effects on the child's arousal. In this case, the young parents seemed relatively supportive of each other and were united in criticizing the outside world, especially a school teacher who had uttered nasty comments to the mother. This was one of the few cases where practically no interpersonal tension was observed between the couple, but the boy, who was reported to be rebellious toward his father, displayed heightened physiological response throughout.

At DS, the father reported that the child was raised by the paternal grandmother for the first 2 years of his life, much against his wife's wish. To put an end to his wife's unrelenting grief, the father, who originally sided with his own mother, decided to take the boy home to his wife by force. He described a period of time when the boy refused to accept him and his wife as his true parents. The boy was found to have escaped barefooted many times, waiting for his grandmother to come for him in a taxi in the middle of the night. Now at 9 years old, the mother and son had developed a close bond. As the father was teaching the boy to be independent, he was in effect forcing another separation upon the boy with yet another significant woman in his life.

Throughout DS, the boy was quiet but responded with his body language, particularly with his eyes, which followed the parents' movements closely. It seemed that the boy might also have been responding to the mother's inner sense of grief as she was facing a second separation from her son. This might explain why he was oppositional to his father and displayed such intense arousal toward the parents' seemingly responsive conversation. This was supported by studies which indicated that destructive histories of parental conflict can produce higher levels of distress and anxiety in the child's subsequent adjustment (Cummings et al., 2003).

Older Age Group

For the 10–15-year-old group, while arousals toward parental conflict were shown consistently, their responses differed during debriefing. Some children were verbally expressive and offered feedback voluntarily while others may be less inclined to share and sometimes even denied concerns toward their parents. Similar to the findings from other studies, older children sometimes appeared indifferent, or even annoyed

by the parents' lack of resolution to their relationship problems (Cummings, Ballard, El-Sheikh, & Lake, 1991), although their physiology showed similar arousals as compared with the younger children.

The child as mediator

In the case of a 13-year-old runaway youth, his physiology displayed an arousal each time his parents were critical toward each other. When the mother threatened to leave the country in protest against her husband, the boy's arousal score hit high in his physiological trace.

During DS, he was found to play a very active role in balancing the parents' conflict. When his mother complained of the husband as being very ill-tempered, he defended his father by telling his mother, "That is not true! Sometimes your temper is worse than his." And when his father called his wife a "woman with no interests," again, the son jumped to her rescue and informed his father that there was a particular radio talk show that his mother loved to listen to.

When the therapist asked the boy how he became so involved in the parents' business, he explained that he was afraid that the parents' marriage would dissolve and he might end up in an orphanage. Therefore, he often listened behind his parents' closed door and watched out for their every move.

This example was representative of the children who displayed high levels of verbal expression and readiness to intervene in the parental conflict, a finding that was consistent with previous studies in which older children were found to participate actively when confronted with parental conflict (Cummings et al., 2007).

Insecurity from threats to the marriage

A feeling of insecurity toward the parents' marriage also appeared to be a feature observed across all cases. In another case of a 13-year-old girl who was diagnosed with anorexia nervosa, her physiological level was quite stable when her parents complained of her obsessive eating habits during CD. Her arousal scores rose suddenly at the 20th minute when her mother suggested to her father that it would be better for them to lead separate lives, each taking custody over one of their two girls. The level of conflict between the couple seemed rather low during this episode as they spoke about the issue in a matter-of-fact manner. There were moments of silence when the husband was at a loss with words in responding to the wife. During this entire episode, the girl's arousal level remained significantly high.

When this was pointed out to the family during DS, the mother denied any real intention for separation, claiming that she was merely saying it to annoy her husband. The girl was not convinced. She was in tears as she reported seeing her mother cut up all her wedding photos. This strong reaction to threats of marriage was prominent in most of the other cases.

Denial to parental conflict

With some older children, their responses were more ambivalent and obscure. In the case of a 15-year-old boy who was reported to have suffered from major mood swings, he denied having any interest in the high level of parental conflict that was observed during CD. He took on the same denial stance during DS, despite his mother's disclosure of his repeated temper outbursts and lack of control over his rage. This was the only case in our sample where the exercise of our protocol failed to

obtain any verbal or nonverbal response from the child during DS. However, his physiology recorded arousals at different intervals during the parents' CD. In fact, one sustained arousal that was recorded lasted for 4 minutes toward the end of the discussion.

Another example of denial was characterized in the case of a 14-year-old girl whose father had lost his business. He was rather depressed that he became homebound while his wife worked two shifts to pay for his debt. The mother appeared to be very positive and advised her husband to start over again, but the husband apparently had difficulty in accepting a role reversal with the wife. Interpersonal tension was observed in the way he dismissed her encouragement during DS. At debriefing, the girl denied any feelings toward the parental conflict although increased arousals were recorded in her physiology. When the arousal scores were shown to her, she was surprised and told us, "I once read about the character 'little dragon girl' (from a well-known Chinese martial arts story), who said that all you have to do is to suppress yourself. Nobody will know how you really feel." She further remarked, "So suppressing yourself does not really work!"

This was an important observation that deserved further exploration as it could help us understand why it was difficult to engage adolescents from homes with prolonged conflict. Our study showed that even if they blocked out their emotions, their bodies still responded.

Response to the memory of conflict

With the older age group, we also discovered that conflict among the adults did not necessarily have to be confined to the present moments in order to cause arousals in children. Sometimes, memories of past conflicts could also cause high arousals. The following example was of another 14-year-old girl who wrote to refer her parents for therapy after reading a newspaper column written by one of our therapists. In the letter she said her family resembled the one reported in the column, in that her parents had nothing to say to each other and her mother treated her father as if he were "transparent." However, the couple seemed to be quite agreeable with each other during CD. Instead of bringing up marital conflicts, her mother who was a nurse, begged her father to take his medicine on time as he had high blood pressure. The husband was not in disagreement and promised to cooperate with treatment. However, the girl still displayed arousals to the parents' agreeable discussion.

During DS, she admitted that she did not trust that her parents could talk to each other without entering into conflict. Therefore, she still reacted even though there was no apparent marital discord in their CD. She also seemed to identify with her mother's anxiety over her father's health. The concern for the parents' health or sense of wellness appeared to be just as important as their marital crises.

The above details that emerged from DS validated our speculation that children worried about their parents' own relationship more than anything else although different age groups might show their concerns differently; even the smallest nuances displayed by the parents or events that occurred beyond the present time could trigger an arousal.

As our sample did not contain an even distribution of the number of boys and girls, our data could not provide significant comparison in terms of gender differences.

DISCUSSION

The findings generated from this study provided us not only with information on what makes children anxious in relation to parental conflict, but also that when evidence for such was provided in a convincing manner, it could serve as a very powerful tool in activating both parent and child to address the core conflict in the family relationship.

We believe the protocol served a very important role in linking parental conflict to child behavior while bringing powerful awareness to the parents. The protocol legitimized and mobilized CD for couples that were otherwise conflict avoidant. The fact that there was no therapist present during the CD provided a stage for the couples to act on their own through a natural evolution. We were originally concerned with whether parents would find the task difficult, but surprisingly most of them were willing to enter into CD; even the two MW couples were able to go through the entire exercise at CD and DS.

The children's unexpected level of participation at the debriefing was inspirational for the most part, as their narratives created the intensity required for parents to face their own interpersonal dilemma. Instead of protecting the child from assuming a parentified role, we made the best use of the children's voice to motivate the parents for change. This was particularly useful in drawing out the withdrawn partners, who happened to be mostly fathers, in the DW couple interactive patterns, as observed from our data. In most cases, while the husband seemed to be emotionally unavailable to his wife, he could be quite responsive to the child. Therefore, the protocol appeared to provide a strategic direction by first triggering the child into action, who would in turn set the parents in motion, thereby providing a context for the family to change its focus from symptom to system. When this was successfully achieved, the therapist could then conclude the session by strengthening the parents' sense of responsibility and put the child back to a child's position.

The design of the procedure also made it easier for the therapist to enter into the core of the couple conflict, which usually requires a much longer time to achieve. In this regard, the biofeedback is used not so much as a measurement but as a complementary tool in engaging the family to transform their perception from being child-focused to relationship-focused, all within 1 hour.

Implications for Family Therapists

As family therapists might sometimes be missing the degree in which children were aroused by parental conflict, particularly in the case of teenagers who often denied distress when questioned, the findings of this study could help to reinforce our understanding of this triadic relationship in working with children. The protocol designed for the study could also be adapted for family assessment, as it helped the therapist to enter into the conflict zone without prying. Although the use of biofeedback technology could generate convincing evidence for the assessment process, in the absence of the tool, therapists could still be instrumental for using children's voices to open up new possibilities for their families.

Suggestions for Further Study

This was an exploratory study and the data of 20 cases could only provide a glimpse of the complex phenomenon of children's responses to parental conflict within a

particular cultural context. Both the protocol and our preliminary findings would need to be further validated with an experimental design as well as with more cases, which would be our second phase of the project. The protocol, in particular, still needs to be consolidated and standardized before developing into a Family Assessment Tool that could be used for families with children of different ages.

We were originally conscious of possible cultural differences that may emerge between a Hong Kong sample and a sample obtained in another culture. We soon discovered that the interface between children's responses to the specificities of the parents' CD may contain a more universal appeal as many of our findings on the children's reaction resonated with similar studies conducted in the West. Without a comparative study with samples from a different culture, it would not be easy to speculate on cultural differences at this point.

As this was a complex study involving many major domains such as the measurement of physiological data, the design of assessment protocol, and the clusters of case studies, each will deserve a separate in-depth exploration. The video of the couple CD and the children's narratives also contains important clinical data, which could be further analyzed to enhance clinical practice.

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