

# **Understanding Alliance Ruptures: What Do They Look Like?**

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## ABSTRACT

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The Therapeutic Alliance (TA) has a significant impact on treatment outcome. ‘Ruptures’ – rifts in the client-therapist relationship – threaten TA and carry a number of subsequent risks, including: further drops in TA, interrupted therapeutic progress and a greater likelihood of unilateral client termination. Successfully recognizing a rupture may not only prevent these risks, but can provide a target for therapeutic work, and, when accompanied by successful repair, may produce TA levels that surpass pre-rupture levels. Despite knowledge that ruptures are common to treatment, research has not addressed whether therapists are skilled at recognizing and understanding ruptures. This question is thwarted by the more foundational gap in knowledge: there is no description of what a therapist *should* be looking to recognize.

The present research identifies a sampling of rupture indicators (72 items) using an emotion language context. These indicators are stimuli in a card-sorting task completed by two groups of participants: a New Zealand sample (N=33) and a native Japanese one (N=37). Similarity data derived from this task were analyzed using multidimensional scaling (MDS) to produce a unified three-dimensional model that sufficiently represents both samples.

The identified dimensions on which rupture indicators are likely to vary are: Interaction Type (i.e. are the indicators a withdrawal or confrontational type), Derivation of Meaning (i.e. is the indicator biologically based or does it convey a socially constructed meaning?), and Subject Focus (is the indicator directed at the other, interpersonal, or at the self, intrapersonal). Also identified in the model were 12 different clusters, or kinds, of rupture indicators (e.g. *physically aggressive, verbally defiant, submissive speech content, physiological distress*).

Conclusions are drawn from this analysis and recommendations follow on ways to further validate this model. Also discussed are applications of this model to enhance training programs for rupture recognition, to improve recognition ability in practice and also to facilitate consistent rupture recognition strategies for research purposes. This may precipitate future research exploring correlations between rupture incidence rates, and presentation types according to therapist and client variables.

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## ABBREVIATIONS

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3D	Three-dimensional
APA	American Psychological Association
ARM	Agnew Relationship Measure
BPD	Borderline personality disorder
CANCORR	Canonical correlation
CBT	Cognitive Behavioural Therapy
EI	Emotional intelligence
GOPA	Grouping, opposites, partitioning, adding
HCA	Hierarchical cluster analysis
IPC	International Pacific College
IPCHEC	International Pacific College Human Ethics Committee
MANOVA	Multivariate analysis of variance
MDS	Multi-dimensional scaling
MOSS	Method of successive sorts
MUHEC	Massey University Human Ethics Committee
PSQ	Post Session Questionnaire
R/R	Rupture and repair [cycle]
SRS	Session Rating Scale
TA	Therapeutic alliance
TLDP	Time Limited Dynamic Psychotherapy
WAI	Working Alliance Inventory

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# CHAPTER ONE

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## Introduction

Psychotherapy research can often be framed with the intent of either improving the course of treatment (process) or enhancing the gains and positive changes that occur as a result of treatment (outcome; Hill & Lambert, 2004). Diverse efforts have been made in identifying the contributory variables. Process variables are those activities, behaviours or therapy components that occur within treatment and operate as the means of treatment (Llewelyn & Hardy, 2001). Outcome research is directed at understanding process variables that contribute to positive change (Hill & Lambert, 2004).

A notable subset of this research investigates the impact of therapist competency in providing treatment, with many authors arguing that this contributes the largest percentage of variance to treatment outcome (Ackerman & Hilsenroth, 2001; Horvath, 2001a; Kaplowitz, Safran & Muran, 2011). The literature distinguishes between specific and general competencies (Beutler et al., 2004). Specific competencies describe therapist skills and abilities as they relate to a clearly defined context, for example, accurately applying a conceptual model to the client in Cognitive Behavioural Therapy (CBT). Non-specific variables are those that transcend particular approaches, presenting problems, or client characteristics and apply across all forms of treatment.

One important question with therapist training and professional development is how therapist competencies can best be developed. Sperry (2009) found therapist competency could be improved both in preparatory training and ongoing development. Because of its relevance to outcome and relative ease of manipulation, it is not surprising that numerous research studies have been devoted to identifying these composite competencies. Epistemologically, it is difficult, if not impossible, to accept that there are indefinable traits that create a 'master therapist'. Rather, psychology is best served by disentangling the knowledge and abilities these highly competent practitioners hold that allow them to achieve greater gains over other effective therapists. The implicit assumption of this perspective is that once we can define the processes, abilities and skills that make for a competent therapist, we can model and

learn to enhance our own practices and those in the upcoming generations of new therapists.

The notable portion of research on therapist competence addresses their skill at adhering to treatment protocol, rather than more common factor skills that apply independent of orientation or approach (Kaplowitz et al., 2011). This discords with the presence in the research of the substantive influence that common factors have on treatment effectiveness.

Hatcher and Lassiter (2007) created an outline of which of these common factors, termed core competencies, should be essential targets in training new therapists. They pinpoint abilities focused on interpersonal skills, expressivity, reflectiveness and affective skills: all of which involve emotional and relationship management qualities. This investigation is focused on understanding one particular therapeutic application of these competencies: the ability of the therapist to develop and maintain a strong relationship with their clients.

### **The Alliance**

In nearly all forms of therapy, there is a necessary interaction between the therapist and the client, making that relationship an intrinsic component of treatment. This relationship between therapist and client, the *alliance*, is widely recognised as a core ingredient in successful treatment (Beutler et al., 2004). Martin, Garske and Davis (2000), for instance, reported meta-analytic findings suggesting alliance quality has a moderate effect size on treatment outcome, ranging from  $r = .22-.26$ . The implications of this finding are significant. Primarily, this suggests that regardless of therapy style or presenting problem, the quality of alliance plays an important role in client change. Second, the alliance is reported as having a relatively consistent influence on treatment outcome, (Norcross & Wampold, 2011). Third, it seems that not only is the alliance an important contributor to outcome, but it is also influences the quality of the work completed as part of the therapy process. This impact on procedural elements of effective treatment is one of the more frequently studied influences of psychotherapeutic change (Castonguay, Constantino & Holtforth, 2006).

Although the ubiquitous impact of alliance on treatment is widely recognised, we need to make use of this knowledge. The significance of alliance-related skills suggests that we need to model, design and implement training strategies to improve therapist competencies related to alliance. While the universal attributes that contribute to creating strong alliances are widely understood – non-judgmental listening skills, warmth and empathy (Horvath, 2001b) – the training to respond to imperfect alliance situations is notably lacking. The current research aims to address a component of this issue, by seeking to understand some of the discernible challenges that arise in securing strong alliances, particularly around managing alliance fluctuations.

### **Ruptures**

Just like any important interpersonal connection, the alliance's strength varies throughout the course of the relationship. A drop in the alliance quality originates with a *rupture*. A rupture could be the moment when a misheard comment leads to a rift in the relationship or a poorly chosen word exacerbates miscommunications, causing discord. Ruptures are part of the natural ebb and flow that exist within the relationship context, but can also be challenging events for therapists to manage. Furthermore, the way in which they are managed can have a lasting impact on treatment progress and success.

Research has tackled the question of what precipitates these ruptures and it has also recognised successful strategies therapists can use to repair them. A glaring omission in the literature is the lack of understanding of whether therapists actually can identify ruptures in real time. Peripheral evidence suggests that in instances where treatment is unsuccessful, ruptures may have been missed (Bennett, Parry & Ryle, 2006; Rhodes, Hill, Thompson & Elliot, 1994), but rupture definitions used in these instances are inconsistent. Without an objective model of client presentation during these events, it is difficult to design studies to investigate this fully.

The immediate purpose of this research is to develop a preliminary model of potential rupture presentations. In line with current theories on emotional communication, as well as understanding rupture precipitants, the present research

conceptualises rupture presentation as expressions of negative emotional arousal. Using this conceptualisation as a guide, efforts are made within this research to develop and interpret a model describing the variety of ways a rupture may present.

### **The Present Research**

This research begins with an argument for the importance of a good quality alliance to successful treatment process and outcome. This necessitates therapist competency, both with developing and maintaining a positive working relationship, but also in responding to occasions in which the quality drops (i.e. a rupture). Both identifying and responding to ruptures requires skills that are thus far unexplained and the faculties involved in recognising ruptures are unknown. Ruptures are presented through a lens of emotional expression, with attention given to the recent emergence in the literature about emotional intelligence factors (EI) and emotional competency.

The body of this research uses this emotional framework to develop a preliminary model of rupture presentations. The intention of this work is to understand the structure and breadth of rupture presentations in order to aid therapist recognition and response strategies.

## CHAPTER TWO

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### Literature Review

#### The Alliance

##### What is the Therapeutic Alliance?

The modern conception of the therapeutic alliance (TA) was put forth by Bordin in the late 1970s, and aligns closely with Carl Rogers' supposition that the relationship is central to healing and entails a strong focus on unconditional positive regard (Elvins & Green, 2008). An essential aspect of the alliance is that it is a collaborative entity created through the interaction between therapist and client. All contributory factors involved in the TA rest upon this foundation of interaction. The construct of TA means something very specific and distinct from the more general term "relationship" (Horvath, 2001a). Whereas the alliance is a component of the relationship, it is also the collaborative interaction itself, and implies a consideration of quality more so than an acknowledgment of its existence or absence. Various terms have been used to describe the alliance and its constituent parts. Some of the more common terms include the "working alliance" (Horvath & Greenberg, 1989) as a synonym for the TA, or referring to the joint components of "personal alliance" and "task-related alliance" to refer to the different factors Bordin identified (Elvins & Green, 2008).

**Components and structure.** The factors involved in TA are difficult to disentangle and have been conceptualised in various, but complementary, ways. It was initially conceived as involving three components: agreement on tasks, agreement on goals, and the establishment of the emotional bond between client and therapist (Bordin, 1979). These themes continue to present across the research, the roots of which reach back to Freud's interpretation of transference and counter-transference in therapy (Elvins & Green, 2008; Horvath, 2001a). Current conceptualisations of the alliance come in various forms, but consistently draw from Bordin's core definition (Martin et al., 2000). Variations arise in the different weightings that researchers place on the relevant factors and the way in which they are delineated.

Factor analysis has supported the existence of conceptually different components, despite the fact that there is overlap in individual constructs (Agnew-Davies, Stiles,

Hardy, Barkham & Shapiro, 1998). The most commonly used definitions in the current literature refer back to Bordin's three contributory aspects: collaborative nature, affective bond and agreement on tasks and goals (Martin et al., 2000). Difficulty arises around the ability to distinguish or remove any aspect for unique investigation. It may be that collaboration cannot be identified without the presence of both bond and process elements. Elvins and Green (2008), in a thorough review of the alliance, uphold this bipartite structuring. They cite distinctions between the "personal" and "task-related" alliance, both of which emerge through the overarching context of collaboration.

Luborsky (2000) took a similar approach but yielded different conclusions. In this consecutive two-stage concept, the foundational stage is to create an atmosphere of safety and appreciation (i.e. emotional bond) after which the therapeutic dyad can address the collaborative and agreement aspects of therapeutic "work." Thus, he agreed with the importance of one theme over the rest, but disagreed on which was pre-eminent. In a later review of the literature to date, Castonguay et al. (2006) threw their support behind this presentation where emotional bond is foundational.

An alternative arrangement of these themes is a dichotomous presentation by Agnew-Davies et al. (1998) in which the emotional bond and therapeutic partnership are complementary but distinct components, one representing the felt/perceived alliance and the other the actionable component. Horvath (2001a) also seems semantically predisposed to this structure. Rather than an actionable component, he defines the therapeutic partnership as cognitively grounded. Important aspects relevant to the affective bond include attitudes of trust, liking, respect and caring, whereas the cognitive component specifies consensus, commitment and action central to process (Horvath, 2001a).

Significantly, regardless of the precise model used, there have been indications that independent contributions of each TA aspect influence the final determination of the TA (Hersoug, Hoglend, Havik, Von der Lippe & Monsen, 2009; Horvath, 2001a; Ross, Polaschek & Ward, 2008).

### Measuring the Alliance

**Common measurement tools.** Because the various constructs involved are still open to interpretation, factorial assessments of alliance are generally more relevant to modular critique than practical applications. Rather, global assessments are the norm when understanding and interpreting the TA. Martin et al. (2000) provides a thorough overview of scales used to measure alliance. This includes approaches for alternate perspectives: the therapist, client, or observer. They conclude that no particular scale is necessarily better than any other. Different scales are developed according to particular research or implementation goals and these values need to be considered when selecting a measurement tool. They do conclude, however, that due to its validity, independent of orientation or style, the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989) is a suitable measure for most applications (Martin et al., 2000). The WAI is one of the most commonly employed psychometric measures of the TA for research purposes (Ardito & Rabellino, 2011; Duncan et al., 2003). It taps aspects of the emotional bond as well as collaborative development of tasks and goals (Hersoug et al., 2009), and is designed to be completed at the end of the session (Horvath & Greenburg, 1989). Adjusted versions are available for therapist or client, as well as an abbreviated form, making it amenable to most purposes (Stiles et al., 2004).

An alternative alliance measure has been developed with complementary versions for client and therapist to complete at the end of each session: the Agnew Relationship Measure (ARM; Agnew-Davies et al., 1998). They created this measure to address concern that the WAI factor analysis did not correspond to construct issues in the TA (Agnew-Davies et al., 1998). Preliminary factor analysis showed the ARM loaded on bond, partnership, confidence (in therapist competence), openness and client initiative (Agnew-Davies et al., 1998). This measure has been used in research on the TA fluctuations over the past decade (Aspland, Llewelyn, Hardy, Barkham & Stiles, 2008; Stiles et al., 2004).

A shortcoming of these measurement tools is their lack of application to clinical practice (Campbell & Helmsley, 2009; Duncan et al., 2003). Even though both the WAI and the ARM are valuable tools for everyday practice, therapists do not use them

regularly unless sessions are a part of research protocol. To address this concern, Miller and Duncan (2000) released the third and most current version of the Session Rating Scale (SRS). This scale has wider utility to clinical practice, largely because it is more likely to be used as a common element. Unlike the shortened version of the WAI (12 items on a seven-point Likert scale), this SRS is a four-item visual analogue scale in which clients place a mark to indicate their satisfaction with various alliance elements. This produces a meaningful global assessment of alliance quality when completed at the end of each session. This “ultra-brief” measurement allows measurements to be completed, scored and interpreted in less than five minutes, leading to greater compliance in practice (Campbell & Helmsley, 2009). While the brevity of the SRS allows for valuable information that therapists can use to understand and respond to TA concerns, alternate measures such as the WAI remain the more prevalent measure in research (Campbell & Helmsley, 2009). Due to its ease of use, good concurrent validity with treatment outcome (Anker, Own, Duncan & Sparks, 2010) and convergent validity with other TA measures (Campbell & Helmsley, 2009), there is good reason to make more use of the SRS in research applications.

**Intra-dyad differences.** A strength shared by the WAI and ARM is the inclusion of both therapist and client versions. There are many reported disparities between TA scores according to the opposing perspectives of the players involved. This raises concern about the evidence that therapists give unjustified credence to their assessments of the TA, particularly during the early stages of treatment (Castonguay et al., 2006; Horvath, 2001b). On the one hand, the client’s perception is widely recognised as being the most relevant predictor of treatment outcome (Castonguay et al., 2006; Horvath, 2001b; Norcross & Wampold, 2011) as well as future alliance scores (Horvath, 2001a). Oddly enough, there is evidence that therapist ratings tend to be lower than the matching client scores on the same TA (Agnew-Davies et al., 1998; Hersoug et al., 2009). This finding can be attributed to therapists having a larger frame of reference, reflecting the gamut of possible TAs (Tryon & Kane, 1993).

Important implications from these findings are that therapists need to carefully balance their professional assessments with ongoing desire for confirmatory evidence.



In an APA task force designed to explore evidence-based therapy relationships, their findings corroborate that reliance on therapist perception of the TA is inherently flawed (Norcross & Wampold, 2011). The measurement tools described are useful in both practice and research to empirically confirm or refute perceptions of TA. They have also been applied with more detailed goals of locating and specifying sessions where drops in TA occurred.

### **Alliance and Outcome**

Carl Rogers' hypotheses of the necessary and sufficient conditions for therapeutic growth placed the alliance at the very centre of the healing process (Rogers, 1957). This has been upheld; the correlation between the TA and treatment outcome has been extensively researched, demonstrating consistent treatment effects across studies ranging between  $r = .20-.26$  (Castonguay et al., 2006; Martin et al., 2000). This effect has been found irrespective of therapeutic orientation or theory (Elvins & Green, 2008; Horvath, 2001a; Martin et al., 2000). Importantly, the quality of the alliance early in treatment can help to explain outcome change as well (Elvins & Green, 2008). Fewer studies have been conducted specifically within Australia and New Zealand exploring this correlation, but those that exist uphold findings from overseas (Howgego, Yellowless, Owen, Meldrum & Dark, 2003)

In a meta-analysis of the alliance/outcome research, Martin et al. (2000) conclude that due to effect sizes, the hypothesis that alliance is therapeutic in itself is upheld. The APA task force investigating the quality and impact of this relationship similarly conclude that the alliance contributes at least as much variance as the type of treatment on outcome (Norcross & Wampold, 2011).

### **Alliance and Process**

The correlations between alliance and outcome are robust and well supported. The model for the development of this change and the processes involved are still unclear (Ross et al., 2008). Multiple theories have been proposed to explain the influences involved. To further complicate issues, each client will carry their own needs about what is required in a workable relationship. It is possible that the presenting problems of

a client can influence a therapist's expectations of what a good TA for that dyad would entail (Ackerman & Hilsenroth, 2001).

There is growing support for the belief that the alliance is a mechanism for therapeutic change in itself, rather than merely being a moderator of change through other processes (Martin et al., 2000). Certain therapeutic approaches such as Time-Limited Dynamic Psychotherapy (TLDP; Strupp & Binder, 1984) focus therapeutic work on understanding and utilising features and enactments of the TA in session, thus making the alliance the instrument and focus of change. According to the two-stage concept of the alliance proposed by Luborsky (2000), the establishment of a safe context for the client in which the therapist is a sympathetic and helpful figure allow for the collaboration stage of the alliance to take effect. This consecutive development of an alliance quality enables a process of change through collaborative effort (Horvath, 2001b). In a complementary review of alliance features, Horvath (2001a) states emphatically how alliance development in the early stages of therapy should take precedence over technical interventions. He does not make direct claims about whether this is in order to provide a suitable environment in which future interventions may succeed or if the alliance itself produces change.

**Implications of alliance as a process variable.** The strength of the TA can vary according to many factors (Ackerman & Hilsenroth, 2001). Certain therapeutic processes, such as the inappropriate choice and application of technique, can either inhibit the TA strengthening or can damage that already formed (Ackerman & Hilsenroth, 2001). When addressing the quality of the TA itself, communication errors and assumptions about the other's expectations can lead to decreased alliances. This is in part because there are different understandings of what constitutes a good relationship and this varies depending on the client and their needs (Horvath, 2001b). These communication errors and assumptions may also inhibit the TA because they rely on intrinsically one-sided conceptions that are by definition not collaborative. Therapists thus need to be alert to this and be adaptive according to their client.

Ackerman and Hilsenroth (2001) note other procedural behaviours that a therapist may employ that either damage or inhibit a good TA. Examples noted include an over-reliance on structure, lack of flexibility when interpreting client behaviour, or inappropriate conversational strategies (e.g. self-disclosure, use of silence). Sometimes subtle or unintended behaviour on the part of the therapist can, if left unchecked, negatively influence future alliance ratings. Ackerman and Hilsenroth (2001) found that even a reported negative perception of the alliance by the therapist might lead to decreased alliance ratings. At present, research has not explored the influence of unintended communications based on these negative perceptions. That is, a therapist's negative perceptions potentially leak into non-verbal behaviour that interferes with the quality of communicative exchanges with their client.

### **Alliance and Early Termination**

Aside from being indicative of future alliance and outcome, early measures of poor TA are correlated with early termination of treatment (Safran, Muran, Samstag, & Stevens, 2001). When considering treatment disparities between treatment efficacy and effectiveness (Hill & Lambert, 2004), the question of whether treatment delivery is influencing the client's ability to persevere may be mediated by alliance scores. Tryon and Kane (1993) explore this link by comparing TA at the third session with unilateral termination. Interestingly, they found that counselor ratings according to the WAI predicted termination type, but there was no correlation with client ratings. Implications here are that while therapist perceptions may not be correlated with outcome success, alertness to low-quality TA can help to prevent attrition (Tryon & Kane, 1993).

Similar findings have been demonstrated more recently with inter-racial dyads. It is theorised that poor levels of TA mediate an increase in early termination when Caucasian therapists treat minority clients (Castonguay et al., 2006). This raises the importance of multicultural training directed at alliance-related interpersonal skills (Castonguay et al., 2006).

### **Therapist Variables Influencing Alliance Quality**

Therapist variables are important to the development of a good TA (Elvins & Green, 2008). When a therapist enters into a relationship with their client, they are bringing their academic training and psychological knowledge as well as their personality traits and interpersonal skills into the context of the therapy session (Ross et al., 2008). As such, attention should be paid to what variables are beneficial for the therapist to have in order to produce good results. Ackerman and Hilsenroth (2001; 2003) provide a summary of the significant body of research on therapist variables that impact on the alliance, both negatively and positively. Examples of therapist attributes include inherent personality traits (such as confidence, warmth, empathy, trustworthiness, flexibility) as well as therapeutic skills relating to communication, experience and training (Castonguay et al., 2006; Elvins & Green, 2008; Hersoug et al., 2009; Horvath, 2001b; Ross et al., 2008). Among these attributes are those that Horvath (2001b) terms “interpersonal characteristics,” or the idiosyncratic behaviours and attitudes of the therapist. Each of these factors interacts with traits and preferences of the client to create unique pairings (Horvath, 2001b).

These therapist variables affect the alliance but do not guarantee a good TA (Horvath, 2001a; 2001b). Unlike the link between alliance and outcome, whose robust link is well established, the correlation between therapist variables and resulting TA are more complex (Ackerman & Hilsenroth, 2003). Therapists’ skills, traits and knowledge do not guarantee developing and maintaining an optimal relationship (Horvath, 2001b), although they do influence its likelihood (Horvath, 2001a). The professional qualities that are required to develop a good TA are not yet well specified, although one meta-analytic review concluded that therapist displays of empathy, respect and warmth are undeniably necessary for good TA (Ross et al., 2008).

Certain attributes have been identified as moderating variables. These include: communication skills; empathy, openness and exploration; experience and training; personality; and intrapersonal reflection (Horvath, 2001a). The value of an open, flexible stance as opposed to relational control or rigid expectations on the part of the therapist is a consistent theme across much of the literature (Ackerman & Hilsenroth,

2001 & 2003; Castonguay et al., 2006; Coutinho, Ribeiro, Hill & Safran, 2011; Elvins & Green, 2008; Horvath 2001a; Horvath 2001b). The therapists who can complement the client's relational style and are able to demonstrate a capacity to collaborate (e.g. adopt the client's ideas, "leapfrog" using their ideas or expressions) seem to have a better chance of building good alliances (Horvath, 2001a).

In a direct review of therapist attributes, Ackerman and Hilsenroth (2001) identify that the means by which therapists respond reflexively to their patient is correlated with their ability to develop a strong alliance. This emphasis on flexible adaptability echoes the findings of the APA taskforce (Norcross & Wampold, 2011). TA is assuredly recognised as important, but the precise therapist attributes and behaviours and their effectiveness depend on the interaction between the therapist and the client. Ultimately, the only certainty is that the alliance is a "relational enterprise," and as such requires adjustment and give and take by both parties to succeed (Norcross & Wampold, 2011). They continue to call on further research to disentangle individual attributes of both client and therapist that impact on the relationship. Therapist abilities to anticipate, read client behaviours and non-verbal communication are conceptually relevant to this emphasis on flexibility. These skills are necessary so that they can adapt to the emotional needs of the client and the moment, although this exploration into therapist emotional abilities is only just beginning (Kaplowitz et al., 2011). In reports gathered from clients, as well as previous literature reviews, the following traits have been identified as likely to detracting from TA: rigidity, uncertainty, an overly-critical nature, appearing distant, tense or distracted (Ackerman & Hilsenroth, 2001; Castonguay et al., 2006; Hersoug et al., 2009).

### **Correlations with Professional Variables**

The research into correlations between TA and professional variables such as training, experience and treatment implantation is varied. Castonguay et al. (2006) found structured clinical training produced better alliances in brief therapy. However, Hersoug et al. (2009) found that professional training was negatively correlated with the patient-assessed quality of TA. Horvath (2001a) has reported that professional training has a positive impact on TA, only when clients are at a more severe level of

dysfunction. He goes on to say that clients with higher severity levels of dysfunction have increased difficulty allying with a relatively new therapist. To clarify, Horvath's (2001a) report concludes that not only does professional training help at high-level cases, but also a lack of experience may actually hinder TA with these clients. These examples represent the range of findings available, although many methodologies used in these and other reports are vulnerable to validity threats, including conflating constructs such as experience and training.

A further caveat that may address these disparate results is the undefined nature of training programs. Often the training provided is generally focused on a particular therapeutic modality (e.g. CBT or TLDP), and addresses treatment methods rather than therapist qualities that enhance the TA (Hersoug et al., 2009). Another concern raised by Hersoug et al. (2009) is the possibility that additional training may at times promote the quiet reflective persona that characterises the indifferent therapist. Alternatively, experience can lead to patterns and stagnation in practice whereby a therapist uses fixed strategies in an unyielding manner. Furthermore, while alliance development might be enhanced through training experience, most current training programs are not purposefully designed to, and therefore do less to, promote TA development skills (Horvath, 2001a).

Ross et al. (2008) identify additional limitations in research that found a lack of correlation between professional variables and TA. One complaint is that the professional variables are not always measured objectively but rely on therapist self-report (e.g. training orientation and skill). Another is that the particular variables studied are neither discretely identified, nor conceptually linked, with TA (Ross et al., 2008). An example of this would be whether "time since training completed" clearly aligns with the quality of their professional capabilities. An alternate explanation could be that confounding intermediary variables such as hours of client contact since completing training would hold greater weight, although there is no control to ensure those contact hours are reflective of positive and instrumental strategies.

**Implications for Training**

Drawing from the robust findings that quality of TA is so significant to treatment outcome, the natural hope would be to find an effective way to train therapists to build on this foundation. Given that the working alliance is important across disciplines and orientations, training programs would be well advised to focus on ways to directly promote this important facet of the relationship. A few suggestions have come out of the research on how to emphasise and implement effective training programs.

Horvath (2001b) reaffirms that therapists are not very good at intuitively knowing the quality of their interaction with their clients. One potential emphasis of training and practice would be to enhance therapists' skill, preparedness and comfort with confirming the TA with their clients. Horvath (2001b) refers specifically to verbal communication, but does not address the potential value of increased emphasis on non-verbal communication, leaving open the question about increasing therapists' abilities to interpret non-verbal communication by the patient in order to "check-in" with their perception of the alliance. Horvath (2001b) also outlines other particular issues that should be addressed to improve the quality of training programs. Among these is the need for a coherent and grounded explanation of the alliance's role in change (Horvath, 2001b). He also calls for direct practical opportunities to implement strategies and receive feedback from clients and observers in a variety of contexts. One issue they do not explicitly present is that of problem-solving techniques to identify appropriate ways of reacting and managing situations when TA is poor. Horvath (2001b) suggest that incompatible expectations between therapists and clients about what good TA is may lead to confusion. Learning through research, reflection and practice to interpret the client's needs and expectations from the TA can address some of these assumptions.

Castonguay et al. (2006) also make a strong call for greater focus in training programs on how to foster and enhance the alliance. They argue that these programs need to provide empirically grounded and alliance focused/structured training (Castonguay et al., 2006; Norcross & Wampold, 2011). This empirical deconstruction can then provide a stronger grounded basis for training programs that directly, rather than peripherally, enhance alliance development issues. Furthermore, training provides



the opportunity for new therapists to hone and utilise many of their already developed skills in order to shape TA (Ross et al., 2008)

In a qualitative review by Safran et al. (2001), certain therapist traits are frequently highlighted in negative TA including rigidity and adherence to treatment models, therapist defensiveness and over-reliance on transference interpretations. Behavioural enactments of these attributes tend to increase client resistance and, worse, can be self-perpetuating whereby the therapist perseveres despite poor client response. These intrapersonal characteristics can be addressed through training, supervision and professional reflection so that therapists are alert to these threats as well as prepared in how to respond non-defensively (Kimerling, Zeiss & Zeiss, 2000).

### **Ruptures**

#### **A Longitudinal Model of TA**

Through a series of articles and research since the 1990s, Safran and colleagues advanced interest in the fluidity and variable nature of the alliance. At this point, it was recognised that TA is not necessarily stable throughout treatment, and what is now referred to as the rupture and repair (R/R) cycle is a common occurrence (Safran, McMain, Crocker & Murray, 1990; Safran et al., 2001; Safran, Muran & Eubanks-Carter, 2011). Safran et al. (1990) describes the rupture as “impairment or fluctuation in the quality of the alliance” (p154). A rupture is a pivotal therapy event that brackets instances where TA drops. These events can be either temporary or permanent, depending on whether or not a subsequent repair occurs. As an alliance-based event, ruptures represent negative interactions involving the relationship between the client and therapist (Aspland et al., 2008; Colli & Lingardi, 2009).

In their summary of the extant research on ruptures, Safran et al. (2011) note that as disturbances to the TA ruptures can be grouped as extensions of Bordin’s (1979) three-part model of alliance. Specifically, the content of ruptures can be coded into one of three TA categories: disagreement on tasks, disagreement on goals, or strain in the affective bond. It is noted, however, that these categories are not mutually exclusive as ruptures in one arena can be influenced by or overlap with ruptures in another. Earlier it



was noted that discussion persists about a few different theoretical constructs of the alliance (i.e. whether Bordin's three-part model should be preferred over a hierarchical two-pronged model, or another conceptualisation). For the purposes of this discussion, adherence to a particular alliance model is unnecessary. Rather, the significant point is that ruptures can happen in relation to any particular component (e.g. emotional bond, task-related bond or some as yet unnamed factor).

A few different terms have been used to describe the rupture event including *misunderstandings* (Rhodes et al., 1994), *alliance threats* (Bennett et al., 2006) and *impasses* (Coutinho et al., 2011), although conceptually all terminology is identified as overlapping on the same construct (Safran et al., 2011).

### **Therapeutic Value**

The rupture is conceptualised in different ways depending on therapeutic orientation, but is essentially a rift or disagreement that inhibits or lowers TA (Safran et al., 1990). In successful therapies, the dyad will resolve this rift and continue with the course of treatment. In certain approaches, recognition and repair of rupture is a central feature to therapeutic change, with therapist ability to manage ruptures being critical to treatment success (Eames & Roth, 2000). Accordingly, this cycle is viewed as a valuable opportunity therapeutically, either instrumentally (i.e. by influencing overall TA) or directly (i.e. a component of treatment).

Most researchers view ruptures pragmatically as offering an opportunity for therapeutic progress. Not only is it a normal event that offers the chance to improve TA (Ackerman & Hilsenroth, 2001), but also attending to and responding to ruptures represents an important and valuable clinical skill (Aspland et al., 2008). Safran and Muran (2003) suggest that dyads that encounter ruptures and manage to address and repair these disruptions sometimes show higher subsequent alliance ratings and larger therapeutic gains. Therapists who have inaccurately judged the TA or those that engage in miscommunications with their client are vulnerable. They are at risk of missing rupture markers, missing opportunities to enhance TA and specific procedural gains relevant to their treatment approach (Horvath, 2001b).

**Process.** Successfully repairing a rupture can deepen and strengthen the alliance (Ackerman & Hilsenroth, 2001; Bennett et al., 2006). Repairs provide an opportunity for growth both through treatment and also within the alliance (Ackerman & Hilsenroth, 2001; Ackerman & Hilsenroth, 2003). Emotional cues, particularly in therapy, are important conveyors of information (Mayer, Salovey & Caruso, 2008). A rupture therefore offers an opportunity to pinpoint and investigate the cause and reason for this emotional impact.

**Alliance building.** A valuable therapeutic practice is to reflect on the progress of the alliance throughout the process. Specifically, it is beneficial to be alert to potential ruptures in the alliance as they occur and to respond appropriately (Horvath, 2001b; Safran et al., 2001). Not identifying ruptures becomes not only a missed opportunity for learning through repair, but also damages the chance for future progress as the alliance is vulnerable to further degradation if it is not addressed. There is evidence suggesting that therapists (particularly newer therapists) may show resistance or defensiveness when faced with clients who have negative perceptions about either the therapist or the process (Safran et al., 2001). This can lead to the client's perception of hostility and it further damages the alliance.

When therapists are able to respond reflexively and non-defensively by addressing threats, there are increases in reported TA, raising the perceived quality to their highest levels following the repair (Safran et al., 2001). This subsequent upswing following successful repair is also correlated with outcome. That is, when ruptures were successfully repaired and TA improved as a result, so therapeutic outcomes were improved (Safran et al., 2001). In their research, Rhodes et al. (1994) sampled a population of therapists regarding their personal experiences as a client in therapy. They found that of the 11 participants who confirmed their ruptures were repaired, eight cited a subsequent strengthening of the alliance. The other three participants reported either no lasting change in TA, or did not clarify whether there was any residual effect on it.

*Treatment focus.* The therapeutic alliance is integral to the techniques, strategies and work done as part of therapy and cannot be studied separate from other therapy processes. Conversely, because a procedural component of therapy must be delivered within the context of the interpersonal interaction, it cannot be described thoroughly without consideration of the TA (Safran et al., 1990; Strupp & Binder, 1984). Research has indicated that therapists who directly address relationship strains and ruptures have improved TA, and this reinforces the assertion of Safran et al. (2001) that negotiating the R/R cycle is central to the change process.

Ruptures tend to happen at therapeutically meaningful points, so accurate and timely recognition by therapists can therefore allow investigation into their precipitants and context, thus leading to therapeutic progress (Safran et al., 1990). Safran and Muran (1998) even promote a therapeutic style that specifically attends to TA and the R/R cycle as central to therapeutic change. When change is conceived as resulting from successfully negotiating ruptures, certain therapeutic approaches can benefit from an awareness of particular TA risks. For example, a client in CBT may be more likely to feel invalidated or criticised than one engaged in a Rogerian therapy program (Safran et al., 1990).

Borderline Personality Disordered (BPD) populations represent a special group where relationship management is particularly relevant to presenting problems (Bennett et al., 2006; Daly, Llewelyn, McDougall & Chanen, 2010). As such, this population is often used in research about TA and ruptures. In Bennett et al. (2006), research using Cognitive Analytic Therapy with a borderline personality disordered sample, ruptures (termed *alliance threats* in this article) are conceptualised as recreations of the patient's interpersonal patterns. These interactions therefore provide valuable therapeutic opportunities to identify and correct these scripts through resolution as practice. This is a reflection of an earlier report that ruptures occur as a result of the therapist engaging in the client's pre-existing maladaptive interpersonal cycles (Ackerman & Hilsenroth, 2001). A related perspective of ruptures according to certain therapy approaches is that they are a real-time activation of the client's dysfunctional schemas (Eames & Roth, 2000). As such, they can be pivotal to allow for therapeutic gains.

In a qualitative study that compares the different experiences of rupture within a dyad, Coutinho et al. (2011) found that negative emotions are often a result of unresolved impasses in treatment (i.e. ruptures that were not repaired). Recognition of these events thus alerts the therapist's attention to issues they must attend to.

**Outcome.** As mentioned, the link between TA and outcome is well established in the literature, especially when assessed from a client's perspective (Horvath, 2001a). The therapeutic relevance of individual events and changes to the alliance has also been acknowledged for a long time (Rhodes et al., 1994; Safran et al., 1990). Safran et al. (2011) conducted a meta-analysis into the impact that the R/R cycle has on outcome and found a medium effect size between the presence of this cycle and good outcomes. This analysis was only drawn from results of three studies, however, as quantitative research on ruptures is limited.

Safran et al. (2001) draw the conclusion that at least for certain patients and dyads, fluctuation in TA involving full R/R cycles (i.e. at least some ruptures are repaired) may have better outcomes than those with linear TA scores. They suggest, however, that the degree of successful repair mediates this finding. This is due to findings that when therapists are able to respond reflexively and non-defensively by addressing threats, there are increases in reported TA, raising the perceived quality to their highest levels following the repair (Safran et al., 2001). The degree of this subsequent upswing following the R/R cycle is also positively correlated with outcome (Safran et al., 2001).

Stiles et al. (2004) explored this finding to see whether particular alliance patterns were correlated with outcome by using post-session alliance measurements and evaluating outcomes using three well-known outcome measures: the Beck Depression Inventory, the Symptom Checklist-90-R and the Inventory of Interpersonal Problems. They found evidence of "v-shaped" profiles, which suggest the presence of the R/R cycle, showed greater improvement in outcome measures when compared to a group that exhibited linear alliance patterns (i.e. TA remained steady with no significant

session variations). No claims of causality can be made due to the design. Alternate explanations may be that any repair displayed as part of the R/R cycle simply reflects general client improvement inability to handle relationship difficulties (Stiles et al., 2004). Furthermore, additional confounds such as therapist characteristics or therapy approach may exist.

In the APA task force review on alliance impact, Norcross and Wampold (2011) report that there is a promising, but not proven, relationship between the successful R/R cycles and treatment effectiveness. The limitations preventing more optimistic conclusions are due in part to the small number of confirmatory research and limited sample sizes within. Despite these statistical limitations, they identify this as an area worthy of further investigation.

### **Roadblocks to Therapeutic Change**

Appropriately dealing with ruptures (either directly or indirectly) has significant implications for therapeutic process, but there are important caveats to these therapeutic benefits. Despite the evidence that rupture can provide valuable opportunities in therapy, this relies on the assumption that the rupture is repaired. Essential requirements for the R/R cycle to be utilised therapeutically are that the therapist recognise the rupture, and subsequently understand its root and development (Martin et al., 2000). These are prerequisites to appropriate management leading to successful resolution (Safran et al., 1990). In practice, neither recognition nor understanding is a foregone conclusion and rather requires attention and awareness by the therapist

Failure to identify and resolve ruptures can lead to further drops in TA (Aspland et al., 2008). Second, if the rupture pertained to the strategy, task or goals implemented by the therapist, improper persistence in process is likely (Aspland et al., 2008). Mismanaged or unresolved ruptures are correlated with premature or unilateral termination of treatment (Aspland et al., 2008; Strupp & Binder, 1984; Tryon & Kane, 1993). Even if there are no obvious negative effects due to an unrecognised rupture, the therapist has still missed a valuable opportunity for progress made from successful resolution (Bennett et al., 2006).

Particular reference should be made to the previously cited correlation between alliance ratings and early termination (Castonguay et al., 2006; Safran et al., 2001; Tryon & Kane, 1993). There is potential explanatory power linking unresolved ruptures to early termination (Safran et al., 2001). In this article, Safran et al. (2001) also raise the question about whether being better attuned to rupture identification can decrease rates of attrition (Safran et al., 2001), although this influence on client retention would likely be contingent on accurate understanding and response. This hypothesis is substantiated by the fact that early termination is often a surprise to therapists, with issues sometimes only identified by the client within the last session or in post-treatment feedback (Safran et al., 2001). Evidence of this link is also provided with the sample used in Rhodes et al. (1994). These “therapists-as-clients” reported that their therapists were typically unaware of the rupture (termed *misunderstanding event* in this article), and in many cases participants attributed this lack of awareness as a precipitant to early termination.

### **Causes and Precipitants**

Precipitants of ruptures are often characterised as miscommunication between therapist and patient and can be caused by a number of TA factors. Certain precipitants have been identified in the literature, though the list is not exhaustive: therapist misinterpretation (Safran et al., 1990); improper persistence in strategy (Aspland et al., 2008); inappropriate prioritising of conceptualisation by therapist (Aspland et al., 2008); or misattunement to affective signals by the client (Safran et al., 1990).

In their research, Rhodes et al. (1994) took an inspired approach to understanding the ruptures by using a sample of “therapists-as-clients” and asked them to report retroactively on ruptures in their own treatment. This allowed for a sample that presumably relied on the same vernacular and reflective nature of treatment to report on their experiences as a client. Predominantly, the events they recalled as being significant were due to the therapist’s actions being misaligned with the client’s wants and needs (Rhodes et al., 1994). This resulted in negative feelings about the event, even long after treatment ended.

A perspective from some therapeutic orientations is that ruptures may be an enactment of pre-existing client schemas (thus inevitable) and pivotal for progress (Eames & Roth, 2000). As such, in therapeutic approaches that prioritise sessions as practice zones for interpersonal difficulties, the particular cause of the rupture is unique to the client and simply an acting out of their maladaptive cycles (Ackerman & Hilsenroth, 2001).

The issue of miscoordination and miscommunication between client and therapist is heightened in instances where there is a cultural divide. An important issue of multicultural competency is the recognition and awareness that differences may exist and the pre-emptive reflection on the part of the therapist to identify ways that communication may be misinterpreted or implicit assumptions may be misapplied (Abreu, Gim Chung & Atkinson, 2000). If potential cultural differences are not attended to, the therapist may misattribute actions of the client by placing them into a culturally inappropriate context. This would damage the relationship if the client does not feel they are understood or listened to, and leads to greater probability of alliance affecting miscommunication.

### **Resolution (Means of Repair)**

The question of how to resolve ruptures has been central to most researchers in this area. Safran et al. (1990) developed a preliminary rational model about resolution processes based on the premise that the rupture is therapeutically informative. While early detection and prevention are emphasised as imperative in this model, follow-up research on how to implement these actions is woefully lacking.

For an accurate understanding of the rupture event, the therapist must attend not only to the client indicators, but also recognise the interactional nature of the event so as to provide appropriate context (Safran et al., 1990). This will enable accurate conceptualising and provide guidance towards necessary resolution efforts. It may also enable appropriate empathic responses by the therapist, which Safran et al. (1990) identify as being central to repair.

There are disagreements between psychologists about the means necessary to repair a rupture. Initially, Safran et al. (1990) posited that ruptures require some degree of meta-communication to properly address them. Aspland et al. (2008), however, found that therapists were able to resolve at least some types of rupture by altering technique or approach. Potential ways to avoid or repair some ruptures would be through collaborating with the client and endorsing their explanations (Aspland et al., 2008). Both approaches agree, however, that recognising and attending to the rupture in the first instance is necessary.

Bennett et al. (2006) made significant headway into understanding successful resolution by looking at how effective therapists managed treatment for high risk of rupture clients (e.g. those with BPD) to either pre-empt ruptures or manage repair. This work helped to identify patterns of rupture (termed *alliance threats*) and highlight effective therapist behaviours. They recognise particular strategies as contributing to successful repair including: conceptual linking to explain and understand the rupture, negotiating, searching for new ways of relating, achieving consensus, and allowing opportunities to negotiate the therapeutic work (Bennett et al., 2006)

Other ways to repair may begin with attending to the presentation of the rupture itself (Safran et al., 2011). The dyad can then also explore the experience involved, including the wish or need that was not being met (Safran et al., 2011), possibly by redirecting treatment to topics more salient and meaningful to the client (Aspland et al., 2008). This alone can be sufficient for repair (Rhodes et al., 1994).

Essentially, each of these approaches adheres with the positive therapist attributes noted by Ackerman and Hilsenroth (2003) in which collaborating with and validating the client's perceptions are both keys to strong alliances.

### **Rupture Profile Correlations**

While ruptures are common to therapy (Safran et al., 2011), the research into incidence rates and correlations is in the very early stages (Safran et al., 2001). Most of



it consists of small samples and is largely qualitative in nature. Possibly because of these limitations, there are few guidelines that identify dyads, treatment phases, or other therapy variables as being more or less vulnerable to rupture in general.

On dyads, limited research has been done to identify predisposing or risk factors for ruptures. It is possible that all dyads are vulnerable, a finding suggested by Stiles et al. (2004), in which 79 clients received treatment for depression provided by one of five therapists. Every one of the dyads involved in this study showed evidence of rupture profiles. An alternate explanation is that clients treated for depression are particularly vulnerable to ruptures, although this has also been found in high frequency in other diagnostic groups, particularly with various personality disorders (Bennet et al., 2006; Coutinho et al., 2011).

Evidence shows that all time points within therapy are vulnerable to rupture and there is no correlation between session number and risk of occurrence (Stiles et al., 2004). Eames and Roth (2000), for example, focus on the alliance development and “tensions” that arise in the TA during the first five sessions of treatment and found evidence of ruptures as perceived by the therapist in almost half of all sessions. Using a sample anticipated to produce higher incidence of rupture (clients with BPD), Bennet et al. (2006) focused assessment on later sessions (i.e. after session five) and identified 142 enactments across 82 sessions (in an undisclosed number of dyads). Aspland et al. (2008) also note that dyads that experience one rupture have an increased likelihood of future ruptures.

Other researchers have questioned whether TA is established in early sessions. Rather, it may be that it fluctuates during the first few sessions before stabilising enough to give an accurate indication of a baseline. Tryon and Kane (1993), for example, claim that “working alliance” (the task/goal collaborative element) displays precursors during the first few sessions but is not yet a stable entity. For this reason, they opt to begin measuring after three sessions. The third session is where the researched link with outcome becomes evident (Tryon and Kane, 1993), and so measurements using psychometric tools are more valid after this point.

Understanding ruptures and the R/R cycle can add to the therapist's understanding of their client. There are a few interesting client correlates with rupture incidence. For example, Safran et al. (2011) found that higher rupture rates are correlated with greater interpersonal problems. This is particularly relevant when treating certain diagnostic groups such as BPD, a population that has a 42-67% dropout rate (Bennett et al., 2006). On an optimistic note, Stiles et al. (2004) report that clients who show patterns of rupture followed by *successful* repair are more likely to have current partners. An assumption made from these findings is that the ability to attend to relationship strains and reach resolution can sustain a relationship well. This accords with Safran et al.'s (2001) claim that provided sufficient TA is established, ruptures are not inherently damaging and can be momentary digressions rather than global TA detractors.

### **Presentation**

Rupture presentations encompass a range in severity, intensity and duration of incidents. Because of the large inherent range to the event and its presentation, ruptures can be very subtle and difficult to identify (Safran et al., 1990). To provide theoretical structure to these events, researchers have identified underlying themes to explain the various observable features and associated precipitants.

**Themes.** It is important to distinguish the nature of the rupture, as there are contraindicated resolution strategies for each (Coutinho et al., 2011). It is therefore useful for therapists to create categorical distinctions that indicate appropriate resolution strategies. There are a number of ways to differentiate according to event attributes.

Perhaps the most overarching approach is provided by Safran et al. (2001), in which they distinguish all rupture events as being either of a *confrontational* or *withdrawal* nature. They define withdrawal ruptures as ones in which the client disengages from the therapist, the self or the process. Confrontational ruptures instead are behaviour towards or against the therapist. Colli and Lingardi (2009) use a different but related dichotomy, distinguishing events as "direct" and "indirect," although in their review they allow the presentation of these types, which are very similar to Safran's

withdrawal/confrontational dimension. Aspland et al. (2008) elaborated on this typology to include over-compliance as a distinct category of rupture. These distinctions to define interpersonal tensions are mirrored in relationship conflict research not specific to the therapeutic interaction. Delongis and Preece (2008) similarly summarise three categories of interpersonal behaviours involved in conflict: avoidance/withdrawal, aggressive/confrontational, and cooperation/compromise. Among these typologies, withdrawal events are significantly more common than confrontational type ruptures (Aspland et al., 2008; Colli & Lingardi 2009)

**Markers.** While the rupture is in an interactional event framed within the context of TA, its presentation requires reference to client-specific markers or indicators (Safran et al., 1990). These markers are more specific categories of behaviour that range across the theorised typologies of withdrawal, confrontation and over-compliance. Problematically, however, is the broad range of marker specificity without having a clear definition as to what a marker describes or is designed to achieve. Without a standard to describe what a marker means, they have at times referred to features as generic as “reacting negatively” (Ackerman & Hilsenroth, 2001), “verbal disengagement,” “using vague or abstract language” (Colli & Lingardi, 2009) or as specific as “allowing long periods of silence” (Colli & Lingardi, 2009). These differences in specificity arise even within the same research article.

Safran et al. (1990) provide a preliminary categorisation of ruptures: direct, indirect, over-compliant, expressed negative sentiments, non-responsive, disagreement on goals/tasks, avoidant and self-enhancing behaviour (Safran et al., 1990), although these groupings show conceptual overlaps and the categories are also at different explanatory levels.

## **Recognition**

**Rates of identification.** Research methods have not explicitly investigated therapists’ abilities to identify ruptures. There are some findings, however, that address recognition rates.

In comparing good and poor outcome cases, Bennett et al. (2006) found that recognition appeared as a key correlate (84% recognition was recorded in cases that resulted in good outcomes). This research even used a treatment approach in which ruptures are a central focus of treatment due to their therapeutic utility, yet in cases with poor outcomes, identification was as low as 34%. In those cases with poor outcomes, therapists either did not recognise the interaction, participated unknowingly in its enactment, poorly explained the event to the patient, or their explanation was rejected or misunderstood (Bennett et al., 2006). Considering that there was particular focus here on utilising the interpersonal strain to achieve good results, there are two likely conclusions from these findings. Either the reader can question the variable skills of the therapists involved, or one can assume that recognition within treatment (i.e. in real-time) is a difficult task. The challenge facing therapists is illuminated in Colli and Lingardi's (2009) finding that most ruptures are characterised by subtle, covert or disguised means.

Referring back to the research of Rhodes et al. (1994), in this sample the participants claimed that they were the ones who raised discussion about ruptures when they happened. This is a unique finding because the breadth of research since then places the onus of identification on the therapist. Two complementary explanations may justify the unexpected results from this sample. First, it is very likely that the participants recruited displayed group differences from the average therapy client due to their experience as therapists (Rhodes et al., 1994) and their greater frame of reference about the alliance (Tryon & Kane, 1993). Also likely is the potential bias due to the retrospective nature of the study. It is probable that the salient issues raised by participants were ones in which they were actively involved in identifying the rupture leading to a greater memory imprint. Significant for this study, however, is that from the participants' perspectives their therapists were unable to identify any TA concerns.

**Accuracy in identification.** Eames and Roth (2000) focus on the early sessions of treatment and address rupture incidence during alliance development phases. They found that ruptures during this stage were common, but there was a discrepancy between therapist and client reports. Interestingly they found an effect by therapist

whereby some therapists noted higher incidence of rupture, although when compared to client reports there was no correlation. That is, these therapists did not engage in greater accuracy of rupture than their lower-reporting counterparts. This indicates a reporting or sensitivity bias by some therapists to either over-identify or identify more ruptures as a matter of course. It was not addressed whether the therapists that reported lower rates did so due to a particular pattern of missed rupture markers.

While studies have shown therapists tend to report greater incidence of rupture (Safran et al., 2011), and client ratings of TA tend to be more positive than therapist ratings (Agnew-Davies et al., 1998), predictive validity of alliance ratings on outcome are strongest when recorded from the client's perspective (Castonguay et al., 2006; Horvath, 2001b; Norcross & Wampold, 2011). One interpretation is that therapists may identify ruptures that have lessened impact on overall alliance quality and are therefore less meaningful in treatment. For this reason, previous research frequently draws only on client ratings when analysing the R/R cycle (Stiles et al., 2004). Unfortunately, qualitative research reveals clients are often unlikely to reveal alliance difficulties through direct assessment techniques (Safran et al., 2001).

**Cultural factors hindering recognition.** There is no evidence of ruptures being explored in a cultural context. When considering the heightened rates of attrition and lowered overall TA reported in cross-cultural dyads (Castonguay et al., 2006), this oversight is particularly concerning. Further exploration is needed to validate marker-based rupture recognition methods. For these markers to hold across cultures, research needs to be conducted to establish if they are equally relevant and consistent in meaning. Also, research should investigate whether there are alternate communication displays that particular cultures tend to use that are not commonly identified in the US and UK-based literature. Cultural differences in presentation of rupture type need to be explored in order to prepare therapists to accurately identify both the range of markers and their illocutionary meanings. Likely differences will emerge, depending in part on cultural orientations for bonds and partnership and similarly the appropriateness of directness in dissatisfaction (Agnew-Davies et al., 1998).

**Therapeutic hurdles.** Unfortunately, often the benefits that can arise through successful navigation through the R/R cycle are rendered untenable due to missed recognition or inaccurate understanding of the initial event. Recognition is a conceptual and logical prerequisite to rupture resolution (Bennett et al., 2006). Aspland et al. (2008) also highlight the concern over accurate interpretations of ruptures once they are identified. This has not been explored directly, although presumptive conclusions can be drawn from research about whether the rupture was repaired or unresolved. A particular concern noted is that rather than understanding and responding appropriately to a rupture, therapists may respond defensively and thus persevere with ineffective techniques (Aspland et al., 2008). New therapists may be particularly vulnerable to this reaction, which could worsen the already strained TA (Kimerling et al., 2000).

Not only can ruptures be difficult to identify in real-time, but clients are also generally reluctant to report experienced tension or overtly express dissatisfaction to their therapist (Aspland et al., 2008). As a result, presentation of the rupture can be highly variable and often very subtle (Safran et al., 1990). In Rhodes et al. (1994), a small majority of therapists-as-clients did in fact assert themselves when there was a misunderstanding by the therapist, but eight of the 19 participants report not having voiced this dissatisfaction. This, coupled with the finding of Aspland et al. (2008) that clients often do not feel able to directly address TA problems, indicates a need for therapists to attend to more covert signals.

This increases the responsibility of the therapist to be attuned and skilled at identifying covert indications of ruptures (Safran et al., 2001). Especially because the issues left unsaid tend to have a negative valence (Safran et al., 2001), they can be critical to treatment success. Missing these signals can indicate a level of “empathic failure” on the part of the therapist and it prevents meaningful repair (Safran et al., 1990).

### **Research Techniques**

The literature that discusses rupture recognition is primarily concerned with identification for research rather than therapeutic purposes. This means that

identification is often done retrospectively through a variety of quantitative and qualitative measures. Safran et al. (2011) identifies three methodologies through which ruptures are measured, each of which has inherent limitations: a) participant recall; b) quantitative comparison of session alliance measures; or c) microanalysis of session recordings.

Self-report by patients is a common means by which researchers identify rupture events in order to explore antecedents and consequences including successful or unsuccessful repair attempts (e.g. Rhodes et al., 1994). This approach allows for an in-depth and idiosyncratic understanding of the event, although it is subject to substantial recall bias. While clients are likely to identify intense ruptures, particularly if they are unresolved, they may be less attuned to or unlikely to report minor or recurring incidents that slowly dissolve TA, or be uncomfortable reporting negatively on ongoing treatment (Coutinho et al., 2011; Safran et al., 2001; Safran et al., 2011). Rhodes et al. (1994) attempt to minimise some of these confounds, particularly that of poorly understood rupture construct, by using therapists-as-clients. This added an interesting introspection into client perspectives that utilised professional interpretations and conceptions. An additional complication to these strategies is that emotional biases influence recall accuracy (Colli & Lingardi, 2009), the most obvious of which is the ease of recalling a high-intensity confrontational rupture over memories of more muted withdrawal-based ruptures.

A second research strategy involves having clients and/or therapists rate TA at the end of several therapy sessions and quantitatively analysing patterns in the alliance longitudinally. This strategy is also vulnerable to self-report biases, although because recall is based on the immediately preceding session the demands on memory are smaller. Using this methodology, researchers are able to draw conclusions about outcome and process correlations, but this technique offers little help in understanding and identifying ruptures in real-time. Psychometric measures inform this approach. Generally, direct measures of alliance are used, such as the WAI (Eames & Roth, 2000), the Therapy Experience Questionnaire (Bennet et al., 2006), or the ARM (Agnew-Davies et al., 1998; Aspland et al., 2008; Stiles et al., 2004), after which the score is

compared across sessions to identify sessions in which there was a significant drop in the anticipated TA (e.g. 1SD). Sometimes questionnaires are slightly more specific and include particular reference to rupture-like behaviours such as the Post-Session Questionnaire (PSQ) used in Muran (2005; cited by Muran et al., 2009). Safran et al. (2011) draw on research using this design for their meta-analytic review that revealed a medium effect size between presence of rupture profiles and good outcomes.

A benefit to this approach is that valid psychometric measures provide some statistical grounding for subsequent interpretations. Also, in dyads where the measure is collected regularly, it allows for ongoing exploration of the alliance course (including the R/R cycle) and it can collapse data across treatment. Unfortunately, the operational definition of a rupture in this approach relies on an R/R cycle that persists across sessions (Bennett et al., 2006). While the PSQ asks questions specifically trying to identify rupture events, other more commonly used measures may miss out on ruptures that are repaired within the session. This is likely when considering that a repaired alliance can lead to higher alliance scores. By the end of a session, a client may be very pleased with the outcome and either not remember it or consider it irrelevant because it was already addressed. Furthermore, confirmation of the rupture event relies on subsequent repair that demonstrates a return to previous alliance scores. Given that ruptures are not always successfully repaired, this identification method will not consistently perform.

A final means of studying ruptures relies on retrospective analysis of session recordings. This generally uses trained judges to evaluate transcripts of sessions. Using observer-based methods resolves the issue of underreporting by clients, but this is generally a time-consuming process that requires session transcripts and trained judges (Colli & Lingardi, 2009; Safran et al., 2011). Coutinho et al. (2011), for example, used a sample with a high likelihood of rupture incidence (personality disordered clients) and implemented a coding system to evaluate videotaped sessions to identify rupture events. Relevant events were then selected and discussed further in semi-structured interviews with the client. A qualitative thematic assessment of dyadic experiences was then drawn from the combined data. In a comparison of R/R cycles within dyads, Coutinho et al.



(2011) makes use of a different transcription coding method called the Rupture Resolution Rating System; Eubanks-Carter, Mitchell, Muran & Safran, 2009, as cited in Coutinho et al., 2011). Both of these methods allow detailed exploration of the rupture event with regard to themes, presentation styles and successful versus unsuccessful response techniques, but nomothetic conclusions are difficult to draw from this type of research. As a result, indications for practice and training are tenuous and difficult to apply.

### **Influence of Training and Experience**

No therapist is immune to alliance threats, and even those with good “alliance potential” (Horvath, 2001b) are likely to encounter setbacks. Horvath (2001b) proposes that managing and responding to ruptures represents a more important ability for therapists than striving to maintain high and stable alliances. There have therefore been calls for training programs that enhance therapist sensitivity to ruptures and provides guidelines for successful repair (Horvath, 2001b; Norcross & Wampold, 2011; Safran et al., 2011).

New therapists are not universally prepared to respond appropriately to ruptures. Therapists sometimes react defensively and are resistant to alliance threats because they are incorrectly conceived as negative personal rejections of the therapist themselves (Kimerling et al., 2000). This reaction can perpetuate a rupture (Kimerling et al., 2000). Training into the fluctuations of TA can prepare therapists for these inevitable rupture events and enable appropriate reactions (Castonguay et al., 2006; Kimerling et al., 2000)

This rationale of TA-focused training to produce TA gains aligns with previous conclusions drawn by Horvath (2001b). In a meta-analysis of eight studies in which therapists received either training or supervision focused on rupture-resolution techniques and principles, training led to notable improvement in rupture-resolution for therapists following completion of the training (Safran et al., 2011). Unfortunately, many of these treatment advances were not compared against a control group, so it is unclear if the alliance-focused training added to gains over and above other therapy

## Chapter Two

### Literature Review

features (Safran et al., 2011). When a control condition was included in the cited research a small, but significant, improvement was found provided either the training or supervision focused on resolution (Safran et al., 2011). This is demonstrated in some incidental training that occurred in the research of Safran et al. (1990): clinical students who aided the research on preliminary model development of ruptures showed informal increases in awareness and recognition of ruptures.

There are indications that some more experienced clinicians are able to take advantage of this cycle. That is, regardless of training, experienced clinicians show better examples of problem solving and adaptive responses to ruptures (Horvath, 2001b). Thus, professional training itself may not directly lead to greater TA quality, but through experience with implementing problem solving processes that arise in treatment, a therapist focused on professional development and reflection will be better able to promote good TA in future therapies (Horvath, 2001b). This professional enhancement draws from the developmental perspective of training and practice: previous knowledge and inherent interpersonal skills should be honed and enhanced through training and continually developed throughout professional practice (Blocher, 2000; Matthews & Walker, 2006).

The conclusions drawn from these finding are tenuous when considered with respect to the more ambiguous results identified linking therapist experience and global TA, as previously discussed. The literature investigating ruptures necessarily represents a smaller pool than that devoted to TA. The reason for the one-sided advantage found here in favour of experience could be a Type I error due to the limited number of overall studies investigating this link. Alternatively, it may be that resolving ruptures describes a more action-focused and achievable goal than avoiding ruptures (thus avoiding low TA). Because this is a skill with a more focused purpose, the strategies learned through experience are more readily applicable to particular situations and less vulnerable to the multitude of therapist-, dyad- and client-based confounds.

### **The Missing Link**

To date, researchers have primarily been interested in models of the rupture in one of two ways: as a portion of the entire R/R cycle or through a cognitive lens. Neither of these approaches increases understanding of external signals to aid identification. Rhodes et al. (1994), for example, identify trends in thoughts that precipitate and co-occur with a rupture. A more recent investigation was conducted to develop a model of the R/R cycle under a CBT framework (Aspland et al., 2008). Markers were identified for the broad types of rupture, but the focus of the model was not on identification but therapist response. These are important and fruitful avenues for investigation, although they require a level of insight into the client's thought processes that is unavailable at the moment of rupture. An understanding of likely thought processes is instrumental in conceptualising the cycle and deciding on appropriate treatment plans. However, these studies jump ahead in the process by not also identifying characteristics of the event that can be observed in the session and investigating patterns of presentation. Because of the acknowledgment in the literature that therapists are not consistent with recognising ruptures when they occur, little progress can be made in practice without that initial requirement.

When considering the reported differences between therapists' performance in rupture recognition (Bennett et al., 2006), this further emphasises the importance of improving therapist competency to either accurately assess their own ability or to better understand client perspectives. This improvement in therapist skills and competency is rooted in accurate model development, validated training approaches for therapists, and professional development through supervision, reflection and experience (Kimerling et al., 2000; Safran et al., 2011).

As can be seen from the research to date, numerous instances, presentations and causes of rupture have been highlighted. However, aside from peripheral references there is no modular understanding of rupture that can sufficiently summarise the variety of presentations and causes. Developing a model of this nature will aid training programs to improve therapist competencies. It will also aid therapist recognition and provide an explicit model around which recognition training can be based.

### The Emotion Connection

#### Emotions: From Feeling to Expressing

Emotion expressions, the physical signs that are observable to others, are reflections of a person's internal affective state (Kappas & Descôteaux, 2003; Sanford, 2012). This means that the external signs are correlated with the felt emotion. Although this link is more of an impressionistic painting rather than a digital photograph, the observable behaviours are correlated with the felt emotion, cognitions and needs of the situation (Sanford, 2007). This suggests that while tears may not be solely linked to sadness, stamping one's foot defines a different context than burying one's face in their hands.

A series of translations occur as a felt emotion is expressed then interpreted by another person. These processes are referred to as "encoding" and "decoding" (Philippot, Feldman & Coats, 2003; Sanford, 2012; Schlegel, Grandjean & Scherer, 2012); they are imperfect attempts to re-construct the emotion in a different form and are clearly vulnerable to emotions being lost in translation. When a person feels an emotion, such as anxiety, this will be *encoded* in their behaviour, possibly by actions such as fidgeting, frequently shifting their gaze, or speaking more quickly than normal. This encoding happens at an intrapersonal level. An observer (in a therapeutic setting this would be the therapist) would then *decode* these behaviours in an attempt to interpret what the constellation of signals suggests. The multi-stage process involved here leaves many opportunities for inaccuracy and requires a degree of experience and skill. Decoding happens in most interpersonal interactions and is largely an unconscious act developed through incidental learning.

#### Communicating with Emotions

As social beings, we have developed many ways to convey information interpersonally, both verbally and non-verbally. Emotions have become important conveyors of interpersonal information, both about the relationship and within it (Bracket, Rivers, Shiffman, Lerner & Salovey, 2006; Mayer et al., 2008). The presence of emotions is particularly relevant in interactions where there is a personal connection

or an investment in the relationship (Sanford, 2007), and is linked with its quality overall (Schlegel et al., 2012). Poor attention to affective signals within the relationship can impact on the quality of the relationship (noted in the context of TA specifically: Safran et al., 1990). It is therefore important to the quality of the relationship to consider both the direct communication (e.g. verbal, conversational) as well as the indirect communication (e.g. non-verbal, emotion-type) to understand the thoughts and emotions of another in order to maintain a strong relationship. Non-verbal behaviour can be a particularly relevant indicator of cognitions and emotions because it is generally less purposeful and therefore a more accurate representation of a person's spontaneous reactions and mood state (Philippot et al., 2003). This need to attend to a person's non-verbal communication as an insight into their emotional state is particularly important when there is the possibility of high emotion situations such as interpersonal conflict. Emotions arise and are communicated frequently during conflict (Sanford, 2012).

Frijda (1986), when discussing the nature and utility of emotions, describes them as a form of "relevancy detector." This frames emotions, and the ensuing expression of emotions, as a way to communicate the significance of an action, event or thought to another person. Mirroring this concept of relevancy detection is a more recent connection made between emotions and "hot cognitions," meaning thoughts that are of particular "personal and emotional importance to individuals and their relationships" (p.2, Bracket et al., 2006). About TA, it follows logically that if a rupture is either imminent or has occurred, the client will exhibit some level of negative emotional communication. Bracket et al., (2006) noted that this alertness to emotional communication is useful to TA and therapeutic work in order for the therapist to identify salient issues for discussion. Not explicitly linked in this article, but a reasonable follow-up, is the fact that a rupture is by definition a salient issue for discussion and is also likely to be framed by emotional cues through the client's non-verbal and verbal communication. This argument is substantiated further by Mayer et al. (2008) who refer to emotions as signals expressed as an evolved communication method aimed at affecting change in others or the self. When placed in a TA context, a negative emotion evidenced with relation to the alliance is an indicator of rupture.

### Understanding and Recognising Emotions

In their role, a therapist may be called on to identify the issues most relevant for therapeutic focus and it is important to identify effective targets (Kimerling et al., 2000). Inter-dyadic communication is composed of both verbal and non-verbal behaviour, at least some of which includes client emotional expressions (Kappas & Descôteaux, 2003). The challenge for therapists is to be able to identify and differentiate what the combination of non-verbal signals suggests (Sanford, 2012). This means they must be able to differentiate not only between positive and negative emotional displays, but also to distinguish between different types of conflict emotions (Sanford, 2007). This is because the type of emotion contraindicates appropriate reactions displayed. Sanford (2007) differentiates negative emotions into two types, hard and soft emotions, each with their own likely course of action. Hard emotions, according to Sanford (2007; 2012) are generally externally focused ones such as anger or annoyance, whereas soft emotions are intrapersonally directed such as sadness or disappointment. Appropriate responses vary depending on the emotion type expressed. Whereas hard emotions are more likely to contribute to further negative communication, soft emotions more generally indicated a desire for conciliation attempts. Sanford notes a distinction between the intensity of the displayed emotion as providing an indication of the urgency, time and effort that should be attributed to the response strategy. Schlegel et al. (2012) also relies on similar distinctions in emotional valence and arousal in developing his model for emotion recognition ability.

**Emotional intelligence.** The skills related to emotional expression and understanding have been conceptualised by Mayer and Salovey (1997) into a global measure of emotional intelligence (EI). Since its formulation it has become the most widely used model for studying emotional abilities (Bracket et al, 2006). The construct is composed of four distinct, yet interrelated, abilities concerning emotions. The foundational branch in Mayer and Salovey's (1997) model is that of *perception*: the ability to accurately perceive emotions expressed by others and felt by oneself. This ability is central to rupture recognition. The second ability identified is *utilisation*, or how well a person can use emotions to inform behaviour and cognitions. Third,

*emotional understanding* refers to the graduated degree of complexity surrounding emotional surfacing, chaining and presentation. Finally, *management* refers to the ability to effectively control emotions in oneself and others in order to attain specific goals. These final three abilities are all relevant to responding to and resolving ruptures. While EI is conceived as an intelligence, the composite abilities are not solely innate, but can be enhanced through training and experience (Matthews, Roberts & Zeidner, 2004).

Within each of the four branches of EI, there are graduated levels according to the complexity of sophistication displayed (Mayer et al., 2008). For example, reading an overtly happy grin accurately takes ostensibly less skill than identifying a veiled body language indicating guilt. Just like in other intelligences, the measure does not assess presence or absence of ability, but rather the range of challenges and applications by which ability can be effectual.

While all of these abilities are relevant to the R/R cycle, perception can be conceived as being a more foundational component without which the other three abilities would not be able to emerge. This proposition is suggested in a more global sense of emotional ability by Schlegel et al. (2012), who claimed that emotion recognition abilities may be foundational not just to EI but also to general social functioning.

### **Why Is Emotion Recognition So Difficult?**

When considering the complex encoding and decoding process involved in emotional expression and recognition, it is no surprise that the task in recognising ruptures can be very difficult. One potential factor to missed ruptures is that emotional intensity affects emotive expression (Sanford, 2012). One implication of this is that while emotion-based non-verbal behaviour may be evident at lower thresholds, the cues are too subtle to be identified when the therapist's attention is divided among other session activities.

Another dilemma is that non-verbal behaviour by one person can serve as feedback and influence the dyad itself (Kappas & Descôteaux, 2003). This could impede therapist recognition of the possible rupture, for example, if the client shows signs of irritability the encoded behaviours may elicit irritation from the other rather than promote appropriate resolution strategies. More problematic, however, is that if the therapist participates in this feedback loop of negative emotional responding, the context of all future communication within the dyad may be changed (Kappas & Descôteaux, 2003). To complicate matters even further, emotional expressions can be obscured by other situational factors as basic as being over-tired (puffy eyes) or breathing patterns that momentarily mask particular facial expressions (Kappas & Descôteaux, 2003)

### **The Advantage of an Emotion-Based Definition of Ruptures**

As shown, reading and responding to emotions can be a challenging part of any therapeutic interaction. Particularly when negative emotions arise through the context of a rupture, as opposed to therapy content, the therapist is at a disadvantage to recognise, understand and respond appropriately.

Emotional communication provides a valuable explanatory lens to aid rupture recognition. By describing ruptures through the external expression of emotion-based language, they can be conceptualised by the concrete and clearly describable features accompanying it rather than relying on cognitive insight into the client's thoughts and intentions. By using physical descriptors provided through emotional expression, it is possible to create an empirical model that can be used in future applications towards training, practice and research.

A second reason to portray ruptures using an emotion-based language is with an eye to future applications of the model developed in this study. On therapist competencies, the burgeoning field of EI is likely to be a useful framework in which ruptures can be placed. As can be seen from the four branches of the Mayer and Salovey (1997) model, therapist abilities in dealing with ruptures can be conceptualised on all four branches of the construct. Initially, the most relevant ability required is that of



recognising (*perceiving*) the emotional expressions that indicate a rupture, but then accurate *understanding* is immediately necessary in order to describe and conceptualise the emergence of the rupture and what it means. A competent therapist would then be able to *utilise* their emotional response to facilitate resolution while *managing* theirs and the client's affective state to create an environment in which resolution can occur.

### Conclusions and Research Needs

As TA is the most robust predictor of change, training to maintain good TA should be substantial (Castonguay et al., 2006). While this is acknowledged and reflected in training guidelines (Horvath, 2001b; Norcross & Wampold, 2011), there is not yet sufficient and structured understanding of the rupture that can be used to improve therapist competency at addressing this TA threat. A valuable perspective to improving rupture recognition and understanding lies in emotional competency as structured in Mayer & Salovey's (1997) EI construct.

The types of research questions being asked limit current understanding of ruptures. The majority of research focuses on one of three areas: precipitants to rupture (e.g. causes and vulnerabilities), resolution strategies, and correlations with treatment outcome. While all of these questions require some form of rupture identification, there is no consistency in approach or theory outlining the observable evidence of a rupture. Furthermore, on therapist competency, there is no research investigating rupture recognition abilities in therapists. Themes used to describe rupture presentations range from a bipolar dimensional approach to a variety of example presentations, but they all avoid explicit recognition of the observable attributes. This makes for inconsistent methods in identification for research purposes and also limits the ability to apply models to training and professional development.

### Specifics of This Research

This study is a preliminary step towards creating a model of rupture presentation. By drawing on the emotional expression as a description of rupture presentation, a literature search is used to identify a sampling of behaviours linked with negative emotions. These items are then used as stimuli in this study. Data are gathered from two

diverse cultural samples, an English speaking New Zealand cohort, and a sample of Japanese people living in this country, and then converted into a conceptual model identifying the underlying structure of the variety of presentations.

This research will use a specific form of multivariate analysis called Multidimensional Scaling (MDS) to investigate the structural dimensions of rupture stimuli. This will result in a geometric reproduction of the relationships between entities represented on an  $N$  dimensional model (Kruskal, 1964; Van Deun & Delbeke, 2000). Theory will inform the interpretation of the resulting map to provide semantic explanations of the relevant dimensions (e.g. does the withdrawal/confrontation dimension of Safran et al., 1990, appear?) as well as to isolate particular items that tend to cluster together according to the conceptual model. This form of analysis has been used successfully as a way to create conceptual models of data that profiles recurring and/or interrelated features (Harvey, Bimler, Evans, Kirkland & Pechtel, 2012).

This is a first step towards creating a modular understanding of the rupture presentation through an emotional expression lens. The method is exploratory and no hypotheses are drawn. The result of this research will be an empirically grounded model with initial cross-cultural validity testing that displays the various spectrums of presentation relevant to ruptures.

## CHAPTER THREE

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### Method

This research was conducted in two stages. The first was one of item generation in order to identify a representative sample of stimuli. Secondly, an objective-mapping task was conducted with two distinct samples: an English-speaking New Zealand sample and a sample of Japanese students new to this country. Multi-dimensional scaling (MDS) was then used to transform the data into a coherently structured conceptual model.

#### Item Generation

##### Approach

The validity of the analysis method used in this research relies in large part on the quality of the stimuli used. To maximise the likelihood that the sampling of items are representative of the realm of all possible rupture presentations, a structured approach was used following the guidelines used for conducting meta-analyses. This involved pre-established inclusion and exclusion criteria and mirrored the article selection process of that used in formal reviews (Meline, 2006).

According to arguments presented in the previous chapter, rupture presentations were conceptualised in an emotional expression context in this research. To describe search criteria, this literature search was guided by Ekman's (1999) model of basic emotions. This particular model was chosen because it met certain desirable and pragmatic factors. The breadth of emotions included allowed an exploration into the unique affective expressions that may be ascribed to these more complex but still common emotions (e.g. disgust may be represented by different expressions than the related, but distinct, emotion of anger). Secondly, the strategy employed herein entails a search across diverse subject areas and it could not be assumed that the "basic" emotions in psychological terms were those most commonly employed across academic purviews. For these reasons, Ekman's (1999) model of basic emotions, in which 17 distinct types are identified, was selected as providing a broad enough yet still specifically delimited number of emotions. From this model, and with respect to the

purpose of emotional implementation, only those on the negative dimension were selected as relevant to the study of ruptures. The final selection of negative emotions included was: anger, contempt, disgust embarrassment, fear, guilt, sadness and shame.

### **Databases, Terms and Parameters of Search**

A review of Massey Library Resources identified Web of Science and Academic Search Premier as the databases with the widest breadth of discipline coverage. Identical searches were conducted on both of these databases.

Each search used the Boolean format of “\*emotion\* AND body language” where \*emotion\* was one of the eight negative emotions identified from Ekman’s (1999) model. Additional parameters were used to limit searches: only peer-reviewed journals available in English and published after 2000 were included. Due to the nature of the items being identified, duplicates were abundant in pilot searches. It was argued that by implementing artificial constraints, sufficient saturation was likely to be achieved without unnecessary time expenditure. Saturation levels were confirmed during the article review (below).

In order to control for particular Boolean searches that yielded too few or too many articles (i.e.  $10 > N < 50$ ), procedures were established to produce a satisfactory number of results. Instances where this was required were largely due to the semantic quality of the emotion terms. For example, “contempt” and “guilt” were commonly used in a judicial sense and broader searches were needed to yield relevant information pertaining to their emotional component. Contrasting this was the abundance of explorations into “anger” and “sadness” in the literature.

If fewer than ten articles were located using these search options, the following steps were taken successively until at least this amount were identified:

1. Publishing dates were excluded from search parameters.
2. Replacing “body language” with “behaviour.”
3. Replacing “behaviour” with “expression.”

If more than 100 articles were identified:

1. Articles were ordered using the database's relevancy sort option.
2. Only the first 50 abstracts were reviewed for inclusion.

### **Article Inclusion Criteria**

Only abstracts that evidenced discussion of emotive expressions were included for data generation. Certain topics recurred frequently but were excluded from data generation due to the low return of usable data. These include research into:

- Emotion recognition (e.g. comparing abilities between norms and neurodegenerative populations);
- Antecedents to emotion (e.g. behaviours that lead to shame reactions);
- Cognitive components of emotion (e.g. contributing factors that increase vulnerability to sadness).

### **The Search Results**

**Web of Science.** The search described above resulted in a total of 300 articles for abstract review. Of these, 27 were selected for data generation purposes. Seven of the eight emotions were represented within these articles, excluding "disgust."

**Academic Search Premier.** An additional 235 articles were identified in this database, covering all eight of the emotions targeted, and 23 were selected for review.

**Article representativeness.** Of these 50 articles (Appendix A, Item generation references), several different fields of psychology were covered including clinical, neuropsychology, emotion and behaviour, social, child and criminal. The medical and nursing literature also contributed a number of articles. Also represented were business, marketing and other professional subjects such as engineering and computer sciences. From the art and literature subject areas, relevant research addressed art, voice and music, oratory, literary and performing arts.

Multiple ages were addressed in the included literature: from toddlers and children through to adolescents, university students, and aging populations. Participants

were also highly diverse in terms of health and mental functioning: cancer patients, brain-injured persons, and in- and out-patient mental health. Further populations studied for emotive expressions included animated characters, incarcerated persons, salesmen, and newlyweds.

The research sampled populations from a range of countries and cultures including: the United States, the United Kingdom, Australia, New Zealand, Canada, Scandinavia, Arabic countries, China, Japan, Italy and the Netherlands.

Considering the breadth of coverage included in these 50 articles, no further database searches were pursued. This decision was further justified due to the range of descriptors identified within and the degree of saturation achieved (described below).

### **Supplemental Searches**

The articles identified and described above frequently referenced Ekman's research on emotive facial expressions. It was often the case that researchers did not describe the expressions that guided their research, but instead referred to his research for the particulars. Accordingly, a review of these expressions as defined by Ekman was conducted to confirm full coverage of these features in the item set (Cohn, Ambadar & Ekman, 2007).

No other researcher or area of study was noted as providing a comprehensive and well-grounded review of a particular domain of expression. Nor did any other research appear so prolific in the literature review as Ekman's, with most others identifying his findings as the basis of their own stimuli. No further targeted searches were therefore warranted.

### **Article Review**

These 50 articles were read in full by the researcher and all relevant items were included in the initial descriptor list: observable indicators described in context with one of the eight negative emotions. All phrasing from the original literature was preserved. As much as was possible, multimodal presentations or complex behaviours were

recorded by their individual behavioural components. For example, “(shaking head) while (bringing hands to his face)” was listed as two separate items. This was done so that particular actions could be identified in a way that avoided suggestive contextualisation.

Certain exclusions were made to prevent inappropriate item selection. Technical indicators that require either supplemental tools or a specialist’s understanding were avoided (e.g. peak frequencies relevant in speech patterns; Hammerschmidt & Jürgens, 2006). Similarly, phrasings or items that were unlikely to be understood by the general population were avoided. Physiological characteristics that require particularly close proximity to detect were also avoided (e.g. heart rate). These exclusions were made to avoid a resulting item set that cannot be practically implemented or identified by a therapist.

**Iterative reflection of domain coverage.** Evaluation of the resultant item list confirmed that multiple modalities of expression were represented. The list included items that addressed a range of facets: behavioural, postural, body language, spatial movement, and verbal characteristics. These reflected the previously specified domains and increased the likelihood of adequate blanketing of the expressive phenomena (Bartneck, 2001; Ekman & Friesen, 1978; Hammerschmidt & Jürgens, 2006).

### **Descriptor List Narrowing**

The researcher reduced the descriptor list over the course of four separate iterations. A final verification was conducted using a focus group of experts.

**First iteration.** The initial literature search yielded over 450 descriptors. An exact number is not available because certain exact duplicates were frequent and not re-recorded (e.g. “frowning,” “avoiding eye contact”). A cursory sort separated items into four main groups (face, body language, whole body movements and vocal/verbal cues). Two types of items were immediately eliminated: a) exact semantic duplicates; and b) items that are nondescript or vague (e.g. “confrontational,” “nervous,” and “brazen”).

This yielded 310 uniquely phrased descriptors.

**Second iteration.** Using the four groups identified above, further partitions were made to identify content duplicates. For each subset, one term was selected as best representing the overall meaning of the group (mode range two to five items, with one outlier containing eight interrelated items). For example, the items “head bowed,” “head down,” “head dropped” and “head turned downward” were combined into one group and labeled “head down.” The choice was based in part on familiar and naturalistic phrasing.

This resulted in 149 unique terms.

**Third iteration.** Starting with the original four groups, another partitioning was conducted. Items were combined according to the following rules to eliminate redundancies:

- Categorical descriptors were created to represent a range of individual items (e.g. “groan,” “gasp,” “sigh” etc. were combined to be “increase in non-speech sounds”).
- Content issues in speech were aggregated into cohesive categories that enhanced inter-item distinction (e.g. “use of first person plural to diffuse responsibility” and “responsibility transference” combined to become: “excuses.” This is distinct from phrases that characterised the term “self-aggrandising”).
- Bi-dimensional items were combined into one (e.g. “speaking louder than normal” and “speaking quietly” became “volume change”).

At the end of this phase, there were 95 descriptors.

**Fourth iteration.** Two questions guided this sort:

- Are the terms appropriate to the layperson?
- Can further items be combined or dropped without losing data?



Several items were reworded to avoid uncommon language or to broaden the item description: 13 items were dropped or subsumed by others; and 10 items were identified for further discussion regarding phrasing and relevance for inclusion. Items were deleted because they were either absorbed into other items or they were deemed to be outside of the realm of the study purpose. “Delaying, missing or avoiding contact,” for example, referred to behaviour outside of the actual interaction.

At the end of this phase, there were 82 descriptors.

**Expert consensus.** The 82 items identified above were critiqued by a group of three psychology students in the clinical psychology program and two experienced doctoral level practitioners based at the Massey University Psychology Clinic. All five were involved in research investigating emotional intelligence (EI) and/or emotional expression in psychological practice.

These experts were then given this item set, printed separately on small slips of paper, and asked to conduct a similarity sort together. The group was then asked the following questions:

- What items can be further combined?
- Is the phrasing clear and accurate to its intended meaning?
- Are there any gaps in item coverage?

The card sort and ensuing discussion lasted approximately 60 minutes. The researcher participated in the discussion in order to elaborate on intended purposes and meanings, but did not take part in the card sort. This process resulted in the elimination of 10 items. These were either combined into other item descriptors, were found to represent a subjective behaviour that required observer insight, or were deemed to be outside of the scope of a rupture event interpretation (e.g. “procrastinating” was considered a complex behaviour that could not be marked by particular actions). Eight items were reworded for clarity. In several instances, this involved including appropriate example behaviours that represented the possible range present within an

item. For example, “breathing changes” became “breathing changes (e.g. holding breath, breathing faster or heavier).”

These steps yielded a final list of 72 unique descriptors (Appendix B). These items were then incorporated into the materials used in the following objective mapping tasks.

### **Objective Mapping Task**

Two diverse cultures were included in this study: an English speaking New Zealander cohort and another of native Japanese adults living in this country. Data were collected from the New Zealand sample initially. Differences in materials and procedure reflect changes to accommodate sample needs and to incorporate participant feedback.

### **Participants**

**New Zealand.** A convenience sample of English speaking New Zealanders was recruited from the Manawatu region. All participants were over 18 years old. Of the 33 participants, 22 were female (66%) and 11 were male (33%). No formal information was gathered with regard to age, although the majority were over 30 years old.

**Japanese.** A convenience sample of 37 Japanese adults was recruited in a collaborative effort involving the International Pacific College (IPC) in Palmerston North. This sample had a similar gender proportions: 25 participants (68%) were female and 12 were male (32%). Data about participant ages found a range from 18-55 years of age, with a mean of 29.9 years and a standard deviation of 12.67 years. Eighteen of the participants were 20 years old or younger.

### **Materials**

**New Zealand.** An information sheet outlined the research objective, goals and offered an invitation to the participant. A consent form confirmed understanding, allowed for participants to enter a raffle, and also provided contact details to receive a results summary upon study completion. Instruction and response sheets were derived from Kirkland and Bimler’s template for administering “GOPA” card sorts. The GOPA

title is an acronym of the four separate phases involved in the data collection process. Minor changes reflected tailoring to the specific task content (see Appendix C, New Zealand participant packets).

The 72 items identified in the above data generation task were typed on 10 x 3.2 cm cards. One item was typed on each card in Bold Verdana font size 16. Each item was assigned a number from 1 to 72 for recording purposes. This number was placed in the top left-hand corner of each card. The numbers were assigned according to alphabetical order of the items.

**Japanese.** English versions of the information sheet, instruction sheet and consent form were reviewed and amended by the researcher to reflect procedural differences and to eliminate excessive idiomatic and language specific references. Also in accordance to participant feedback from the first sample, the instructions were abbreviated for ease of use (see Appendix D, Pre-translated revisions for Japanese packets). All materials including the item set were translated into Japanese (see Appendix E, Japanese participant packets).

Item cards were the same size and format as above with the Japanese item translations. Arabic numerals were retained from the English versions; this decision was discussed with the primary Japanese translator and considered appropriate for the sample.

**Translations.** The primary translator is native-born Japanese, and has lived and worked in this country for over 15 years. A New Zealand-based translation service, NZTC International, approved him as a qualified professional translator. NZTC International holds to the EN 15038 standard for translation services (European Quality Standard, 2006, NZTC International, n.d.). This widely endorsed standard serves to ensure consistent and quality service within the industry. With regard to translator guidelines, the EN 15038 standard requires that translators have a minimum of five years experience, a recognised academic qualification in translation studies, or some combination of the degree and experience. Furthermore, through this academic and

practical experience they must have obtained demonstrable competence in: translation ability, technical and textual fluency in the target and source languages, research, and cultural considerations (European Quality Standard, 2006). NZTC International performs additional internal assessments for each of their translators including a practical testing and review process (NZTC International, n.d.).

Translation quality was confirmed by having an independent native-born Japanese speaker review samples of the translations. The samples were acknowledged as being syntactically correct and accurate to the original.

With heightened emphasis on the validity of item set translation, the researcher pursued additional quality confirmation. NZTC International provided an English back-translation of the Japanese items. Discrepancies were identified and reviewed between the researcher and the translator until clarity and allegiance to the intended meaning were confirmed.

### **Procedure**

**New Zealand.** Details about this research were judged to be low-risk by the Massey University Human Ethics Committee (MUHEC) and recorded in the low-risk database (see Appendix F, Ethical approval, New Zealand sample).

Participants completed a four phase card-sorting task following a procedure developed by Bimler and Kirkland's (2007) GOPA methodology. Participants first sort all items into distinct groupings according to their own thematic decision-making process (*Grouping*). Next, using these groups, they identify which are the most *dissimilar* from each other (*Opposites*). Again returning to the initially determined groups, participants then divided each group into further, more homogenous, subsets (*Partitioning*). Finally, the primary groups are merged into larger, related families (*Adding*). The card sort takes about 60-90 minutes per participant.

Participants received packets containing an information sheet about the research, an instruction sheet, response form, consent form and item cards (Appendix C, New

Zealand participant packets). They were also given a verbal description of the procedure along with a brief demonstration by the researcher if desired.

Participants could opt into a raffle for a \$50 voucher. All participants who wished to enter were assigned a number according to alphabetical order by surname. The winner was selected using a random number generator.

**Japanese.** MUHEC judged this procedure to be low-risk and recorded it in the low-risk database (see Appendix G, Ethical approval, Japanese sample). Subsequent approval was then granted by IPC's Human Ethics Committee (IPCHEC).

Recruitment was conducted in combination with and under the advisement of a research liaison assigned to this project by IPCHEC. This involved a selection of Japanese staff members at IPC. Additional participants were also recruited through recommendations and word-of-mouth contacts within the local Japanese community. Each participant completed the same GOPA card-sorting task described above using Japanese language versions of all material. Upon completion, participants were given a \$20 voucher in appreciation of the time and effort involved.

### Analysis

Multidimensional Scaling (MDS) describes a particular grouping of multivariate analyses (Davison, Ding & Kim, 2010). This approach allows the researcher to explore the underlying structure of a set of stimuli by analysing group judgments of similarity (Kirkland, Bimler, Drawneek, McKim & Schölmerich, 2004). By using multiple samples, the results will either offer validation for cross-cultural model stability, or particular cultural differences will be highlighted.

### Data Transformation

Similarity values are determined using data gathered during the GOPA sorts described above. These numerical values are translated from the data in accordance with the number of times that any two items appear in the same group. These similarity scores are determined for all possible pairs of items ( $\partial_{ij}$ ). This is represented with a 0-1

score where 0 means the items are never grouped together and 1 means they are always together, even at the most stringent levels of partitioning (Bimler & Kirkland, 1998). That is, a higher value  $\partial_{ij}$  means a greater degree of judged similarity.

A central tenant of MDS is that the similarity value should have a monotonic relationship to distance when represented in a Euclidean space:  $d=f(\partial)$  (Kruskal & Wish, 1978). In this case, greater similarity corresponds to shorter distances, thus the proximity data is inversely monotonically linked to distance. Using an MDS algorithm developed by Kruskal (1964), these similarity data are transformed into ordinal proximity data and displayed on an R dimensional map.

### Map Development and Verification

Developing the map is an iterative process that aims to achieve a satisfactory balance between the proximity data and the resultant model. Each item is located in the map according to its dimensional coordinates: e.g.  $x_i=(x_{i1}, x_{i2}, \dots x_{iR})$  (Kruskal & Wish, 1978). Additional dimensions ( $n=R$ ) are incorporated as the points are adjusted and re-evaluated to determine the final spatial solution that best approximates the data. This “goodness of fit” can be measured using the  $stress_1$  index (Kruskal, 1964), which enumerates the degree to which the model deviates from the data, using the formula:

$$stress_1 = \sqrt{\frac{\sum_{ij} (d_{ij} - d_{ij}^*)^2}{\sum_{ij} d_{ij}^2}}$$

The quality of information is also assessed with regard to meaningfulness. A solution is reached following weighted consideration between the  $stress_1$  and incremental advantages allowed by increasing dimensionality (Harvey et al., 2012).

Judgment must be applied to identify when additional dimensions no longer add substantially to understanding. The “elbow” test is a frequently used face-value assessment of this (Bimler & Kirkland, 2007). To use this,  $stress_1$  is charted against dimensionality. If dimensions are under-represented, the stress index will remain high

(provided data is of a sufficient quality: Kruskal & Wish, 1978) until an appropriate number of dimensions are achieved, after which only incremental drops will follow. This creates a visible “elbow,” or bend, and is a useful way of indicating R (Kruskal, 1964; Kruskal & Wish, 1978).

This determination of R is then substantiated through appeal to a second, conceptual criterion of dimensional meaningfulness (Kruskal, 1964). This is a qualitative consideration of the practical value of the dimensional labels while avoiding unnecessary complexity.

### **Map Stability**

Three maps were generated from this data: one representing each sample and a third that comprised the joint data from both samples. Statistical analysis was conducted to assess the consistency between these maps with regard to dimensionality as well as configuration.

Analysis and confirmation of result quality mirror those tests used by Harvey et al. (2012) and Pechtel (2008) when comparing multiple population samples: pair distances were compared using the correlation  $r$ ; procrustean distances assessed placement of individual points; and the Canonical Correlation (CANCORR) assessed intermap dimensionality symmetry. This approach to conducting a multivariate analysis of variance (MANOVA) to compare maps from multiple samples is described in Bimler & Kirkland (2007).

## CHAPTER FOUR

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### Results

Converting the raw data from the GOPA sort and interpreting the resulting model were not linear procedures. This chapter is written to describe the process sequentially, although reflections on prior analyses were revisited periodically to ensure the results were both statistically and logistically valid. The steps involved are as follows:

1. Two samples provided raw data in this research: a New Zealand sample and a Japanese sample. Analyses used to interpret these data are described.
2. Statistical analyses were conducted to compare the consistency between these two separate samples. These values justified a combined solution model, although variations are acknowledged. Identical analyses from step 1 were conducted on a combined dataset composed of all the data collected from both samples.
3. According to the statistical similarities, the combined solution dominated the explanatory description of the resultant model (with reference to clusters and dimensions present).
4. Preliminary analysis on clustering of separate samples is included to explore potential group differences that may be obscured by the combined solution. This will inform future validation needs with regard to item inclusion as well as suggest hypotheses about group differences.
5. Finally, structural composition of the combined solution model is described to assess internal validity.

#### Statistical Analysis

##### The Raw Data

Participants sorted rupture indicators (72 items: Appendix B) by perceived similarity using the GOPA sort method. This task was completed by two diverse cultural samples: a local English speaking New Zealand cohort and a sample of native Japanese people currently residing in this country. Respondents provided their answers by recording the corresponding numbers of each item on the response sheet as described in the Methods section.



These raw data were entered into a computer program that aggregated the data for further analysis. A function built into the program detected certain errors by identifying duplicate numbers as well as mistyped numbers that are outside of the original item set. Most participants accurately completed response sheets, with the following exceptions. In five instances (three for the New Zealand sample and two for the Japanese), there were inconsistencies between the item numbers in grouping and partitioning phases (e.g. in *grouping* the items may be [11, 32, 2, 6, 71, 5] but when transposed into *partitioning* the same items were re-written as: [11, 22, 2] [6, 71, 5]). In these cases, the number recorded in *grouping* was recorded at the data input stage (in this example, '32'). The program confirmed that such corrections did not lead to item duplicates, suggesting that the *grouping* item numbers were the intended responses. In the New Zealand sample, certain phases were either excluded or inaccurately completed in three responses. One participant did not complete the partitioning phase, one did not complete phases two and four (*opposites* and *addition*), and another inaccurately completed the opposite phase by comparing partitioned items rather than group items. In each of these examples, the sections for reporting those phases were left blank.

This raw data was converted into similarity values for each pairing of items. Each item pair was assigned a degree of similarity between 0 and 1 depending on the averaged sort results across the participant pool. A value of 0 indicates absolute dissimilarity where the two items did not appear in the same group as each other even at the most lenient *addition* phase. A value of 1 suggests absolute similarity where the two items were always in the same group even at the most stringent *partitioning* phase. These similarity values were identified for each pairing and represented in a 72 x 72 matrix. Both of the subsequent analyses were interpreted from this core matrix.

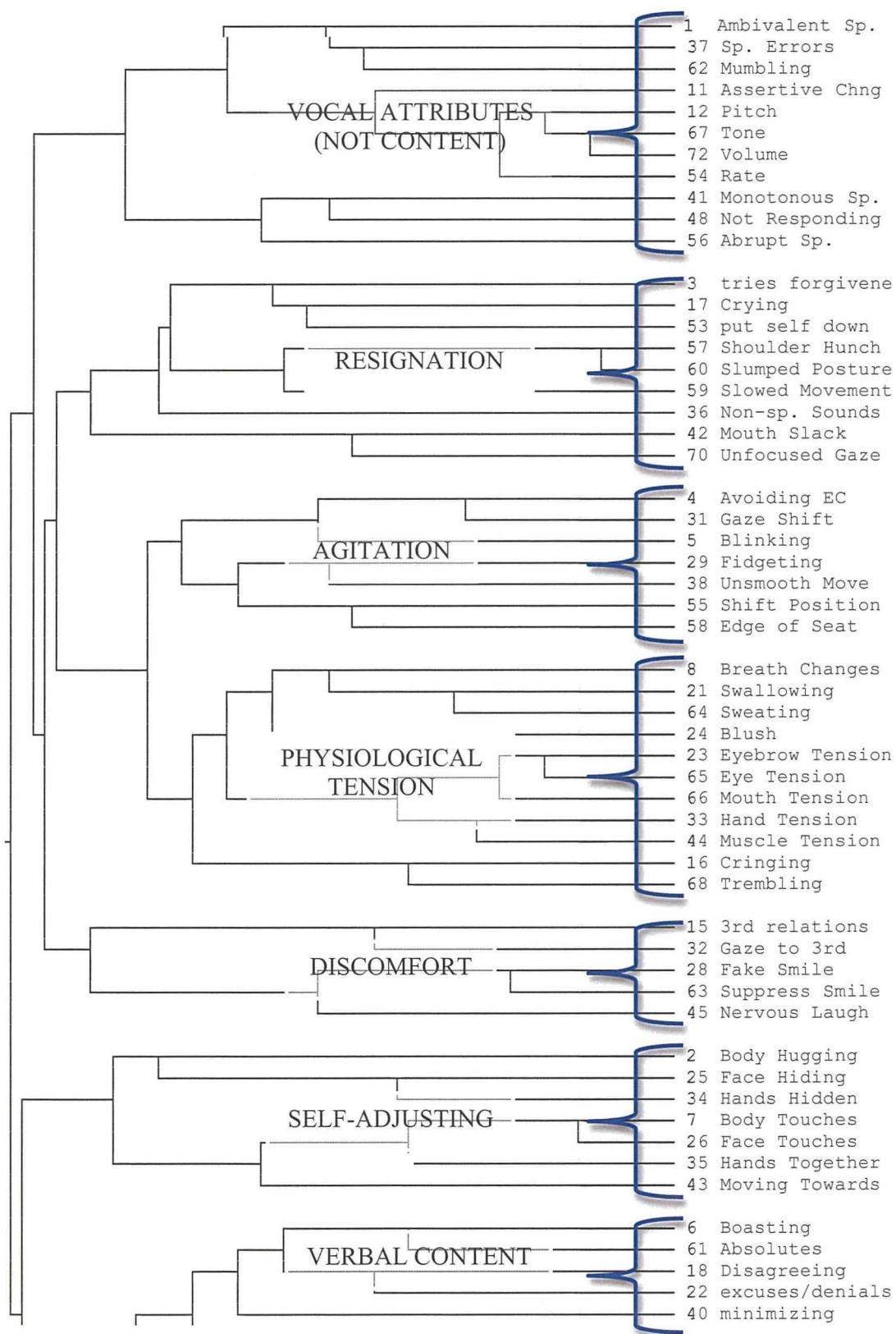
### Data Analysis

Two separate approaches, hierarchical cluster analysis (HCA) and multi-dimensional scaling (MDS), were used to interpret the data in order to gather different yet complementary information (Carter, Enyedy, Goodyear, Arcinue & Puri, 2009). The end result of this research is the production of a three-dimensional (3D) model of rupture presentation. This 3D format was derived from the MDS analysis, but the

identification of relevant clustering as they appear on the 3D model was informed by the HCA. Analysis was conducted on three groups of data: the New Zealand sample, the Japanese sample and the combined sample.

**Hierarchical cluster analysis.** HCA provides a direct translation of similarity data into a dendrogram, which allows the reader to see the levels of groupings as averaged across all participants. The HCA representing the combined data (N=70) is displayed in Figure 1. Dendrograms for the separate Japanese and Kiwi samples are included in the appendices (Appendices H and I: New Zealand sample dendrogram, and Japanese sample dendrogram). For reasons that will be described below, the combined solution dominates the results and the discussion and will be the primary referent to follow, unless otherwise noted.

The dendrogram was interpreted by looking at the closeness of items according to the length of 'branching' required to join any group of items together. This is represented visually in the dendrogram so that the items are on the right-hand side of the page with branches extending and combining with those of other items progressively as they form larger clusters and groupings from right to left. Items that combine quickly (i.e. their branches merge closer to the right) were combined more frequently by participants and were understood as being more closely related perceptually. In this way, HCA informed categories or groupings of items (Carter et al., 2009). When looking at the figure from the left-hand side of the page, all items are joined together at the greatest level of inclusiveness (in this case forming the united model of items as "Indicators of Rupture"). As the reader moves towards the right-hand side, the tree branches off into more and more specific subsets. This reflects the sorting phases conducted by participants in that the most inclusive groupings on the left-hand side of the figure are indicative of the additive phase of the GOPA procedure, and items that are closely linked (i.e. their branches merge with other items at short distances from the right-hand side of the dendrogram) were more likely grouped at even the most stringent partitioning phases.



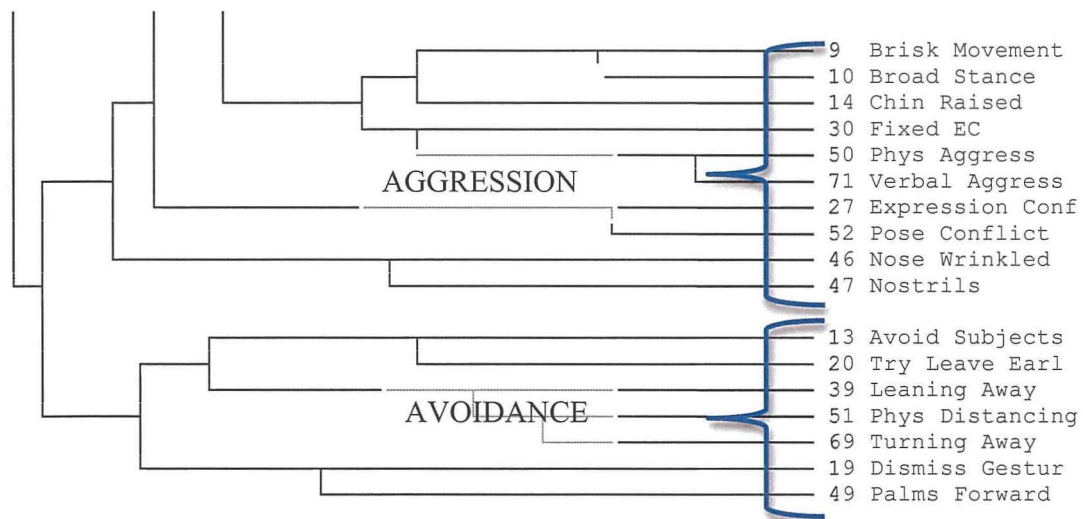


Figure 1. Combined sample dendrogram with preliminary clustering descriptions.

The HCA was used to inform clustering by overlaying items that group together onto the MDS model and then making adjustments according to group cohesion and clarity. Because of these adjustments, the final clusters do not perfectly match those as they appear in the dendrogram. However, the preliminary clusters are represented in Figure 1.

A shortcoming of HCA, at least for present purposes, was that it did not explore the closeness or interrelationships between clusters. For that, the MDS spatial representation was needed in order to identify both the way that these items grouped (i.e. cluster), but also to explore proximity between clusters and decipher underlying dimensions or spectrums by which these items vary.

**Multi-dimensional scaling.** MDS was used to explore the underlying structure and dimensions ascribed to the items and to present them in a multi-dimensional model or “map.” The statistical analyses involved in constructing this map were computationally intensive and beyond the scope of this thesis. Both the analysis and programming were prepared by Associate Professor Dr. David Bimler. In constructing the map, the similarity scores were converted into proximity values so as to preserve the overall ordering of item pairs. This made it possible to use the proximity (i.e. inter-item distance) values to locate items multi-dimensionally.

In order to determine the best dimensionality of the model (the number of appropriate dimensions required to produce a meaningful model that conforms to the data), a number of factors were considered. Statistical analyses informed appropriate dimensionality according to the degree of stress, but informal criteria such as the interpretability of the solution were also relevant to deciding on the final representation of the data. This need to balance practical application of the model with the statistical framework in order to produce meaningful results is discussed in several publications (Kruskal & Wish, 1978; Carter et al., 2009; Harvey et al, 2012). Stress values for each solution ( $stress_I$ ; Kruskal & Wish, 1978) are represented in the Scree plot shown in Figure 2. This shows the fall in stress as dimensionality increases. A slight elbow is noticeable in all three solutions at 3D whereby increasing dimensions produced diminished rates of return. The elbow is more apparent in the data from the Japanese sample, possibly by virtue of the larger set of respondents included ( $N= 37$  rather than the  $N= 33$  for the New Zealand sample). 3D solutions yield a  $stress_I$  value of 0.189 for the Japanese sample and that of 0.218 for the New Zealand sample. The  $stress_I$  for the combined dataset was .239 at 3D. These values are slightly higher than the cut-off prescribed by Kruskal & Wish (1978) where desirable stress values are less than 0.1, but still meet acceptable levels (Harvey et al., 2012). When considering the gains of an improved (i.e. lower) stress value at the cost of increasing dimensionality, the statistical advantage comes with additional challenges in data interpretation and utility of the resultant model. Therefore, pragmatic reasoning supported the 3D solution.

### Consistency Between Samples

MDS was used to produce a solution for each sample. The two maps were then compared using three different indexes to assess degree of similarity. The intention was to determine whether the maps representing the information from each sample were suitably correlated in order to justify a combined solution representing both samples.

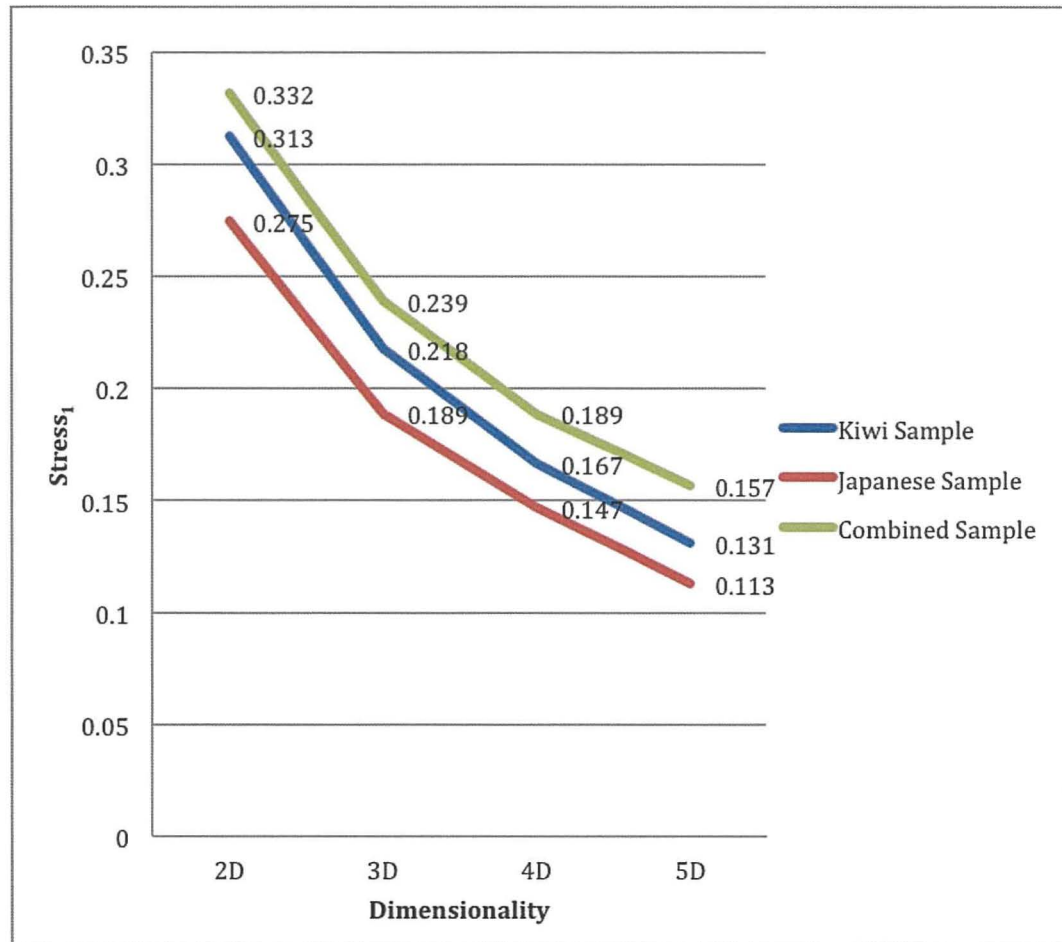


Figure 2. Scree plot of  $stress_1$  versus dimensionality for Japanese, New Zealand and combined samples.

**Canonical correlation (CANCORR).** This is a form of multivariate analysis that determines the degree of agreement between statistical dimensions (or axes) between models. This correlation was deduced sequentially for each dimension. The statistical agreement between intermap dimensions was obtained by rotating the models to achieve optimal alignment on the first dimension, then incorporating each subsequent dimension orthogonally to the previous in order to minimise stress. This method produces scores that necessarily decrease for each additional dimension due to the lessened degree of rotational freedom.

In this case, each of the three dimensions (three axes) were significantly correlated to the alternative solution according to Wilks' lambda statistic:  $R(c) = 0.775$ ,  $R(2) = 0.673$ ,  $R(3) = 0.509$ ,  $p < .001$ . This provided justification for using a combined solution in analysing the results, as the dimensions were recognisable to both samples.

**Procrustes distance.** This distance assessed the degree of mismatch between individual points on each MDS solution. To calculate this value, the two solutions were superimposed in the way that produced the closest alignment between each. The final value was a computation based on the differences between corresponding points on each solution ( $x_1' - x_1$ ,  $x_2' - x_2$ ,  $x_3' - x_3$ ). If the two solutions were unrelated, a typical procrustean distance would be around 0.5. Values below 0.2 suggest sufficiently close fit between the two maps with lower scores being increasingly desirable (Harris, 2001).

The procrustes distance produced between these two samples was  $g_i = 0.177$ . This suggests that the maps are closely related, although it cannot be deduced whether the differences that do exist are systematic or can be attributed to noise in the data.

**Cophenetic correlation.** This statistic assessed the inter-point distances compared to their corresponding distances on the alternate solution. That is, Pearson's  $r$  (correlation coefficient) was produced according to these values ( $D_{xy} : D_{x'y'}$ ) for all distances. The higher value  $r$ , the more alike the two maps were. This statistic revealed a moderate correlation between both solutions of  $r = 0.41$ . This suggested a modest but significant amount of intermap similarity. Like the procrustes statistic, Pearson's  $r$  does not provide an indication as to whether the differences that do exist are group differences or byproducts of the method of data collection.

These three indexes of similarity showed both a degree of similarity as well as evidence of some differences between the two maps. While the procrustes and cophenetic correlations ( $g_i$  and  $r$  values) suggested some amount of discernable difference between the maps, the high degree of dimensional similarity according to the CANCELL justified using a combined solution to illustrate the dimensional composition of this model. Therefore, the remaining analysis of this model is based on

the combined solution of the MDS model informed by the HCA representing all 70 participants. However, in order to acknowledge and explore any differences between the separate and combined solutions, comparisons are made to the separate models to either substantiate this decision or to illuminate notable differences.

### Combined Solution

The MDS solution for the combined data ( $N=70$ ) produced a model that aligns slightly closer to the Japanese sample data set ( $r=0.89$ ) than for the New Zealand sample ( $r=0.63$ ). As shown in Figure 1, the stress at 3D was shown as  $stress_1=.239$ . This value was acceptably low, and the return of slightly decreased stress at higher dimensions did not outweigh the advantage of having a visually parsimonious map.

**Reliability.** The 70 responses that combined to create the combined solution were then divided into two separate groups of 35 and subjected to a split-half analysis to assess reliability. The responses were randomised by allocating odd and even responses to alternate halves. The resulting 3D solutions were compared against each other producing an  $r=0.68$  and procrustes distance of  $g_1=0.088$ . Together, these split-half values were indicative of the high degree of internal agreement. Furthermore, and possibly due to the large number of participant data included in this solution ( $N=70$ ), this assessment of internal reliability suggested a stable map structure. This stability offers further justification that ample participants were included in data collection and additional data sets would be unlikely to alter the map significantly.

### Map Interpretation

There were two considerations informing the interpretation of this model: clusters and dimensions. Clustering decisions were based on both forms of statistical analysis (HCA and MDS) and describe the groupings of items as they appeared in the model. Dimensions were reliant on understanding the poles representing opposite sides of the model and determining the spectrums on which these items were sorted.



## Clusters

Preliminary clusters were identified according to the dendrogram and then confirmed by the degree to which items conglomerated on the map. Alterations were made so that the final clusters as they appear on the 3D map were sensible, informed by the dendrogram, and could be described as coalescing according to an identifiable reason. Table 1 shows the final clustering as they appeared in the combined solution, including both the composite items and descriptive labels assigned to each of the 12 clusters. The item that appeared most central to the cluster geographically is marked with an asterisk. All items were identified as belonging to one of these clusters.

The clusters spread across the map and were distinguished by the type of behaviour involved. This tended to reference both the modality involved (e.g. physical, verbal) as well as unique themes that described the items within that cluster. For example, one cluster, *physiological distress*, encompasses items such as “sweating,” “breathing changes,” and “face colour changes”; whereas a distinct cluster of *verbal detachment* refers to rupture indicators such as “not talking or responding,” “excuses or denials” and “avoiding subjects.” Distinct clusters refer to other verbal type items. By considering both the spatial location of items on the map, as well as their distinct groupings according to the dendrogram, clear differentiation emerged between speech-type clusters such as *verbally defiant*, *submissive speech content* and other *vocal attributes (not content related)*.

Using the strategies described above in defining the clusters, items tended to group in ways where the modality was a relevant modifier. The physically aggressive cluster illustrates this neatly by including only physical examples (e.g. “chin raised,” “brisk or forceful movement” and “moving towards other”) and distinguishes these from the speech-based form of aggression in the verbally defiant cluster. However, not all clusters were created according to modality. Where deemed appropriate due to contextual and spatial considerations, clusters were identified that combined multiple forms of expression provided they all cohere on a specific theme (e.g. avoidant/dismissive items include “faked smile,” “avoiding eye contact” and “concern about relationships with third parties”).

Table 1

*Cluster Composition and Meaning*

<b>Cluster Description</b>	<b>Cluster Items</b>
<b>Physically Aggressive</b>	Chin Raised; *Brisk or Forceful Movement; Physical Aggression; Fixed Eye Contact; *Broad Posture or Stance; Moving Towards Other (14, 9, 50, 30, 10, 43)
<b>Verbally Defiant</b>	Disagreeing with Other; *Boasting; Speaking in Absolutes; Verbal Aggression (18, 6, 61, 71)
<b>Enhancing Differences/Distances</b>	Palms Facing Forward; *Leaning Away; Posture Conflicts with Other; *Dismissive Hand Gestures; Facial Expression Conflicts with Other; Physical Distancing; Turning Away (49, 39, 52, 19, 27, 51, 69)
<b>Self-Touching/Adjustment</b>	Face Touches; *Body Touches; Hands Together; Hands Hidden; Face Hiding; Arms Around Body (26, 7, 35, 34, 25, 2)
<b>Muscle Tension</b>	Nostrils Flared or Tightened; Nose Wrinkled; Muscle Tension; *Eyebrow Tension; *Hand Tension; Tension Around Mouth/Lips; Tension Around Eyes (47, 46, 44, 23, 33, 66, 65)
<b>Physiological Distress</b>	*Sweating; Breathing Changes; Jerky or Unsmooth Movement; Face Colour Changes; *Excessive Swallowing; Blinking More Than Normal; Trembling; Cringing (64, 8, 38, 24, 21, 5, 68, 16)
<b>Vocal Attributes (not content)</b>	Change in Pitch or Inflection; Tone Changes; Volume Change; *Rate of Speech Changes; *Change in Assertiveness; Increase in Speech Errors/Hesitations; Increase in Non-Speech Sounds; Short or Abrupt Speech (12, 67, 72, 54, 11, 37, 36, 56)
<b>Verbal Detachment</b>	Not Talking or Responding; Excuses or Denials; Changing or *Avoiding Subjects; Monotonous Speech; Minimising/Trivialising; Starts Mumbling; Ambivalent Speech (48, 22, 13, 41, 40, 62, 1)
<b>Physical Detachment</b>	Mouth Slack or Open; Slowed Movement; *Shoulders Slumped or Hunched Forward; Slumped Posture; Unfocused Gaze (42, 59, 57, 60, 70)
<b>Submissive Speech Content</b>	Putting Self Down; *Attempts for Forgiveness; Efforts to Leave Early (53, 3, 20)
<b>Avoidant/Dismissive</b>	Faked Smile; Suppressed Smile; Avoiding Eye Contact; *Gaze Shift to Third Party; Concern About Relationships with Third Parties (28, 63, 4, 32, 15)
<b>Discomfort/Agitation</b>	Frequent Gaze Shifting; *Fidgeting; Nervous Laughter; *Crying, Tearing, or Weeping; Shifting Positions; Sitting on Edge of Seat (31, 29, 45, 17, 55, 58)

*Note.* \*Item(s) most central item in cluster by location.

A note is warranted with regard to the particular label selections used to describe clusters. Even though all items were phrased in the third person omniscient (to provide consistency and improve conceptual understanding for participants), both the clusters and the dimensions are intended to be useful by the practitioner using their first person perspective while observing the client's presentation. This means that in instances where a referent is needed (e.g. *enhancing differences/distances*) the presumed object of that statement is the therapist themselves.

To explore systematic differences between the separate sample maps when compared to the combined solution, investigation of the composite clusters for each were conducted. While differences existed in the precise items that cohere in each map, the overall themes in clusters were largely consistent, as shown in Table 2. Differences appeared only in instances when two clusters in one solution overlay an aggregate cluster in the combined solution. For example, the New Zealand sample separated items that demonstrated aggressive presentation (i.e. postural behaviours) from interactive aggression (e.g. "moving towards" or "physical aggression"), whereas the combined solution did not evidence this distinction.

While the overall structures were somewhat varied between samples (see consistency metrics, above), most items clustered in similar ways with only a few noteworthy exceptions. The most blatant anomaly between cultures was the location for the item "arms around body." This was not only clustered differently by each sample, but also appeared in vastly different sectors of the final model. The Japanese sample grouped this closer to other confrontational behaviors, whereas the New Zealand sample tended to associate this with protective or withdrawal behaviours. "Avoiding eye contact" was located in different clusters as well, whereas the New Zealand sample viewed this as a distancing or detachment-type action and the Japanese sample grouped it with other signs of agitation such as "fidgeting." Conversely, "crying" was a sign of resignation for the Japanese sample, whereas the New Zealand sample considered this as one of agitation and discomfort.

Table 2

*Cluster Comparisons Between Solutions*

Combined	NZ	Japanese
Physically Aggressive	Physically Aggressive	Interactive Aggression Aggressive Presentation
Verbally Defiant	Verbally Defiant	
Enhancing Differences/Distances	Distancing Differentiating	Enhancing Differences/Distances
Self-Touching/Adjustment		Self-Touching/ Adjustment
Muscle Tension	Muscle Tension	Muscle Tension
Physiological Distress	Physiological Distress	Physiological Distress
Vocal Attributes (not content)	Vocal Attributes (not content)	Vocal Attributes (not content)
Verbal Detachment		Verbal Detachment
Physical Detachment	Physical Detachment	Physical Detachment/Resignation
Submissive Speech Content	Submissive Speech Content	
Avoidant/Dismissive	Avoidant/Dismissive	Avoidant/Dismissive
Discomfort/Agitation	Discomfort/Agitation	Agitated Avoidance

**Dimensions**

Each of the dimensions, or axes, in the 3D model is presumed to represent underlying perceptual differences in the data. To understand and interpret what each dimension meant, a combined approach was used to identify and confirm satisfactory descriptions. This included investigation of diametrically opposed clusters as well as consideration of dimensional weightings (Appendix J, Dimensional loadings) in order to identify meaningful poles. Care was taken to pick dimensions that seemed most relevant for explanatory and practical purposes. This meant that the poles or extreme anchors were not necessarily those that held the greatest absolute value weighting on the dimensions for reasons due to model rotation.

**Rotation.** The statistical model inputs dimensions that are orthogonal, but rotationally indeterminate. This means that the axes intersected each other at 90°, but were placed arbitrarily with regard to meaning. Considering the earth, this is akin to saying that Greenwich Mean Time is arbitrarily selected as the absolute referent for global time. If New York City were instead identified as the global standard, all intervals would still be relatively equivalent to each other, although the reference point would have rotated by a value of 5/24.

In this map, the statistical dimensions were taken as a starting point to explore what items were at the extremes as well as what items were irrelevant on particular dimensions. Adjustments were then made according to meaningfulness and practical relevance, and the map was rotated so that items or clusters that best represent dimensional extremes were chosen as anchors to which the axes should be drawn.

**The dimensions.** The three underlying dimensions identified in this map were Interaction Type, Derivation of Meaning and Subject Focus (shown in Table 3). Each of these dimensions is divided into two categories to represent items nearing closer to one of the two poles. Interaction Type is distinguished as either *confrontational* or *withdrawal*. Derivation of Meaning refers to whether the purported intention of the indicator is considered to be *biologically based* or if its meaning is *socially constructed*. Subject Focus refers to the person about whom the behaviour is directed: whether the behaviour is focused on the person performing it (*intrapersonal*) or if it is about engaging with the other person involved (*interpersonal*).



Table 3

*Dimension Labels*

Dimensions	Poles	Polar Meanings
<b>X: Interaction Type</b>	+	Withdrawal
	-	Confrontational
<b>Y: Derivation of Meaning</b>	+	Socially Constructed
	-	Biologically Based
<b>Z: Subject Focus</b>	+	Intrapersonal
	-	Interpersonal

**Structural Composition**

After statistical analyses provided the spatial structure of items and interpretation of the HCA and MDS solution guide cluster identification, it was useful to review and identify spread and coverage of clusters as they overlay the final structure.

Figure 3 and 4 show split hemisphere images of the resultant model with clusters labeled accordingly. Figure 3 shows the X+ hemisphere (i.e. the *withdrawal* hemisphere) with both the Y (Derivation of Meaning) and Z (Subject Focus) dimensions visible vertically and horizontally, respectively. Items closest to the center of the image represent items closer to the X+ pole and those further towards the circumference of the image are less strongly associated with a particular interaction type (i.e. more neutral on X, concentric circles overlay as a guide). Figure 4 shows the opposite hemisphere (i.e. the *confrontational* hemisphere) with both the Y- and Z- axes similarly placed.

For ease of interpretation, each quadrant on these split-hemisphere figures is labeled, creating eight octants in the overall model. Table 4 shows the presence of clusters according to their octant. This also outlines the dimensional descriptions relevant to that octant.

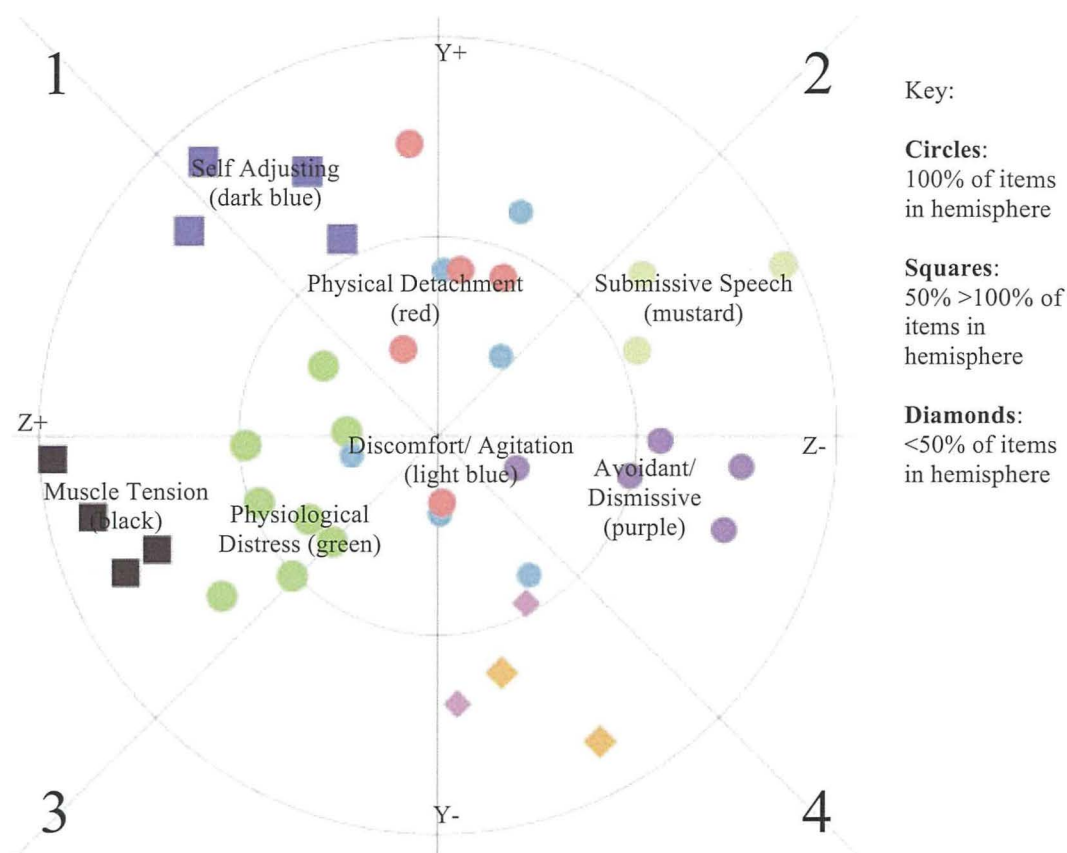


Figure 3. Visual representation of the Withdrawal (X+) hemisphere, Octants 1-4, including major clustering. Items present but not labelled in this image (diamonds) include: Verbal Detachment (orange) and Vocal Attributes (Pink).

The benefit of visualising the model in this way was two-fold. First, gaps in coverage could be identified, and, second, an internal validity could be considered regarding whether clusters appear in logically anticipated octants. For present purposes, allocation of clusters to octants was broadly done and is not mutually exclusive. In several cases, clusters appeared in more than one octant, although for Table 4 clusters were identified as belonging to the octant in which most of their points lay. For example, *physical detachment* has items that appear in octants 2 (“slumped posture”) and 3 (“unfocused gaze”), but the majority of points (“mouth slack,” “slowed movement” and “shoulders hunched”) are all in octant 1.

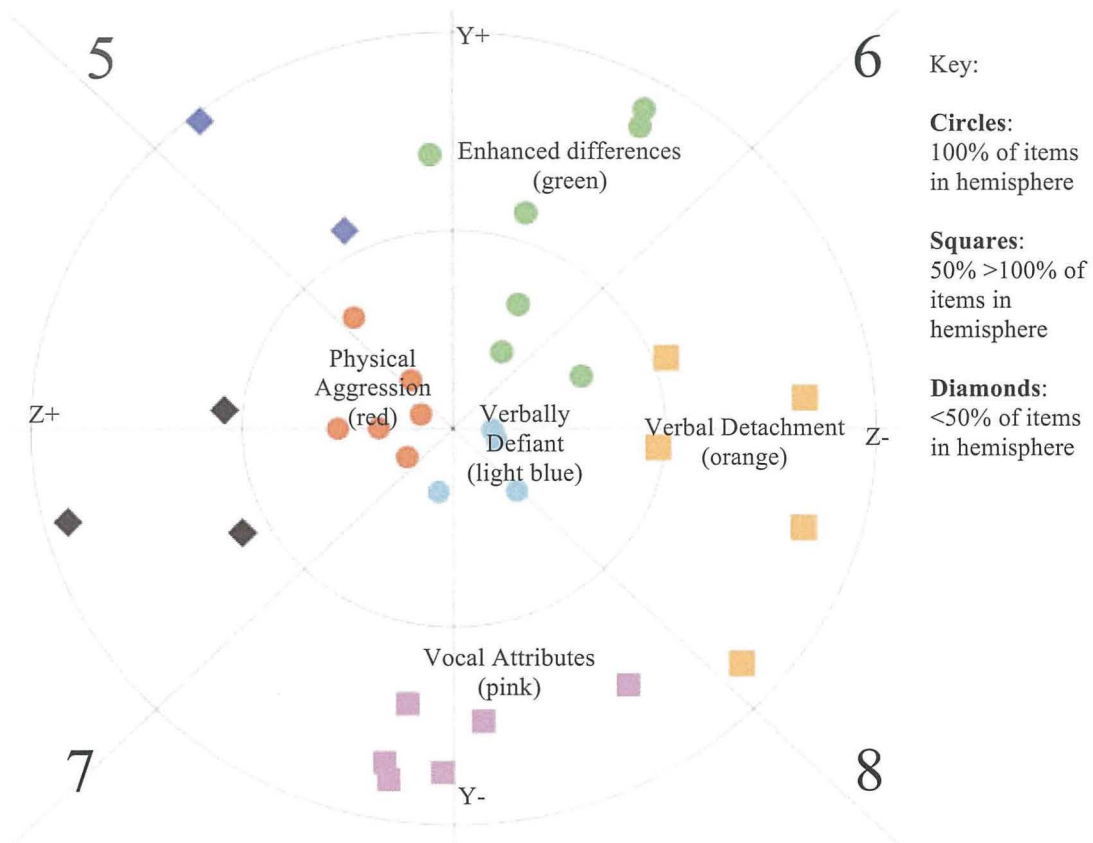


Figure 4. Visual representation of Confrontational (X-) hemisphere, Octants 5-8, including major clustering. Items present but not labeled in this image (Diamonds) include: Muscle Tension (black), Self Adjusting (dark blue).

Octant 2 was slightly under-represented by the number of items. Its main constituent cluster was *submissive speech patterns*, which only contained three items (“putting self down,” “attempts for forgiveness” and “efforts to leave early”), although they are coherent with that octant’s description (withdrawal, socially constructed and interpersonal).

The clusters largely appeared in predictable octants. Octant 3, for example, was characterised by biologically grounded, intrapersonal, withdrawal behaviours and was comprised of *physiological distress*. *Verbally defiant* lay in the contextually appropriate octant 6: interpersonal, confrontational behaviours that draw from socially constructed



meanings. *Muscle tension* also seems appropriately placed in octant 7, which should comprise confronting, self-focused and biologically-driven indicators of rupture.

Table 4

*Clusters Grouped by Octant*

Octant	Dimensional Involvement		Relevant Clusters
1	X+	Withdrawal	Physical Detachment; Self-Touching/Adjustment
	Y+	Socially Constructed	
	Z+	Intrapersonal	
2	X+	Withdrawal	Submissive Speech Content
	Y+	Socially Constructed	
	Z-	Interpersonal	
3	X+	Withdrawal	Physiological Distress
	Y-	Biologically Based	
	Z+	Intrapersonal	
4	X+	Withdrawal	Avoidant/Dismissive; Discomfort/Agitation
	Y-	Biologically Based	
	Z-	Interpersonal	
5	X-	Confrontational	Physically Aggressive
	Y+	Socially Constructed	
	Z+	Intrapersonal	
6	X-	Confrontational	Verbally Defiant; Enhancing Differences/Distancing
	Y+	Socially Constructed	
	Z-	Interpersonal	
7	X-	Confrontational	Muscle Tension
	Y-	Biologically Based	
	Z+	Intrapersonal	
8	X-	Confrontational	Verbal Detachment; Vocal Attributes (not content)
	Y-	Biologically Based	
	Z-	Interpersonal	

Also worthy of consideration were particular instances where cluster placement was unexpected with regard to the octant description. For example, Octant 5 is inclusive of the *physical aggression* cluster, although that dimensional anchor is intrapersonal.

*Verbal detachment* (e.g. “not talking,” “avoiding subjects,” “mumbling”) also seems misplaced by this consideration. It is placed in Octant 8, described as interpersonally confrontational derived from biological meanings, although the items suggest a withdrawal and possibly socially learned pattern of behaviours. Conclusions can be drawn on both the coverage and meaningful placement of clusters, as shown in these figures. Potential explanations and means to improve in this regard are discussed further below.

In light of the dimensions identified, a review was conducted to test an ad hoc hypothesis that there would be greater disparity on the socially constructed side of the derivation of meaning dimension. Theoretically, the two cultural samples would demonstrate a higher degree of variability, or less overlap in their groupings on items that are highly determined by social learning. The procrustes analysis produced individual item residuals that contributed to the final  $g_i$  score. By sorting all items into two groups depending on their location on the y-axis (Derivation of Meaning), the two groups’ residual means were compared to determine if one side showed a greater degree of variance. A two-tailed independent samples t-test was conducted to determine whether there was a significant difference in cultural effects for the 33 socially constructed items compared to the 39 biologically based items. A t-test failed to reveal a statistically reliable difference between the residual means for socially constructed items ( $M = 0.00471$ ,  $SD = 0.0051$ ) when compared to that of biologically based items ( $M = 0.00516$ ,  $SD = 0.0039$ ),  $t(72) = 0.417$ ,  $p = 0.678$ ,  $\alpha = .05$ .

A final point of investigation may be included here, although any conclusions drawn would be tenuous only. For the interest of future validation studies, it would be significant to explore the relevance of the items that are included within this model. Both a benefit and a shortcoming of MDS over other statistical approaches, such as factor analysis, is that all items are included in the final solution by virtue of being included in the data collection process. The reasons for this and concerns relevant to conclusions about the model are explored further in the discussion. As a preliminary attempt to identify items that may have been inappropriately included, distance for each item from the origin of the map is included in this analysis (Appendix K, Item

proximities to origin). The distance from the origin was determined using a 3D analogue of the Pythagorean theorem [ $\sqrt{a^2 + b^2 + c^2}$ ]. Items that are statistical outliers (i.e. are closer or further from the origin by more than  $3SD$  in a normal distribution) are identified in order to spur future reflection on their appropriateness to inclusion in this model. No outliers were identified due to extreme distance from the origin. Only “shifting positions” lay more than  $3 SD$  closer to the centre than the mean ( $M= 5.877$ ,  $SD= .975$ ). Using a more relaxed cut-off of only  $2 SD$  identified an additional three items for inspection: “non-speech sounds,” “edge of seat” and “fidgeting.”

## CHAPTER FIVE

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### Discussion

#### Important Findings

##### The Importance of Quality Indicators

In most research to date about ruptures, there is reference to *markers* that are used to call attention to the moment of rupture. The difficulty is that there was never an accompanying definition and most researchers used the term ‘markers’ non-specifically. While a marker is intended to pinpoint the rupture, the term itself sometimes refers to both specific and categorical acts (e.g. client criticises therapist; Daly et al., 2010) or it is sometimes overly presumptive and based on theorised cognitive components (e.g. ‘dissatisfaction with schedule of therapy’; Sommerfeld et al., 2008). Safran et al. (1990), on whose work much of the present research on ruptures is based, noted ‘non-responsiveness to interventions’ as one of their seven examples of rupture markers. This shows a concept of rupture identification over a much wider context than that conceived in the present research.

In preparing the current research, a set of items was developed to provide a representative sampling of all client-based behaviours that may arise during a rupture. Because the word ‘marker’ has vague connotations, these items were termed ‘indicators’ in the hope of replacing the previously blurred concept with an enhanced clarity. Each indicator used in this study was selected and phrased with the following goals: to have a near similar level of specificity; to be directly observable (i.e. easily *marked*) in context; and to alert the observer (e.g. therapist) to the possibility of a current rupture. This list includes indicators covering multiple modalities. The range of indicators included in this item set goes beyond past rupture recognition guidelines largely reliant on language markers (Colli & Lingardi, 2009), and also encompasses examples of postural, expressional, vocalic, and other movement-based cues.

##### A Model of Rupture

Reviewing the research revealed no previous attempts to create a summary model of ruptures. The work of Safran et al. (1990), a primary source for many subsequent researchers, identified several example categories of markers, although they involve

inconsistent levels of specificity and implications. Yet despite the admission that their list was neither exhaustive, nor mutually exclusive, this work was used as the basis for future, research-based recognition tasks (Colli & Lingardi, 2009).

The present research achieves these previously overlooked needs by laying a foundation for a complete model and taxonomy of rupture presentations, illustrated by specific indicators.

**Clustering.** The study described in this research allowed for a sampling of rupture indicators to be sorted into clusters or categories. Twelve different clusters were identified in this study that grouped the indicators by *kind*. Each cluster (shown in Table 1, Results) describes a group of indicators (between three and eight per cluster) according to their theme: referencing presentation, modality and/or affective intent. Each cluster is internally consistent by virtue of the selection and differentiation procedures used (See Results). While the items used to develop this model are only a sampling of all possible indicators, by describing, locating and defining each cluster, a taxonomy of potential themes was established.

Several of the clusters identified in this model reflect previously noted examples of rupture markers. Safran et al. (1990) for example, identified avoidance behaviours as a frequent example of withdrawal-type markers, a finding mirrored by the *avoidant/dismissive* cluster found on the withdrawal side of this model. Other marker types used in that source were also considered. The concept of ‘expressing negative sentiments’ (Safran et al., 1990) was enveloped by the cluster *verbally defiant*. Bennett et al. (2006) notes another marker type: controlling-rebellious. While this was not present as a distinct cluster within the present model, certain clusters do show an overlap, such as those of *verbal defiance* and *enhancing differences/distances*, as well as other aggressive cluster types. It is possible that controlling or rebellious behaviours are in fact more nebulous descriptions rather than particular kinds of rupture indicators, although this would be an area to look into in future iterations of this research. While controlling and/or manipulative behaviours sound consistent with the premises of this work, it can be argued that any instances suggesting such actions would require a higher

order conception of the client's intentions as well as the therapist's cognitive and emotive reaction. That is beyond the purpose of the selection procedures for this study's set of indicators that focused on non-interpretive observable features.

Despite past recognition of over-compliance as relevant description to many markers (along with the other distinctions of withdrawal and confrontation), this rupture theme did not appear in the present data. It can be argued that certain instances may meet this description (e.g. "attempts for forgiveness," "fake smile") but more likely is that behaviours signifying over-compliance must necessarily be complex or require cognitive insight (e.g. trying too hard: what is *too* hard?). For this reason, indicators particular to this were excluded in the item generation stage. Interestingly, while several different articles note over-compliance as a main rupture type (Aspland et al., 2008; Colli & Lingardi, 2009; Muran, 2002; Safran et al., 1990), only Safran et al. (1990) give any example of what this may look like (e.g. 'hasty agreement with the therapist, with no further elaboration'; p158). An alternative conception of this theme in the present model is that over-compliance is representative of submissive type behaviours: this might be justifiably enveloped by the sparse *submissive speech content* cluster in Octant 2. Or perhaps it will be a complementary cluster of its own in that same octant (characterised by socially constructed, interpersonal withdrawal). This section of the map was slightly unrepresented, suggesting that there is room for the hole to be replaced with instances of overly-compliant behaviours. Of course any potential inclusions must meet the pre-requisite indicator guidelines that they be observable and non-presumptive.

Self-enhancing operations, another rupture marker noted in Safran et al. (1990), also do not cluster in this map, but examples of potentially relevant indicators are allocated to different confrontational clusters such as *verbally defiant*, *enhancing distances/differences* or *physical aggression*. The likely reason for this is that similar to over-compliance type items, those that may be construed in this way (e.g. "broad posture" as a form of self enhancement) are better described at the perception level without attributing deeper cognitive insight.

**Dimensions.** While emphasis has been placed on the need to understand ruptures in order to better predict and respond to them in practice (Norcross & Wampold, 2011), current conceptualisations rely only on the bipolar dimension of confrontation and withdrawal (Safran et al., 1990). This omits particularly relevant points of information that aid recognition and response guidelines. The present research has confirmed that the withdrawal/confrontation dimension is a crucial component in describing the nature of the rupture. However, additional dimensions address factors that are also relevant to understanding and describing the rupture. This model provides extra richness to that understanding of the rupture experience – a crucial component of repair according to Safran et al. (2001) – with regard to the foundation from which these behaviours arise (socially or biologically-based mechanisms) as well as the focus of the behaviour (to whom the behaviour is directed). Being attentive to these additional characteristics allows the therapist to recognise additional facets of the experience, each of which may lead to a greater conceptualisation of the cause and direct the best response to the rupture.

The wide splaying of indicators across the surface of this resultant spherical model further substantiates the significance of the additional dimensions identified in this research. To illustrate the alternate conclusion – that interaction type is the dominant dimension and variance on the two new dimensions is only marginally relevant – the resultant model would look more like an hour glass with most points dispersed at either end of the X axis and with decreased variation on the other two dimensions.

The research on emotional communication supports this need for a more nuanced understanding of emotional expressions. To conclude that ruptures are uni-dimensional avoids important observable aspects. Sanford's (2012) discussion about variations in encoding hard emotions (i.e. the expression of interpersonally-focused emotions such as anger, annoyance) indicates significant interpersonal variation in the associated confrontational expressions. If there were greater consistency within and between people about the manner in which they display anger, for instance, we would predict

that the map showed tighter clustering both between emotion specific behaviours as well as tightening around the confrontational pole.

While confrontational and withdrawal type ruptures are well represented in the literature, the two new dimensions composing this model provide valuable contextual information to complete any rupture conceptualisation. Certain nuances can be attributed to ruptures' meaning and focus that were not possible in the previous construct. Whereas confrontational and withdrawal definitions tend to distinguish all interaction as either towards or away from (Safran et al., 2001), the interpersonal/intrapersonal dimension in this model suggests the intention and the focal point of a behaviour describe two unique components. To illustrate how a confrontational action could conceptually be described as a self-directed action rather than the presumptive interactional type, consider actions that are aggressive by nature yet describe a feature of the actor (e.g. "raised chin"). This is valuable for an understanding of ruptures because awareness of multiple descriptive components will prevent a prescriptive or formulaic therapeutic response based on incomplete conceptions.

The other new dimension identified within this research is Derivation of Meaning. This also provides a different spectrum by which ruptures can be interpreted and reflects the learned and automatic aspects of certain behaviours. The recognition that certain indicators may be driven by individual, cultural or social learning, rather than biologically and physiologically required actions, will hopefully alert therapists to reflect to the potential variance in locutionary intent. This is important in creating a context to understand the emergence of the emotion involved. It may be true that when referring to items closer to the socially constructed pole, therapists should be more discriminating and reflective of personal and cultural learnings that contribute to that behaviour's meaning. Some emotional reactions (e.g. muscle tension) have biological roots underlying their expression. These indicators are largely physiological and hypotheses can be made about a greater degree of universal meaning suggested by these indicators. On the other side of the model are items with more ambiguous meanings that can be differentially interpreted depending on social and personal context. Analysis was



conducted to see if the socially constructed side of the model showed more variance than the biological side according to culture. The null hypothesis could not be rejected in this case, which means that there is not significant evidence in the present data to suggest that cultural variation was more evident with socially constructed-type items. One reason that the samples may not indicate this difference is because the cultural variants may have played less of a role than the individual variants. That is, individual learning and emotive patterns are significantly varied even before accounting for cultural factors.

When defining the dimensions present in the map, consideration was given to describing the behaviours according to the degree of overtness. This was consistent with distinctions made by emotion researchers Sanford (2007; 2012) and Schlegel et al. (2012). It was also suggested by rupture descriptions provided by Aspland et al. (2008) and Colli and Lingardi (2009), where they distinguish direct and indirect ruptures. While there was suggestion that the blatancy of an act is linked to whether the marker is confrontational or withdrawal-based, this seems to conflate rather than disentangle definitions. However, the distribution of the data in 3D did not support a dimension based on this distinction. Possibly, the level of subtlety involved in the expression would represent a fourth dimension. The *stress<sub>i</sub>* scores suggest that a fourth dimension may have added relevant information to the interpretation, but the value of a parsimonious model was chosen over the potentially small gains provided by a fourth dimension. Future validation research may instead suggest a fourth dimension *would* add significantly to the understanding of ruptures without undue loss of simplicity.

**Model incongruities.** Despite the logical groupings that compose the clusters and define the dimensions, the general consistency between samples and the high internal consistency of the final map, certain discrepancies appear within the model. These are potential threats to the overall quality of the model and require explanation.

While the map structure when sorted by octants is largely coherent, some clusters do not fall where they were expected. *Physical aggression*, for example, is allocated to the intrapersonal dimension. When considering the independent sample results,

specifically that the Japanese sample distinguished between physical posturing and interactional aggression, this may explain the perceived misplacement. Perhaps by conflating both aspects of physical aggression, the location of the combined cluster was pulled more towards the intrapersonal side solely because of the number of constituent items. If a different sampling of rupture indicators identified equal numbers of items in each subset, the combined solution might show a distinction more in line with the expected polar locations.

A complete model of rupture indicators would predict that items should be splayed across the entire surface of the map. Exceptions to look for to identify a lack of totality would be indications of gaps or holes in the model, or items that lay significantly closer or further from the surface of the sphere. In the present map, each octant of the map does include a spread of representative indicators with the possible exception of octant 2. This octant does incorporate one cluster (*submissive speech content*), but there is some surface area unrepresented. When considering the item selection process retrospectively, the gap in this octant is unsurprising. When sampling items for inclusion of certain types of indicators coverage could be verified against a physical representation (e.g. facial expressions) to ensure the concept was representatively sampled. The descriptions attributable to verbal disputes are more diverse and less easily defined, however, resulting in only a partial representation of this area of the model.

Despite this exception, most of the map is evenly dispersed with items, suggesting that the model is normal and coverage is sufficient. The reason the gap noted does not negate this conclusion is because while octant 2 is under-represented, it is not *not* represented, suggesting that more diverse examples or items would fill it out, but not significantly alter that section of the model.

### **Implications and Applications of This Research**

In Norcross & Wampold's (2011) summary about the utility of using ruptures and the rupture/repair (R/R) cycle to aid treatment effectiveness, they note that conclusions are tempered by the lack of sound theoretical grounding of the construct. While the

present research does not attempt to address the entire issue, it does aim to begin establishing quality recognition criteria. This research suggests that rupture expression is more complex than our current understandings acknowledge. By identifying the variety of dimensions applicable to rupture indicators, the therapist will be better able to describe and understand rupture presentations. Through an awareness of the range of presentation kinds, therapists should be more able to recognise ruptures in practice. For example, by knowing that aggressive posturing is suggestive of a rupture, a therapist may be more observant about recognising when their client assumes a posture or stance which conflicts with their own. A therapist can then describe this behaviour as a confrontational interpersonal display that relies on socially constructed meanings. Each of these descriptions provides a depth to the understanding of the rupture marker and may potentially guide appropriate therapeutic responses.

The model produced herein provides this requisite theoretical framework for ruptures, which will aid practical recognition and understanding. This is applicable to therapist training, therapeutic practice and research purposes.

### **Training, Supervision and Professional Development**

Researchers have noted that the complex involvement of skills necessary to understand and interpret client emotions requires attention through training and supervision (Kimerling et al., 2000). Guidelines suggest that new therapists should receive training in order to become competent with building TA and responding to ruptures (Horvath, 2001b), but the theoretical grounding for any particular training programs was lacking (Norcross & Wampold, 2011). Having a model that describes the range of expressions involved in communicating negative emotions creates a structure for the requisite training, supervision and professional development efforts. In combination with the call for a better theoretical understanding of ruptures is awareness of the variety of composite presentations. This model provides that underlying structure of the various facets present in rupture indicators. While previous methods for providing this training rely heavily on practical application and reflection (Hatcher & Lassiter, 2007), these efforts were not grounded on a firm understanding of the possible expressions of ruptures. The model proposed provides an understanding of the

presentation according to the relevant spectrums involved and various means of expressing. This provides a format to aid accurate knowledge transmission for training and development.

Training, application and experience in rupture recognition can be facilitated when recognition is based on consistent principles and guidelines. Both Colli and Lingardi (2009) and Safran et al. (1990) note the advantage given to researchers and student therapists who were involved in research about the R/R cycle. Through the process of implementing various recognition strategies to pinpoint markers in their respective studies, these raters gained a greater awareness and recognition of ruptures. The implication is that by highlighting features central to the cycle and developing a focus around these events, recognition was easier with practice (Colli & Lingardi, 2009).

The specific strategies used in those research designs, which contributed to these researchers improving recognition, have not been translated for use in current training programs. There is a lack of emphasis in TA and R/R training on construct models, specific strategies and application. This is likely one reason why training programs to improve TA and rupture resolution are not proven effective (Kaplowitz et al., 2011; Norcross & Wampold, 2011): the lack of theoretically coherent models to inform action. The development of a model that will highlight significant features and inter-relations between rupture attributes will aid new therapists in identifying relevant indicators of ruptures. This model can be implemented into training programs to provide the requisite theoretical grounding that allows for the breadth and variety of potential rupture indicators. By creating a universal structure under which all rupture indicators can fit, this model will be widely applicable to training and ease of knowledge transfer.

**Multicultural competency.** With an increasingly diverse population, therapists are increasingly expected to develop multi-culturally competency. Aside from an awareness of the diverse cultural needs, this also means they should be able to apply therapeutic skills in a way that adapts to cultural requirements and norms. Pending

further validation testing on different populations, this model can potentially describe a structure that is independent of cultural distinctions. Such a universal model will be useful for training therapists to conceptualise ruptures in a consistent way for all cultural contexts. That conceptualisation can then be contextualised to the client while considering additional cultural and individual factors.

A further advantage of this model is the fact that it incorporates and locates socially constructed rupture displays within a context that also describes all observable indicators. This framework aligns itself with guidelines for appropriate multicultural training designs, whereby multicultural aspects are distributed throughout the teaching and not segmented to particular lessons (Abreu et al., 2000). The recognition of training needs that address cultural differences was identified in the Vail Conference in 1973 (Abreu et al., 2000). This model allows a structure and presentation that does not detach cultural variables from universal aspects. Furthermore, as the present research is conducted within and applicable to a New Zealand context for practice, the bicultural and multicultural requirements of this nation reinforce the need to prepare therapists to treat clients of a variety of cultural backgrounds.

### **Professional Practice**

This research was particularly focused on creating a model that can be applied in practice to improve recognition of ruptures as they occur during a therapy session. As far as this researcher is aware, it is the first attempt to create an empirical and comprehensive structure to illustrate what indicators it is possible for a therapist to observe.

Having a simple and well-designed understanding of the variety of indicators that may emerge will hopefully enhance therapists' recognition abilities. The range of items composing the model should alert therapists to the array of presentations that may commonly present, drawing attention to the more subtle signifiers that can be easily overlooked. Through this awareness of the breadth of rupture presentations combined with an indicator taxonomy (i.e. clusters), therapists have a clear means of summarising the presentations they observe according to the observable features involved. Another



benefit of the 12 clusters is to serve as a brief reference for therapists, to ensure they are considering the clients' presentations thoroughly.

Overlapping with these efforts to improve recognition is the benefit of a dimensional structure that can aid rupture conceptualisation. By describing ruptures with reference to their dimensions (i.e. interaction type/derivation of meaning/subject focus), therapists can apply a coherent conception of the presentation and make informed inferences about the rupture. This understanding is useful to devise response strategies for repairing the rift. As an example of the utility of this function, consider that a rupture characterised by physiological withdrawal shown by cringing away from the therapist would necessitate a very different kind of response than a verbal confrontation in which the client is self-deprecating and expresses hopelessness in change.

While current research has focused on identifying successful resolution strategies, the differential advantages of applying various approaches are unclear. This may be because of the lack of standardised repair strategies according to the manner of rupture. Without a consistent way of describing ruptures that indicate appropriate repair mechanisms, there is no way of classifying whether the appropriate repair strategy was employed. Rather, the appropriateness of a strategy is contingent on whether it or not it succeeds, leading to circular conclusions about its efficacy. By allowing for a dimensional description to differentiate rupture types according to their presentation features, therapists could discriminate between resolutions strategies using a consistent explanation of rupture type that does allow for the idiosyncratic and nuanced attributes.

An additional advantage is the facilitation of a consistent and accurate *semantic* framework of the rupture. There is evidence in the literature that frank discussion about the rupture's emergence may be sufficient to achieve repair (Coutinho et al., 2011). A therapist's ability to do this would be enhanced through a well-structured consideration of all presentation aspects. This provides a semantic framework by which the therapist can both perceive and also describe the rupture in a meaningful way.

By virtue of potential gains to rupture recognition ability and accurate conceptualisation, there is range of possible subsequent benefits to this knowledge. Recognition and understanding themselves will hopefully lead to better rates of repair, which will counter many of the previously mentioned threats caused by rupture. Such possible benefits include decreased rates of unilateral termination (Tryon & Kane, 1993), avoiding further alliance decrements (Aspland et al., 2008) and allowing more incidents for enabling therapeutic change (Bennett et al., 2006). These advantages are certainly not guaranteed by greater recognition, but their potential to occur is increased.

### **Research Applications**

Several researchers have called for a greater understanding of TA-related therapeutic skills and how to develop those skills in training (Kaplowitz et al., 2011; Norcross & Wampold, 2011; Safran & Muran, 2006; Skovhold & Jennings, 2005). While the link between repairing alliance ruptures and treatment effectiveness is promising, it is not yet substantiated (Norcross & Wampold, 2011). This is in part due to methodology concerns of identifying ruptures in session, both by the therapist and by external raters (Colli & Lingardi, 2009). Current means often require lengthy transcription processes and are best suited to small N studies (Colli & Lingardi, 2009), which limit the generalisability of results. This comprehensive model that focuses on the rupture event as a discrete entity will aid identification, possibly through improved coding guidelines, and enable a consistent method for describing ruptures included in research. This can inform a streamlined approach for methodological recognition that will allow for greater N studies to be conducted in the future.

By improving utility of rupture recognition, and enabling a consistent approach to describing rupture types, a number of valuable research areas can be explored. These are discussed further in Future Directions at the end of this chapter.

### **Limitations**

There are a few factors that limit the strength of the conclusions drawn in this study. Certain limitations are inherent in the methodology and analysis herein

employed. While efforts were taken to minimise the unnecessary restraints, the threats to conclusion validity are discussed.

### Item Selection

MDS relies on a representative sampling of items to be used in the data collection stage. Since these items comprise the resultant map, it is important that they all provide a consistent and relevant description of the overall construct, and also that the breadth of the construct is depicted by the items. The vulnerabilities included here are that items are either outside of the construct definition or certain aspects of the construct are excluded or under-represented. During the data generation stage in which the rupture indicators were selected, efforts were made to try to identify a sufficiently diverse sample of items. Particular guidelines to achieve this goal were established prior to data generation and confirmed subsequently (Methods), although further actions may improve the quality of future item sets. Competing values were incorporated in this attempt: to provide as wide an array as possible while limiting the overall number of items to ease the task for participants. One collateral result of trying to reach this balance was the combining of items such as speaking louder than normal and speaking quieter than normal into the formal item “volume change.” Instances where this approach was taken may have lead to an artificial inclusion or stretching of the relevant clusters to accommodate both meanings when they should have been listed as separate items. The *vocal attributes* cluster contains many instances of items like this that represent both A+ and A-. Future refinements of this model may benefit from disentangling particular items so the meaning is more specific.

While guidelines were established to ensure that items sampled a variety of modalities (i.e. facial expression, body language, verbal characteristics and speech elements), some areas or gaps in coverage persisted. For example, the *submissive speech content* cluster sits apart from other items and is composed of only three items. The depth and variety of indicators shown in facial expressions, on the other hand, is well-represented and accounted for. Now that preliminary clusters have been identified, future research may seek to explore the gaps in coverage to ensure that items represent



the full range of expression. With each adjustment and refinement of terms, the model will adapt to incorporate its relationship to all other items.

One trait of MDS is both an advantage and a detriment to the ensuing results: all items included in the testing stage are necessarily a component of the resulting model. The advantage is that even items that do not tie closely with other clusters are still represented and allocated within the resulting shape, ensuring important information is not unnecessarily excluded. Unfortunately, items may be included that are outside of the original construct or are of such a different kind that they distort the final model by forcing it to accommodate irrelevant data. One attempt to identify data of a different kind was conducted by sorting items according to their absolute dimensional values (as explained in Results). Items *should* appear in the overall map and splay across the surface of a sphere whereby each item is roughly equidistant from the centre of the map. While multiple factors can impact the closeness or distance to the map origin, one concern is that items central to the map are either too generic or too vague. If they were non-specific and therefore considered similar to items across the entire map, then their inter-item similarity values would pull them towards the origin of the map. If the items were ambiguous, then participants may have used highly diverse or inconsistent meanings causing the inter-item similarities to negate each other, also pulling the item towards the centre of the sphere. An alternative concern is that particular items were *overly* specific or highly unrelated to most other items. This would tend to push that item further due to their high dissimilarity values and might appear at a greater distance from the centre of the model as a result. Certain items were identified by looking at their distance from the map surface – “shifting positions,” “increase in non-speech sounds,” “sitting on edge of seat” and “fidgeting.” It is recommended that these items be reviewed in future iterations to determine whether they carry a different specificity or kind of description than most items. Possible rewording or disentangling of the item may improve map quality.

The previous consideration only distinguishes one type of inappropriate item, however the outliers are due to generality or inconsistent specificity. There may also be an imbalance of item sampling that distorts the overall map. A concern about

dimensional imbalance may not be relevant to this map because there is a nearly even split of items on each side of the dimensions, suggesting that no particular polar-type was over- or under-sampled (i.e.  $x+/x- = 39/33$ ;  $y+/y- = 39/33$ ;  $z+/z- = 36/36$ ).

The means of sampling the items was also vulnerable to threats of circular logic. That is, by virtue of item sampling following a taxonomic methodology (Coxon, 1999) of negative emotions, the resulting clusters would then represent the eight emotions used in item searches. This concern was nullified for a few reasons. In part, all items are context-dependent. Most items, in fact, have no intrinsic emotional connotation at all and can justifiably be attributed to social norms or environmental factors rather than being a direct translation of emotional expression (Kappas & Descôteaux, 2003) without additional contextual factors. For example, a “fake smile” may simply be a socially normed behaviour to greet people with a smile regardless of intrinsic happiness. Or a furrowed brow could be a signal of concentration with no particular emotional valence. A second reason that circuitry is avoided is because items are not mutually exclusive to any particular emotion. Tension around the mouth for example was selected from searches conducted in multiple emotions including anger, contempt, disgust and distress. Because several items were present in many emotion-linked searches, but not defined by any particular emotional expression, this avoids suggestion that items were selected by emotion and then sorted into those corresponding emotions. These fears were further allayed because the resulting clustering displayed no obvious sorting due to emotional descriptions.

### **Item Validation**

Individual inspection of participant data suggests that the study would have benefitted from more testing to validate the items included. Items that were noted as being potentially ambiguous were identified using ad hoc evaluation and that might possibly have skewed the results include “arms around body” and “palms facing forward.” The first item was differentially interpreted by each sample: the New Zealand one lumped this item with other self-protective features, whereas the Japanese sample assumed this body position to imply physical aggression. The ambiguity of the phrasing meets both of these explanations, as either a defiant and firm stance or one of

discomfort, sadness and fear. In the combined solution, it clustered most closely with the more neutral group (on the withdrawal-confrontational dimension) of self-adjustment. “Palms facing forward” is another example of a two-solution phrase. It can be understood as either holding one’s hands out from the body and palms facing directly towards the other (indicative of a ‘stop’ or ‘wait’ signal), and also it was understood as being a palms facing skyward as if signaling acceptance. These alternate explanations were identified in unstructured discussion between participants following data collection. Aside from items that may hold contradictory meanings, some definitions were not understood clearly by all participants (e.g. ambivalent speech). Even though idiomatic examples were included on the item card, unclear definitions may contribute to item drift in the resultant model. In the combined solution, these items were located in clusters that are internally consistent, while outliers in item interpretation were minimised by virtue of the large samples included. However, items such as these warrant further consideration in future validation studies.

While effort was made in preliminary selection to avoid this potential flaw (i.e. careful reflective inclusion and adjustment of item phrasing and expert consensus), additional steps that would have benefitted include pilot testing of the items or separate sample testing where participants provided a verbal commentary on their sorting procedure (Coxon, 1999). This would allow the researcher to ascertain whether the intended characteristics of an item are reliably interpreted. By including pilot testing of participants that represent both sampled populations, consistency of meaning across all respondents could also have been assessed and thus accounted for some degree of differential cultural interpretations.

### Sorting Data Limitations

Sorting data itself has a number of inherent limitations. The procedure necessarily gives approximate or indirect similarity data (Kirkland et al., 2003). This is due to the large number of items included. Whereas it would not be too mentally taxing to ask respondents to directly assess similarity scores between a small set of items, this would account for too great a strain in time and effort for participants to calculate the 2,628 combinations in the present item set (i.e.  $\sum_{n=1}^{72} n = 1+2+3+ \dots +72$ ).

Certain threats are sufficiently dealt with by relying on large enough numbers for statistical analysis. For example, idiosyncrasies in participant response styles may alter particular similarity scores (if one person chose to group items by number of composite syllables, for example, this might potentially corrupt the results). However, having exceeding the guidelines for participant numbers set forth in previous work (Coxon, 1999), this threat is virtually quashed. Missing data and potentially misunderstood directions also contribute to errors in conclusions. Only a few obvious instances of missing data were recorded in this study ( $N=5$ ), and no obvious outliers were identified in the analysis stage.

As with any form of analysis, there are competing strengths and weaknesses given to the analysis that serve to temper conclusions that can be drawn. While the data gathered in this study support the final 3D structure, MDS is more reliable on small-scale relationships (i.e. what items clump or cluster closely) with a decreased emphasis on global inter-relationships. The implication of this is that while the validity of clusters is substantiated by the data gathered, the global placement of items is less well supported. The complexity of this issue is that conclusions are drawn from the overall placement of items and themes around the surface of the sphere, although the exact placement of items in relation to each other on the large scale are less refined. To use an analogy, an MDS constructed map developed from country sorting data would reliably place the countries of the British Isles as closely related to each other, but South American countries could be displaced by several degrees without raising alarm about the quality of the data. Fortunately, this disadvantage does not discount the value of dimensional and polar definitions. While specific items or clusters are not comparable at greater distances, the general shifts over the entire model are still meaningful.

In an effort to minimise the impact of this hindrance, Kirkland et al.'s (2003) card sort approach included the *opposites* phase in its GOPA methodology. However, this amendment does not fully balance MDS's global weakness, and the *opposites* phases' more significant purpose in the present research was to prompt participants to separate items that are alike in type but distinct by dimension (e.g. 'moving towards' and

‘physical distancing’). Further testing would substantiate the overall structure of the map by including alternate discriminatory sorting methods that were stronger in global scale comparisons. Certain methods include using Likert type judgments for a subset of items or using a triadic sort method as described in Coxon (1999) and Harvey et al. (2012). These alternate methodologies would produce a map that can be compared to the present one to determine whether the overall structure is significantly altered. While these could improve the validation of this model, practical qualifications justified reliance on the GOPA method over others for initial model construction. In particular, the alternate methods may be particularly taxing for participants due to the large number of items. Subsequent research using these approaches would be best served by further reducing the item set.

### External Validity Concerns

The most relevant stipulation to place on conclusions drawn from this model is that the presence of any particular rupture indicator does not guarantee rupture existence. As with most therapeutic interactions, any conclusions should be balanced with a rational assessment of the circumstances and situation context, and a degree of clinical judgment is often required. As the items that comprise this model are only useful as *potential* indicators of rupture, as with most information relevant to the therapeutic encounter, it is necessary to contextualise the encounter before drawing conclusions. Alternate explanations can be used to demonstrate non-rupture uses of these indicators, for example, showing aggressive posturing that references an external event rather than being directed towards the therapist.

While noting the presence of any particular indicator is not sufficient to recognising a rupture, this research is a necessary first step in developing a model to describe the range of indicators. As a first step, however, there are expected limitations with regard to the model’s application to different populations distinguished by qualifiers such as culture, age or gender.

One benefit of this research design was to determine if the same model could apply to both a New Zealand and a Japanese population, although due to the sample

selection, an additional confound may have influenced these samples. While age was not collected from participants in the New Zealand sample, these participants were pulled from the general population and reflect an older population than the Japanese sample. One implication is that the differences between the two models may be explained also by group differences according to sorting strategies or attention longevity. This lack of generalisability was understood with construction of the present study, and as the overriding purpose was to create a preliminary construction of this map, goodness of fit to external populations remains a task for future research. Despite either type of group differences, the overall map structure was deemed sufficiently similar to produce a bi-cultural map.

Another limitation is that the items comprising the map represent indicators of rupture according to the predominantly western literature about TA (i.e. correlated with negative emotions). Different cultural views on the nature of the bond or partnership within treatment are significant barriers to justifiably translating the expression of these emotions into suggestions of alliance rupture (Agnew-Davies et al., 1998).

The link between indicators of rupture is presumptive of the established connection described between negative emotional experiences, interpersonal communication and alliance ruptures as outlined at the start of this thesis, although the track utilised in the method required item selection according to negative emoting. While conclusions assume that the resulting model represents the range of presentations of a rupture, this necessitates an underlying emotional reaction to the rupture. While this link may seem to be intrinsic to ruptures (when recognising emotions to be a form of relevancy detector), this is a theoretical link supported by the literature on ruptures and emotional communication, but not directly explored in its own right.

Whilst the MDS solution produced by this study relies on numerical data, the interpretation of the solution is reliant on subjective analysis. The dimensional definitions applied to the model were selected as best defining the construct created. Care was taken to identify and name appropriate clusters, dimensions and poles, but

these decisions were based on an individual's perspective of the data and the literature. Future researchers may suggest variants to these features.

### **Future Directions**

Several suggestions have already been identified with regard to future directions based on this research. Before these explorations into improving rupture recognition can begin, however, several intermediate steps logically follow from the present research.

### **Validation**

Initial compulsory requirements centre on validating and substantiating the claims made herein. The requisite first step to achieve this would be to examine and improve upon the item set used in data collection. As mentioned above, pilot testing with various population samples would verify the quality of the item set used. This would improve the reliability of item interpretations and the overall validity of participant ratings. Also, the fact that there are some small gaps on the present map suggest that time would be well spent identifying potential items that would better represent those blank spaces, for example, items that may expand upon *submissive speech content*.

Using the newly developed item set, the same data collection methods could be used on a variety of populations to explore whether there is support for a consistent and generalisable model across age, gender and culture. The data gathered from these studies could be analysed in a similar way as done here. To expand on the weaknesses of the GOPA sort method with regard to global structure, different approaches may also be employed such as either a method of triadic sorts to see if similar conclusions are reached when alternate methods are used to obtain similarity data.

### **Avenues for Future Research**

Following validation procedures and fine-tuning of this model, the model itself can then be used in research to better understand and the variety of rupture presentation types. This could be done using another card sorting technique, known as the Method of Successive Sorts (MOSS; Kirkland et al., 2003), to differentiate types of ruptures according to presentation profiles. These different rupture types would create a visual

overview of what a particular rupture would look like, defined by collections of individual indicators, and inform further research objectives.

Not only would identifying rupture profiles aid resolution strategies, but it would also provide a way to differentiate rupture presentations according to circumstance or other factors. This opens the door to multiple valuable uses. Rupture types could be sorted according to the identification rates, and by determining rupture types that are most vulnerable to misidentification, training strategies can be implemented to enhance type-specific recognition.

Future research may expand on the potential applications of this model with the overarching goal of enhancing treatment effects. For example, research may identify group differences between the MOSS-derived rupture profiles and how they respond to particular resolution strategies. This will promote individualised or contraindicated therapeutic responses according to presentation and potentially enhance treatment delivery that focuses on TA aspects by allowing therapists to identify and respond differentially depending on the manner of presentation.

Potentially, researchers could also investigate habitual differences in rupture types according to client characteristics (e.g. depressive, borderline personality disordered, male or female), therapist characteristics (therapeutic approach or interaction styles) as well as dyad differentiations (cultural, gender or age matching). Information that better describes the multitude of presentations could potentially improve targeted workshops for therapists, for example, by focusing resolution strategies to rupture types relevant to particular therapeutic approaches.



## CHAPTER SIX

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### Conclusion

Even though TA is one of the most broadly studied common factors of therapy, the research on ruptures – an obvious and specific threat to TA – is largely incomplete. While conclusions and recommendations have been provided about repair strategies, there was no apparent evidence about how to define, describe or recognize ruptures, meaning many prior findings were ungrounded. Even without direct studies investigating rupture recognition rates, there is reason to believe that missed ruptures are both frequent and detrimental to treatment.

This research has identified a distinct and applicable way of describing ruptures using the discrete emotive expressions associated. By providing a large set of unambiguous physical attributes, and using an analysis technique to structure this information, an empirically testable model has been created. This clear and easily summarized model of ruptures can be implemented in a variety of applications to improve reliability of rupture recognition. From this reliable and valid assessment of ruptures, further rupture corollaries can be explored, including justifications for previously identified repair strategies.

The information gathered within this research confirmed expectations that past conceptions of rupture were incomplete and disregarded valuable information. This model has provided a structure for understanding ruptures with reference to three informative questions: what type of interaction is presented, on whom is the behaviour focused and from where did that behaviour derive its meaning. The model is devised in a way that a near-exhaustive categorization of kinds of rupture indicators has been identified (the completeness of the model will be addressed in further validation efforts), producing 12 different clusters of rupture presentations that are intended to cover the range of possible expressions observable to another (e.g. therapist or researcher).

Not only does this model rely on indicators that are both observable and non-interpretative, but it also provides a structure that is at least initially supported as

recognizable within the context of Japanese culture. This provides an impetus to continue testing and development of the model to see if it will be useful to conceptualize rupture in other cultural samples. We are living in an increasingly global society, and for ethical practice, the same high quality therapeutic treatment should be accessible to everyone, regardless of culture. One component of this is that therapists be skilled to utilize these informative features of client communication in order to respond to TA. While ruptures are just one influential TA factor among many and contribute only indirectly on treatment outcome, they have the potential to drastically alter the quality of treatment received and deserve greater recognition in practice and research.

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## APPENDICES

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## APPENDIX A: Item Generation References

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## APPENDIX B: Item List

1	Ambivalent Speech (e.g. wavering or sitting-on-the-fence)	<i>Ambivalent Sp.</i>
2	Arms Around Body (e.g. body hugging or crossed arms)	<i>Body Hugging</i>
3	Attempts for Forgiveness	<i>Tries for Forgiveness</i>
4	Avoiding Eye Contact	<i>Avoiding EC</i>
5	Blinking More than Normal	<i>Blinking</i>
6	Boasting	<i>Boasting</i>
7	Body Touches	<i>Body Touches</i>
8	Breathing Changes (e.g. holding breath, breathing faster or heavier)	<i>Breathing Changes</i>
9	Brisk or Forceful Movement	<i>Brisk Movement</i>
10	Broad Posture or Stance	<i>Broad Stance</i>
11	Change in Assertiveness	<i>Assertiveness change</i>
12	Change in Pitch or Inflection	<i>Pitch/Inflection</i>
13	Changing or Avoiding Subjects	<i>Avoiding Subjects</i>
14	Chin Raised	<i>Chin Raised</i>
15	Concern about Relationships with Third Parties	<i>3rd Relationships</i>
16	Cringing	<i>Cringing</i>
17	Crying, Tearing or Weeping	<i>Crying</i>
18	Disagreeing with Other	<i>Disagreeing</i>
19	Dismissive Hand Gestures	<i>Dismissive Gestures</i>
20	Efforts to Leave Early	<i>Try to Leave Early</i>
21	Excessive Swallowing	<i>Swallowing</i>
22	Excuses or Denials	<i>Excuses/Denials</i>
23	Eyebrow Tension (e.g. lowered, raised, furrowed)	<i>Eyebrow Tension</i>
24	Face Colour Changes (e.g. blushing)	<i>Blush/Pale</i>
25	Face Hiding	<i>Face Hiding</i>
26	Face Touches	<i>Face Touches</i>
27	Facial Expression Conflicts with Other (e.g. smiling when other frowns)	<i>Expression Conflict</i>
28	Fake Smile	<i>Fake Smile</i>
29	Fidgeting (e.g. tapping feet, chewing pen, moving object in hand)	<i>Fidgeting</i>
30	Fixed Eye Contact	<i>Fixed EC</i>
31	Frequent Gaze Shifting	<i>Gaze Shift</i>
32	Gaze Shift to Third Party	<i>Gaze to 3rd</i>
33	Hand Tension (e.g. clenched fists/trembling)	<i>Hand Tension</i>
34	Hands Hidden	<i>Hands Hidden</i>
35	Hands Together	<i>Hands Together</i>
36	Increase in Non-speech Sounds (e.g. gasping, sighing)	<i>Non-speech Sounds</i>
37	Increase in Speech Errors/Hesitations	<i>Sp. Errors</i>
38	Jerky or Unsmooth Movement	<i>Unsmooth Movement</i>
39	Leaning Away	<i>Leaning Away</i>

40	Minimizing/Trivializing	<i>Minimizing</i>
41	Monotonous Speech	<i>Monotonous sp.</i>
42	Mouth Slack or Open	<i>Mouth Slack</i>
43	Moving Towards Other	<i>Moving Towards</i>
44	Muscle Tension (e.g. rigid posture)	<i>Muscle Tension</i>
45	Nervous Laughter	<i>Nervous Laughter</i>
46	Nose Wrinkled	<i>Nose Wrinkled</i>
47	Nostrils Flared or Tightened	<i>Nostrils</i>
48	Not Talking or Responding	<i>Not Responding</i>
49	Palms Facing Forward	<i>Palms Forward</i>
50	Physical Aggression	<i>Physical Aggression</i>
51	Physical Distancing (e.g. backing away)	<i>Physical Distancing</i>
52	Posture Conflicts with Other (e.g. standing when other is sitting)	<i>Posture Conflicts</i>
53	Putting Self Down	<i>Putting Self Down</i>
54	Rate of Speech Changes	<i>Rate of Sp. Changes</i>
55	Shifting Positions (e.g. moving in chair, crossing/uncrossing legs)	<i>Shifting Positions</i>
56	Short or Abrupt Speech	<i>Abrupt Sp.</i>
57	Shoulders Slumped or Hunched Forward	<i>Shoulders Hunched</i>
58	Sitting on Edge of Seat	<i>Edge of Seat</i>
59	Slowed Movement	<i>Slowed Movement</i>
60	Slumped Posture	<i>Slumped Posture</i>
61	Speaking in Absolutes (e.g. all/nothing; good/evil)	<i>Absolutes</i>
62	Starts Mumbling	<i>Mumbling</i>
63	Suppressed Smile	<i>Suppressed Smile</i>
64	Sweating	<i>Sweating</i>
65	Tension Around Eyes (e.g. narrowing, widening, closed tightly)	<i>Eye Tension</i>
66	Tension Around Mouth/Lips (e.g. pressed lips, frowning, lip raise, etc.)	<i>Mouth Tension</i>
67	Tone Changes	<i>Tone Changes</i>
68	Trembling	<i>Trembling</i>
69	Turning Away	<i>Turning Away</i>
70	Unfocused Gaze	<i>Unfocused Gaze</i>
71	Verbal Aggression (e.g. accusations, insults)	<i>Verbal Aggression</i>
72	Volume Change	<i>Volume Change</i>

*Note.* Italicised phrasings in right hand column represent abbreviated terms used in some tables and figures.



## APPENDIX C: New Zealand Participant Packets



### MASSEY UNIVERSITY COLLEGE OF HUMANITIES AND SOCIAL SCIENCES TE KURA PŪKENGĀ TANGATA

## Understanding Alliance Ruptures: What Do They Look Like?

### Information Sheet

Hello! I'm Sara Rosenblatt and I'm a graduate student at Massey University currently working on my Masters Degree in Psychology. My thesis supervisors are Dr. Shane Harvey and Dr. Don Baken, director and research consultant at the Turitea Psychology Clinic at Massey University.

### Some Background

Few meaningful relationships are smooth sailing. More often there are highs and lows and moments where the quality just isn't where it should be. This is a big issue for psychologists. An unfixed problem in the bond between the client and therapist can cancel out the value of treatment. Luckily, just like when you work through an argument with a friend or partner and come out stronger on the other side, the same can happen between therapist and client. This means more success and improvement in therapy.

But sometimes it's hard to tell there's a problem at all: the signs we use can be very subtle (shifting in your chair, avoiding eye contact). Through this research, I'm trying to create a model of the ways we behave when we're unhappy with another person. Ultimately, my hope is this will guide therapists and improve their relationships with clients

I would appreciate your input in understanding what this may look like and invite you to take part in this project.

### The Next Step

If you choose to participate, you will get an instruction sheet and a deck of cards each listing a type of behaviour. You will be asked to sort these cards by similarity. The task will take about 60 min and can be done at your convenience, even in front of the TV if you like. As a token of my appreciation for your time, everybody who lends a hand will go in a draw to win a \$50 petrol voucher.

I am looking for 30 adult participants to help out. This is the minimum number required for the type of statistical analysis I'm using.

When I receive everybody's responses, the data will be analyzed to create a map of how closely these behaviours relate. The concept is the same as a geographical map that shows in physical space how close two towns are.

### What About Your Info

All information gathered (e.g. consent forms and raw response sheets) will be kept confidential. Only you, my supervisors and I will have access and these will be stored in a locked cabinet in Dr. Shane Harvey's office and retained for review purposes. After five years, this information will be destroyed.

When the study is complete, I will distribute a summary of the research findings. I will be available to discuss these results with you if you wish.

**Your rights**

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- Ask any questions about the study at any time during participation
- Provide information on the understanding that your name will not be used unless you give permission to the researcher
- Be given access to a summary of the project findings when it is concluded

**Who to contact**

If you would like to know more, please do not hesitate to contact me directly, or you can reach my supervisors with any queries or concerns:

Sara Rosenblatt  
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027 256 9746  
06 325 8458

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[S.T.Harvey@Massey.ac.nz](mailto:S.T.Harvey@Massey.ac.nz)  
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*"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.*

*If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 5249, email [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz)".*



**MASSEY UNIVERSITY**  
**COLLEGE OF HUMANITIES**  
**AND SOCIAL SCIENCES**  
**TE KURA PŪKENGĀ TANGATA**

## **Understanding Alliance Ruptures: What Do They Look Like?**

### **PARTICIPANT CONSENT FORM - INDIVIDUAL**

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

- ☐ I agree to participate in this study under the conditions set out in the Information Sheet.
- ☐ Yes, I would like to be entered into the raffle for a \$50 petrol voucher. The best way to contact me if I win is: \_\_\_\_\_
- ☐ Yes, I would like to receive a summary of the overall findings of this study. Please mail/email a copy of the findings to: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Signature:**

**Date:**

**Full Name - printed**



## Understanding Alliance Ruptures: What Do They Look Like? Instruction Sheet

### About this Task

We use the acronym, GOPA to describe the four phases involved: **G** = Group, **O** = Opposite, **P** = Partition, **A** = Add. The entire exercise will take about 45 minutes (please spend about 5 minutes working through these guidelines).

### Getting Started

In front of you, there should be a deck of item cards (please shuffle these before starting), a record sheet for entering your responses, a pen or pencil and these instructions.

Start by looking over the record sheet to identify the location of each phase's response section. You can read over the summary notes on the record sheet now to get a feel for what each step asks you to do.

Find a large flat surface to work at. It is easiest if you have about a meter of counter space on which to spread out the cards and groupings.

### About the Items

Each item represents an observable behaviour shown by one person in the context of a two-person interaction. Some items reference the other person involved. Occasionally, an item mentions somebody not directly involved in the interaction, either because they are not present or they are not the main players. The distinction is shown on the item cards by using the term "self" to refer to the person being observed, "other" to refer to the second person involved in the conversation and "third party" to mean anybody else.

### Phase One – Grouping

Take the shuffled card-item deck. Read the top card's statement and place it at top left of your working space so you can still see what it says. Then read the second item and make a decision. Does that second item belong in the same general group as the first one, or should it be placed into a new group? A "group" consists of those items you think are in some way similar, belonging to the same general family. If you think it belongs within the same family group then place the second item immediately below the first one (families run down, as columns). However, if you think the second item is unrelated and would belong in a new family, then start a new column by placing that item beside the first one, to the right. Any reasonable type of relationship is acceptable when deciding about a family's membership. You only need to justify family group relationship criteria to yourself.

Now, go ahead and place all the items into various family groups. As soon as you set out a few items this will begin to make sense. Try to make up between 8 and 16 families but with no more than 7 members in each one. A family can have just one item member if there are no apparent relations.

**Record your answers.** When you are satisfied these family groups make sense (and you may have to move the items around to firm these up) then print the numbers from each family onto the lines provided on the response page. For this task, each family's item numbers will be printed onto a separate row. The top line has an example with a 7-item family group, namely: 14, 5, 21 .... (Do, please, print neatly.)

#### **Phase Two – Opposites:**

This time, look over the whole families and form in your mind a common theme for each one: what makes the items in each family stick together. Remember, for this phase we are focusing upon whole families and not separate items.

When scanning these families look for those that seem to be “opposites”, at the extreme from each another. We find that in any item set there are generally two or three sets of quite different families.

**Record.** When you find a pair of opposites, enter onto the response form spaces provided any one item number selected from each of those two groups. (The reason for entering only one item number is straightforward, because the whole families have been described in phase one above then any one item number from a single family group will stand for the whole group.)

There is space to provide for up to six sets of family opposites. Try to find at least two.

#### **Phase Three – Partitioning (sub-dividing)**

Using the groups from phase one, for any family with 3 or more members it may be possible to find sub-groups within each whole family. (Families with only 1 or 2 members do not have subgroups.) Do keep families intact; **do not** move individual items between families.

One way to do this is to rearrange items within each family so subgroup members are kept together, leaving a small gap between them. In some cases there will be no subgroups because a family group is made up of very similar items. However, in most cases there will be some slight differences and it's these differences we want to know about.

**Record.** When sub-family groups have been formed use brackets on the recording form to show what they are. For all families that do have sub-groups, rewrite all item numbers on exactly the same line as in phase one but this time use brackets to indicate how sub-groups are formed. Our example shows the use of brackets.

#### **Phase Four – Adding**

This time we are asking you to merge similar family groups together. Go right back to the original family groups created in phase one, above. Survey these whole families again (as was done in phase 2). This time though the idea is to join families up, one pair at a time. Find the two most similar families. Then physically shift a whole family's items onto another one every time a merger occurs. This way it is clear which item-families have been joined up. It is possible to add onto a previous merger. But once a merger has occurred it cannot be undone. Several families will not join up because they are so different from each another. In general though at least 3 family mergers may be found.

**Record.** For recording purposes, as each merger occurs indicate on the response page spaces provided a single pair of item numbers, selecting any one item number to represent each family being joined together.

$$(12 \quad 43 \quad 22) \quad (1 \quad 7) \quad (78)$$



### Phase two – Opposites

Look over the phase 1 groups to find which are the most different. Record these “opposites” by entering any one item number from each group on the spaces below. Try to find at least two sets of opposites. Use your own judgment. Leave the item groups intact. Do NOT move items around.

Opposite set 1: \_\_\_\_, \_\_\_\_#    Opposite set 2: \_\_\_\_, \_\_\_\_#    Opposite set 3: \_\_\_\_, \_\_\_\_#

Opposite set 4: \_\_\_\_, \_\_\_\_#    Opposite set 5: \_\_\_\_, \_\_\_\_#    Opposite set 6: \_\_\_\_, \_\_\_\_#

### Phase four -- Adding

This time join together the most similar groups in phase 1. Physically place these similar Phase 1 item groups together and enter any one item number from each joining group onto the spaces below. Only some groups will join up, many will not. Try to make at least two merges. If there are more than three, continue showing item pairs.

merger a) \_\_\_\_, \_\_\_\_#    merger b) \_\_\_\_, \_\_\_\_#    merger c) \_\_\_\_, \_\_\_\_#

merger d) \_\_\_\_, \_\_\_\_#    merger e) \_\_\_\_, \_\_\_\_#    merger f) \_\_\_\_, \_\_\_\_#

Thank You for Your Time ☺

**APPENDIX D: Pre-translated Revisions for Japanese Packets****Understanding Alliance Ruptures:  
What Do They Look Like?****Information Sheet**

Hello! I'm Sara Rosenblatt and I'm a graduate student at Massey University currently working on my Masters Degree in Psychology. My thesis supervisors are Dr. Shane Harvey and Dr. Don Baken, director and research consultant at the Turitea Psychology Clinic at Massey University.

**Some Background**

Client-therapist relationships are similar to any other close relationships in life. Often the relationship is strong, but we may also experience rifts and distancing from each other.

This is a big issue for psychologists. An unfixed problem in the bond between the client and therapist can interfere with treatment. Luckily, just like when you work through an argument with a friend or partner and come out stronger on the other side, the same can happen between therapist and client. This means more success and improvement in therapy.

But, sometimes it's hard to tell there's a problem at all. The signs we use can be very subtle (shifting in your chair, avoiding eye contact). Through this research, I'm trying to create a model of the ways we behave when we're unhappy with another person. Ultimately, my hope is this will guide therapists and improve their relationships with clients

I would appreciate your input in understanding what this may look like and invite you to take part in this project.

**The Next Step**

If you choose to participate, you will get an instruction sheet and a deck of cards each listing a type of behaviour. You will be asked to sort these cards by similarity. The task will take about 60 to 90 mins and can be done at your convenience. As a token of my appreciation for your time, everybody who completes the task will receive a \$20 voucher.

I am looking for 30 Japanese adult participants to take part. This is the minimum number required for the type of statistical analysis I'm using.

When I receive everybody's responses, the data will be analyzed to create a map of how closely these behaviours relate.

A second study is also being analyzed using an English speaking New Zealand sample. These studies will be compared to consider whether one map is applicable across cultures.

### **What About Your Info**

All information gathered (consent forms and raw response sheets) will be kept confidential. Only you, my supervisors and I will have access and these will be stored in a locked cabinet in Dr. Shane Harvey's office and retained for review purposes. After five years, this information will be destroyed.

When the study is complete, a summary of the findings will be provided to International Pacific College.

### **Your Rights**

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- Ask any questions about the study at any time during participation
- Provide information on the understanding that your name will not be used unless you give permission to the researcher
- Be given access to a summary of the project findings when it is concluded

### **Who to Contact**

If you would like to know more, please do not hesitate to contact me directly, or you can reach my supervisors with any queries or concerns.

Sara Rosenblatt  
[Sara.Rosenblatt@me.com](mailto:Sara.Rosenblatt@me.com)  
027 256 9746

Dr. Shane Harvey  
[S.T.Harvey@Massey.ac.nz](mailto:S.T.Harvey@Massey.ac.nz)  
06 356 9099, x 81742

Dr. Don Baken  
[D.M.Baken@Massey.ac.nz](mailto:D.M.Baken@Massey.ac.nz)  
06 356 9099, x 2137

*"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.*

*If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 5249, email [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz)".*



MASSEY UNIVERSITY  
COLLEGE OF HUMANITIES  
AND SOCIAL SCIENCES  
TE KURA PUKENGĀ TANGATA

## **Understanding Alliance Ruptures: What Do They Look Like?**

### **PARTICIPANT CONSENT FORM**

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to participate in this study under the conditions set out in the Information Sheet.

Age: \_\_\_\_\_

I am: Male / Female (please circle one)

Signature:

.....

Date:

.....

Full Name - printed

.....

## Understanding Alliance Ruptures: What Do They Look Like?

### Instruction Sheet

#### About the Items

Each item represents an observable behaviour shown by one person in the context of a two-person interaction. Some items reference the other person involved. Occasionally, an item mentions somebody not directly involved in the interaction, either because they are not present or they are not the main players.

#### Getting Started

You will need: (a) item cards, (b) response sheet (c) pen or pencil, (d) these instructions. Please find a large flat surface at which to work. There are four phases involved and the entire exercise will take about 60-90 minutes. It is easiest to do the entire exercise in one sitting so your decision process is clear throughout.

#### Phase One – Grouping

Start by sorting all the items into groups. A group consists of items that you think are similar. You do not need to explain the criteria you use, but it should make sense to yourself in some way.

You should have between 8 and 16 groups, with no more than 10 items in any one group. A group can have only 1 item if there are no apparent relations.

One way to do this is by placing the items one by one on the counter top and deciding if they should be grouped with items already shown or if they should be the first item in a new group. By this method, similar items can be placed below each other creating a column. Each column would be an individual group.

**Record.** When you are satisfied with the families you have created, record these on the answer sheet using the numbers in the top left hand corner of each card. The top line of the record sheet shows an example with a 7-item family group.

**!!!!!! IMPORTANT!!!!!!**  
**KEEP THESE GROUPS TOGETHER**  
**TO USE IN THE FOLLOWING PHASES**

#### Phase Two – Partitioning

Using the original groups, try to subdivide the items even further. (Do not move items between groups; only consider one group at a time before moving on to the next). In some cases there will be no subgroups because a family group is made up of very similar items. However, in most cases there will be some slight differences.

It may help to organize each group within a column and show a small space between subgroups to differentiate.

**Record.** Transcribe the numbers again, but this time use brackets to indicate what items belong to the same subgroups. All subgroups within one group should be written on the same line: the line opposite the original grouping from phase one.

**Phase Three – Opposites:**

Return to the original groups from phase 1. Considering the *whole* group, try to find another group that seems to be opposite (or most dissimilar). This can be aided by trying to “name” or form a common theme for each group. Not every group will have an opposite. Try to find at least two.

**Record.** When you find a pair of opposites, enter any one item number for each group onto the same line. (Because the entire group has been transcribed in phase one, any single item will stand for the whole group).

**Phase Four – Adding**

Return to the original groups from phase 1. This time look between the groups and look for ways to merge groups together. In some cases, multiple groups can be unified into one. For ease of recording, it may be clearer to slide group columns along side each. This way you can tell they are united but still differentiate between groups. Not all groups will merge.

**Record.** Similar to phase 3, select one item number for each group and note pairs of mergers in the spaces provided.



**Phase three – Opposites**

Look over the original groups to find which are the most different. Record these “opposites” by entering any one item number from each group on the spaces below. Try to find at least two sets of opposites. Use your own judgment. Leave the item groups intact. Do NOT move items around.

Opposite set a): \_\_\_\_, \_\_\_\_# Opposite set b): \_\_\_\_, \_\_\_\_# Opposite set c): \_\_\_\_, \_\_\_\_#

Opposite set d): \_\_\_\_, \_\_\_\_# Opposite set e): \_\_\_\_, \_\_\_\_# Opposite set f): \_\_\_\_, \_\_\_\_#

**Phase four – Adding**

This time join together the most similar groups in phase 1. Physically place these similar Phase 1 item groups together and enter any one item number from each joining group onto the spaces below. Only some groups will join up, many will not. Try to make at least two merges. If there are more than three, continue showing item pairs.

merger a) \_\_\_\_, \_\_\_\_# merger b) \_\_\_\_, \_\_\_\_# merger c) \_\_\_\_, \_\_\_\_#

merger d) \_\_\_\_, \_\_\_\_# merger e) \_\_\_\_, \_\_\_\_# merger f) \_\_\_\_, \_\_\_\_#

**Thank You for Your Time ☺**



## APPENDIX E: Japanese Participant Packets



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TE KURA PUKEKA TANGATA

### 人間関係の傷つきを理解する：傷はどう見えるか？

#### インフォメーションシート

こんにちは。私はサラ・ローゼンブラットと申します。マッセイ大学大学院の学生で、心理学修士課程で学んでおります。私の修士論文は、マッセイ大学トゥリテア心理クリニックのディレクターであるシェーン・ハービー博士と、同クリニックのリサーチコンサルタントであるドン・ベッケン博士にご監督いただいています。

#### 背景

クライアントとセラピストの関係は、人生における他のいかなる親しい人間関係と似ています。たいていは強い関係であるものの、ひびが入ってお互いに疎遠になることもあります。これは心理学者にとって大きな問題です。クライアントとセラピストの間の結びつきに問題が生じたままでは、治療の妨げになりうるからです。幸運なことには、ちょうど友達やパートナーとの口論をうまく切り抜けるとその先にあるより強い絆に達することができるように、セラピストとクライアントの間にも同じことが起こりえます。これは即ち、セラピーがより成功し、改善が生じているということです。

しかし、時に、はたして問題があるのかどうかを見極めるのが困難なことがあります。私たちが使うサインはとても微妙な場合があるからです（椅子の座り方を変える、アイコンタクトを避ける、など）。当調査を通じて、私は、他の人と一緒にいて幸せでない時に人が取る仕草のモデルパターンを策定することを目指しています。究極的には、それがセラピストにとってのガイドとなり、クライアントとの関係改善を促すものとなることを望んでいます。

これがどのようなものとなるか理解するためにご協力をいただいたことに感謝申し上げますと同時に、このプロジェクトにご参加いただきたく、お願い申し上げます。

#### 次のステップ

参加するとお決めになられた際には、インストラクションシートと、人の仕草を記したカード一束をお渡し致します。それらのカードを似たもの同士

## Appendices

## E

に分類していただけますようお願い致します。このタスクの所要時間は 60 分から 90 分ほどで、いつでもご都合のよい時にさせていただいて結構です。お時間を取っていただいた御礼として、タスクを完了していただいた方には 20 ドルの金券を差し上げます。

私は 30 名の日本人の大人の方々にご参加をお願い申し上げております。これは私が行っている統計分析に必要とされる最少人数です。

全ての皆さまからの回答をいただいた後、私はデータを分析し、これらの人の仕草が互いにどれほど近い関係にあるのかを示すマップを作成致します。

現在、私は、英語を話すニュージーランド人のサンプルを使用したもう一つの調査を分析しております。これら二つの調査を比較し、果たして一つのマップが異文化間に渡って使用可能であるかどうかを検討する予定です。

**皆さまからいただいた情報について**

いただいた全ての情報（同意書ならびに回答シート）は守秘されます。それらの情報にアクセスを持つのは皆さま自身と、私の監督教官と、私のみです。それらの情報はシェーン・ハービー博士の研究室の書庫に収納の上施錠され、レビューのために保管されます。5 年間の経過後、それらの情報は破棄されます。

当調査の完了後、調査結果の概略をインターナショナル・パシフィック大学に提出致します。

**皆さまの権利について**

皆さまを当調査にお招きするにあたり、皆さまには、それを承諾しなければならぬ義務は一切ありません。もし参加するとお決めになられた場合、皆さまには以下の権利があります。

- ・調査に参加する間、いかなる時にも、当調査についていかなる質問をすることができる。
- ・皆さまが研究員に許可した場合を除いて、皆さまの名前は使用されないという前提のもとに、情報を提供することができる。
- ・調査の終了後は、調査結果の概略に対して、アクセスすることができる。

**連絡先**

サラ・ローゼンブラット (Sara Rosenblatt)

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シェーン・ハービー博士 (Dr. Shane Harvey)

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06 356 9099, x 81742

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[D.M.Baken@Massey.ac.nz](mailto:D.M.Baken@Massey.ac.nz)

06 356 9099, x 2137

「当プロジェクトは査読を受け、低リスクであるとの判定を受けました。従って、マッセイ大学人道倫理委員会によるレビューは受けておりません。当調査の実施に関する倫理上の責任は上述の研究員にあります。

もし、当調査の実施に関してご心配事があり、それを研究員以外の誰かにお話しされたい場合は、ジョン・オニール教授（リサーチ倫理会ディレクター：Professor John O'Neill, Director, Research Ethics）、電話：06 350 5249、メール：email humanethics@massey.ac.nz にご連絡ください」。



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AND SOCIAL SCIENCES  
TE KURA PUKENGĀ TANGATA

## 人間関係の傷つきを理解する：傷はどう見えるか？

### 参加同意書

私はインフォメーションシートを読み、この調査の詳細について説明を受けました。私の質問に関して、私は満足のいくまで説明を受けており、また、今後いかなる時にも、私はさらに質問してよいことを理解しています。

☐ 私はインフォメーションシートにある条件のもとに、当調査への参加に同意致します。

年齢： \_\_\_\_\_

私は： 男性 / 女性 （一つに○をつけてください）

ご署名

署名日

ご氏名（ブロック体  
で）

## 人間関係の傷つきを理解する：傷はどう見えるか？

### インストラクションシート

#### カードについて

各カードには、二人の人間がやりとりする状況で、目に見える片方の人の「仕草」が記されています。それらの仕草の一部には、もう片方の人についても言及している場合があります。また、時に、やりとりには直接関わっていない第三者に言及している仕草もあります。その第三者はその場にいないか、あるいはやりとりの中心である二人とは異なるものです。

#### はじめに

(a) 仕草カード、(b) 回答シート、(c) ペンまたは鉛筆、(d) 当インストラクションシートが必要となります。作業するために大きい平らな場所を用意してください。タスクには4つの段階があり、全てを終えるのに60分から90分ほど必要となります。全てを一気にやり終えてしまう方が、一貫してあやふやにならずに考えることができるため、簡単でしょう。

#### 第1段階：グループ分け

まず、全ての仕草カードをグループ分けして下さい。似ていると思う仕草を集めてグループにして下さい。判断基準を説明していただく必要はありませんが、ご自身にとって説明がつくようにして下さい。

8つから16のグループができあがることになりますが、どのグループにも、10枚以上の仕草カードが集まらないようにして下さい。また、もし似ているものが他にないような仕草カードがあれば、そのカード1枚だけで1つのグループとなる場合もあります。

このグループ分けの一つの方法として、1枚ずつテーブルの上に仕草カードを置き、既に置いてある他の仕草カードと一緒にグループにするべきか、あるいは新しいグループの最初の仕草カードとすべきかを判断するというのがあります。この方法だと、類似の仕草カードを下に並べてゆくことにより、列ができあがってゆきます。それぞれの列が独立したグループとなります。

では、記入して下さい。満足のいく仕草カードのグループ分けができたら、それぞれのカードの左上にある番号を使って、回答シートにそれを記入して下さい。回答シートの最初の行には、例として、7枚の仕草カードのグループが記されています。

**！！！！注意！！！！**

このグループ分けは、そのままにしてください。

後の段階でも使用します。

### 第2段階：小グループ分け

先ほどのグループ分けをもとに、仕草カードさらに小グループに分けてください（仕草カードを他のグループに動かさないで下さい。一度に取り組むのは1グループのみとし、そのグループが終わったら次のグループに取り組んで下さい）。場合によっては、グループ内の仕草カードが全て大変よく似ているために、小グループに分けることができないこともあります。しかし、多くの場合は、多少の違いがあるものです。

各列の中の仕草カードを並び替え、小グループ毎に、少しスペースを空けるとよいかもしれません。

では、記入して下さい。再び番号を回答シートに写して下さい。今回は同じ小グループ属するものをカッコで包んで下さい。一つのグループ内の小グループは同じ行に、即ち第1段階のもとのグループの行の反対側に記して下さい。

### 第3段階：相反グループ

第1段階のグループ分けに戻して下さい。グループ全体を見渡し、相反する（あるいは最も異なる）と思われるグループを見つけて下さい。グループ毎に名前をつけたり、あるいは共通のテーマを与えたりすると役立つかもしれません。全てのグループに相反するグループがあるわけではありませんが、少なくとも2組見つけて下さい。

では、記入して下さい。相反するグループが見つかったら、それぞれのグループから一つずつ、いかなる仕草カードの番号を選び、同じ行に記入して下さい（第1段階でグループ全体を記入してあるので、どの仕草カードを選んでも、それがグループ全体を代表するものとなります）。

### 第4段階：合体グループ

第1段階のグループ分けに戻して下さい。グループ全体を見渡し、グループ同士を一つにくっつけることができないかを考えて下さい。場合によっては、いくつものグループを一つにつなげることが可能なことがあります。記録を取りやすくするため、グループ毎に横にスライドさせて並べるとわかりやすくなるかもしれません。そうすることで、それらのグループはつながりがあるが、しかしグループ毎の違いはあるとわかります。また、全てのグループがくっつくわけではありません。

では、記入して下さい。第3段階と同様に、各グループから一つずつ仕草カードの番号を選び、回答シートの指定の場所につながったペアの番号を記して下さい。

## 人間関係の傷つきを理解する：傷はどう見えるか？

## 仕草カードタスクのための回答シート

## 第 1 段階：グループ分け

仕草カードを類似するものでまとめ、少なくとも 8 つ（最も多くて 16 まで）のグループに分けて下さい。一つのグループに 10 以上の仕草カードを含んではいけません。また、仕草カードが 1 枚しかないグループがあっても構いません。各グループの仕草カードの番号を同じ行に、読みやすく記入して下さい。また、グループには番号を振らないで下さい。

## 第 2 段階：小グループ分け

第 1 段階の全ての番号を同じ行に書き写しますが、ここではその番号をカッコで包んでください。カッコ毎の小グループに分け、最も類似する仕草カードを一緒にして下さい。カッコの中に仕草カードが 1 枚しかない小グループがあっても構いません。

例：7    22    1    43    78    12

(12    43    22)    (1    7)    (78)

**第3段階：相反グループ**

第1段階のグループ分けを見渡し、どのグループ同士が最も異なっているかを見つけて下さい。それらの「相反するグループ」について、各グループから一つずついかなる仕草カードの番号を選び、以下のスペースに記して下さい。相反するグループは少なくとも2組以上見つけて下さい。その際はご自身の判断で行って下さい。最初のグループ分けを崩さぬようにして下さい。仕草カードを動かしてはいけません。

相反セット a): \_\_\_\_\_, \_\_\_\_\_ # 相反セット b): \_\_\_\_\_, \_\_\_\_\_ # 相反セット c): \_\_\_\_\_, \_\_\_\_\_ #

相反セット d): \_\_\_\_\_, \_\_\_\_\_ # 相反セット e): \_\_\_\_\_, \_\_\_\_\_ # 相反セット f): \_\_\_\_\_, \_\_\_\_\_ #

**第4段階：合体グループ**

今度は、第1段階のグループ分けで、よく似ているグループ同士をくっつけて下さい。似ているグループを隣り合わせに置き、各合体グループから一つずついかなる仕草カードの番号を選び、以下のスペースに記して下さい。合体するのは一部のグループのみで、多くは合体しません。少なくとも2組を合体させて下さい。もし3組以上あれば、そのペアを続けて記して下さい。

合体セット a): \_\_\_\_\_, \_\_\_\_\_ # 合体セット b): \_\_\_\_\_, \_\_\_\_\_ # 合体セット c): \_\_\_\_\_, \_\_\_\_\_ #

合体セット d): \_\_\_\_\_, \_\_\_\_\_ # 合体セット e): \_\_\_\_\_, \_\_\_\_\_ # 合体セット f): \_\_\_\_\_, \_\_\_\_\_ #

お時間を取っていただき、ありがとうございました。☺



## APPENDIX F: Low-Risk Ethics Confirmation, New Zealand Sample



MASSEY UNIVERSITY  
TE KUNENGA KI PUREHUROA

12 June 2012

Sara Rosenblatt



Dear Sara

**Re: Understanding Alliance Ruptures: What Do They Look Like?**

Thank you for your Low Risk Notification which was received on 22 May 2012.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

**A reminder to include the following statement on all public documents:**

*"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research."*

*If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director (Research Ethics), telephone 06 350 3249, e-mail [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz)."*

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

John G O'Neill (Professor)  
Chair, Human Ethics Chairs' Committee and  
Director (Research Ethics)

cc: Dr Shane Harvey  
School of Psychology  
PN319

Dr Don Baken  
School of Psychology  
PN319

Assoc Prof Mandy Morgan, HoS  
School of Psychology  
PN320

Massey University Human Ethics Committee  
Accredited by the Health Research Council

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## APPENDIX G: Low-Risk Ethics Confirmation, Japanese Sample



MASSEY UNIVERSITY  
TE KUNENGA KI PUREHUROA

17 August 2012

Sara Rosenblatt



Dear Sara

**Re: Understanding Alliance Ruptures: What Do They Look Like?**

Thank you for your Low Risk Notification which was received on 7 August 2012.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

**A reminder to include the following statement on all public documents:**

*"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research."*

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Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

John G O'Neill (Professor)  
Chair, Human Ethics Chairs' Committee and  
Director (Research Ethics)

cc Dr Shane Harvey  
School of Psychology  
PN319

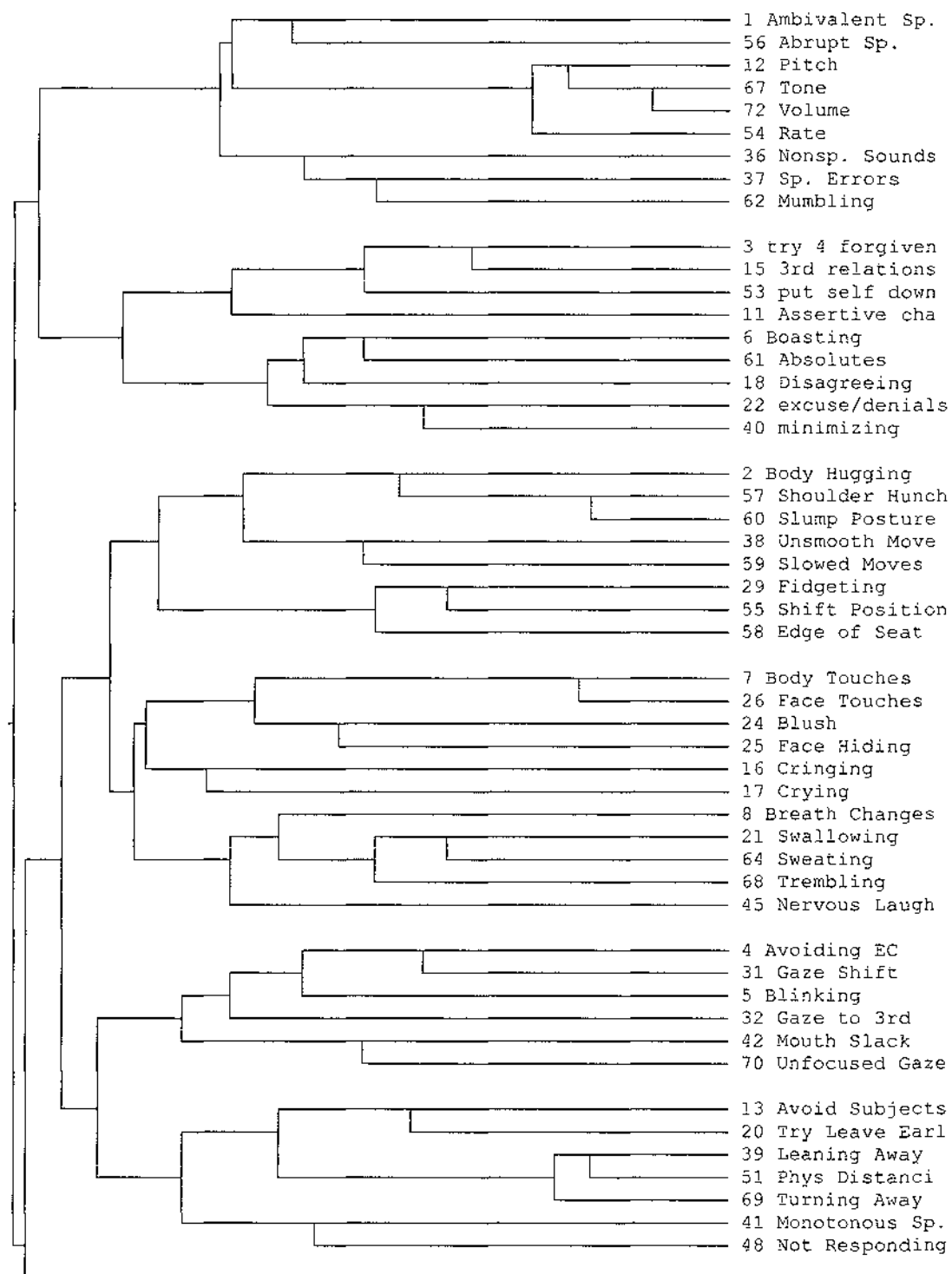
Dr Don Baken  
School of Psychology  
PN319

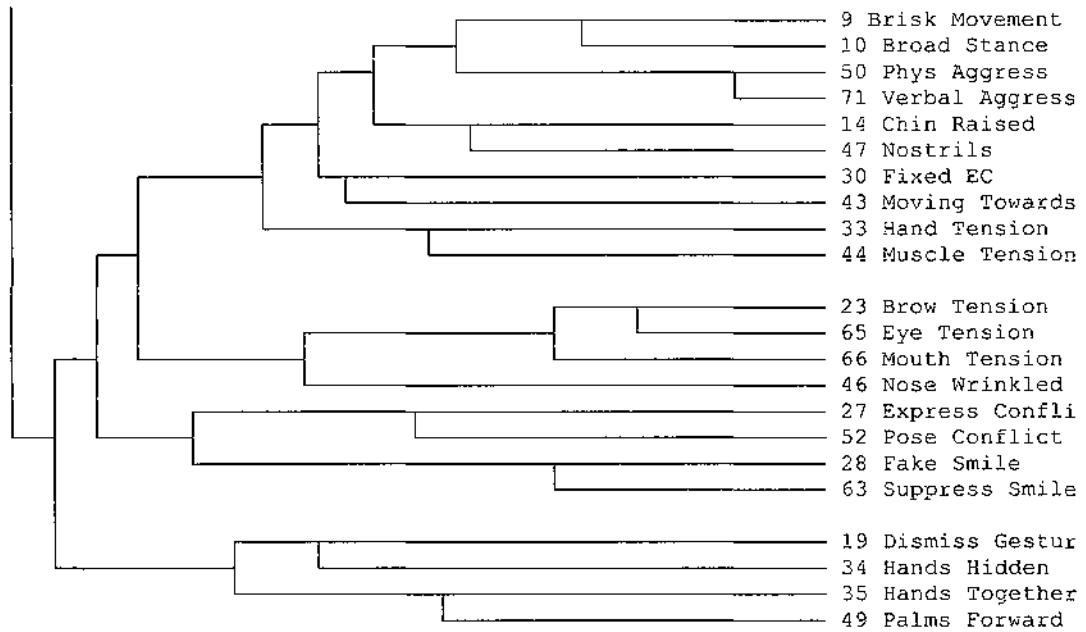
Assoc Prof Mandy Morgan, HuS  
School of Psychology  
PN320

Massey University Human Ethics Committee  
Accredited by the Health Research Council

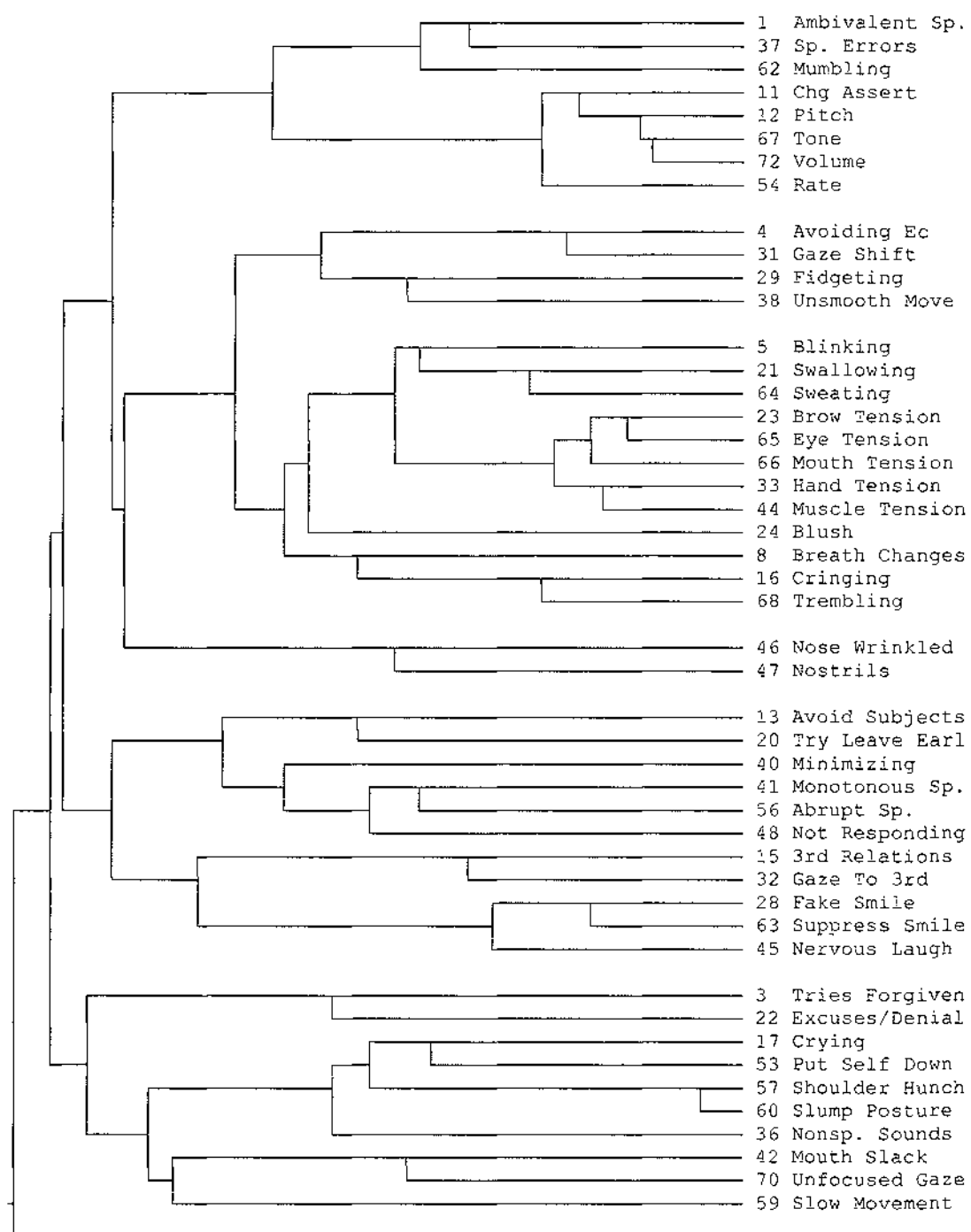
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E humanethics@massey.ac.nz animalethics@massey.ac.nz qto@massey.ac.nz  
www.massey.ac.nz

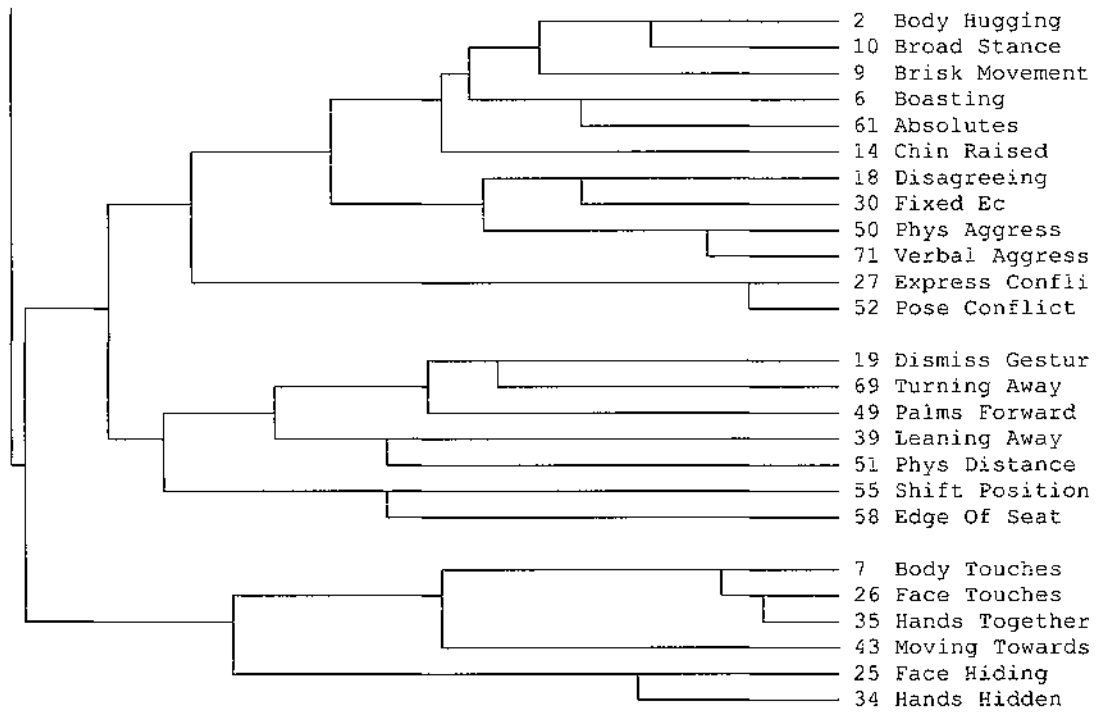
## APPENDIX H: New Zealand Sample Dendrogram





## APPENDIX I: Japanese Sample Dendrogram





**APPENDIX J: Dimensional Loadings**

<b>Indicator</b>	<b>X Axis Interaction Type +(Withdrawal) -(Confrontational)</b>	<b>Y Axis Deriv. of Meaning + (Social) - (Biological)</b>	<b>Z Axis Subject Focus + (Intrapersonal) - (Interpersonal)</b>
<b>1 Ambivalent Sp.</b>	0.8149	-5.1403	-2.7453
<b>2 Body Hugging</b>	-2.8508	4.1601	2.138
<b>3 Tries for Forgiveness</b>	2.7195	3.8458	-4.8795
<b>4 Avoiding EC</b>	4.2162	-0.7148	-1.7589
<b>5 Blinking</b>	3.7195	-2.3017	2.2819
<b>6 Boasting</b>	-7.2879	-0.4068	-1.5029
<b>7 Body Touches</b>	0.6589	5.0548	4.3475
<b>8 Breathing Changes</b>	2.112	-3.1196	4.1764
<b>9 Brisk Movement</b>	-6.5256	0.0276	2.373
<b>10 Broad Stance</b>	-6.2998	1.5855	1.2838
<b>11 Assertiveness change</b>	-1.8272	-5.9919	-0.5538
<b>12 Pitch/Inflection</b>	-1.0149	-6.4827	1.2517
<b>13 Avoiding Subjects</b>	-0.8162	-1.6222	-5.3689
<b>14 Chin Raised</b>	-5.9131	0.0041	3.4954
<b>15 3rd Relationships</b>	3.8188	-0.1332	-6.2127
<b>16 Cringing</b>	4.1789	1.655	2.7106
<b>17 Crying</b>	5.3333	2.2861	-1.8074
<b>18 Disagreeing</b>	-6.4868	-0.0252	-1.1992
<b>19 Dismissive Gesture</b>	-5.053	3.6108	-1.764
<b>20 Try to Leave Early</b>	0.183	2.4274	-4.901
<b>21 Swallowing</b>	4.0218	-1.9802	3.0424
<b>22 Excuses/Denials</b>	-3.1744	1.5887	-4.4585
<b>23 Eyebrow Tension</b>	-0.3076	-1.3319	5.1767
<b>24 Blush</b>	3.2959	-3.121	3.2224
<b>25 Face Hiding</b>	2.7985	3.9604	1.9408
<b>26 Face Touches</b>	1.4301	4.2639	5.2
<b>27 Expression Conflicts</b>	-4.908	1.4624	-3.3244



<b>28 Fake Smile</b>	1.5914	-1.7569	-5.3557
<b>29 Fidgeting</b>	3.5546	-0.3674	1.6143
<b>30 Fixed EC</b>	-5.8804	0.4293	0.9022
<b>31 Gaze Shift</b>	4.7912	-1.9564	-0.0584
<b>32 Gaze to 3<sup>rd</sup></b>	3.7062	-0.9785	-4.7328
<b>33 Hand Tension</b>	0.6088	-1.1753	4.9413
<b>34 Hands Hidden</b>	1.6134	4.7276	2.3533
<b>35 Hands Together</b>	-0.1399	5.5915	4.3201
<b>36 Non-speech Sounds</b>	2.0206	-2.1947	-1.1672
<b>37 Sp. Errors</b>	2.0284	-5.0169	-0.3777
<b>38 Unsmooth Movement</b>	2.9831	-0.1875	3.7496
<b>39 Leaning Away</b>	-2.6903	4.3468	-1.3675
<b>40 Minimizing</b>	-3.8639	-0.4778	-4.8848
<b>41 Monotonous Sp.</b>	-0.6984	-4.4478	-5.0966
<b>42 Mouth Slack</b>	6.3704	2.9284	1.1766
<b>43 Moving Towards</b>	-5.528	3.581	2.9994
<b>44 Muscle Tension</b>	0.1502	-0.2751	4.3927
<b>45 Nervous Laughter</b>	4.3784	-3.7113	-2.4481
<b>46 Nose Wrinkled</b>	-2.762	0.3709	4.255
<b>47 Nostrils</b>	-2.9129	-2.2408	4.2638
<b>48 Not Responding</b>	-0.9431	0.4839	-5.1994
<b>49 Palms Forward</b>	-2.226	5.9345	0.4631
<b>50 Physical Aggression</b>	-7.0705	-1.0229	1.5632
<b>51 Physical Distancing</b>	-0.4595	5.0473	-2.8265
<b>52 Posture Conflict</b>	-5.4619	2.2312	-1.3176
<b>53 putting Self Down</b>	3.6755	2.2422	-5.2267
<b>54 Rate</b>	-0.926	-6.5219	0.1895
<b>55 Shifting Position</b>	1.4235	1.4349	-0.0481
<b>56 Abrupt Sp.</b>	-1.4379	-4.495	-2.849
<b>57 Shoulders Hunched</b>	4.6299	4.6719	-0.6332
<b>58 Edge of Seat</b>	1.8351	3.2211	-1.1896
<b>59 Slowed Movement</b>	1.7399	5.5596	0.5551



<b>60 Slumped Posture</b>	4.6623	4.5367	-1.8811
<b>61 Absolutes</b>	-6.065	-1.9975	-1.8931
<b>62 Mumbling</b>	2.3435	-4.4942	-1.2294
<b>63 Suppressed Smile</b>	1.4999	-0.5606	-5.5456
<b>64 Sweating</b>	3.8134	-1.6579	4.4227
<b>65 Eye Tension</b>	1.3722	-1.8589	4.5584
<b>66 Mouth Tension</b>	0.8009	-2.041	4.6177
<b>67 Tone</b>	-0.7146	-6.5774	1.1373
<b>68 Trembling</b>	5.1599	0.1182	2.4874
<b>69 Turning Away</b>	-0.7881	5.3307	-3.0869
<b>70 Unfocused Gaze</b>	5.7512	-1.9864	-0.138
<b>71 Verbal Aggression</b>	-6.4989	-2.1328	0.4596
<b>72 Volume</b>	-2.2729	-6.216	0.9668

# APPENDIX K: Item Proximities to Origin

Item	Distance from Origin
55 Shifting Position	2.02178235
36 Non-speech Sounds	3.20341822
58 Edge of Seat	3.89335657
29 Fidgeting	3.921240672
44 Muscle Tension	4.403867998
4 Avoiding EC	4.623960498
38 Unsmooth Movement	4.795158185
5 Blinking	4.93351505
46 Nose Wrinkled	5.086377474
65 Eye Tension	5.110523712
66 Mouth Tension	5.111778076
33 Hand Tension	5.115507132
31 Gaze Shift	5.175568467
62 Mumbling	5.215481785
25 Face Hiding	5.223320309
16 Cringing	5.248769624
39 Leaning Away	5.29173323
48 Not Responding	5.306350646
23 Eyebrow Tension	5.354138424
21 Swallowing	5.41777307
37 Sp. Errors	5.424605927
20 Try to Leave Early	5.472253719
2 Body Hugging	5.477639697
56 Abrupt Sp.	5.512656566
34 Hands Hidden	5.521891181
24 Blush	5.566638085
8 Breathing Changes	5.624479098
47 Nostrils	5.629046233
13 Avoiding Subjects	5.667698165
22 excuses/denials	5.699035471
68 Trembling	5.72937152
63 Suppressed Smile	5.772144465
51 Physical Distancing	5.803057797
59 Slowed Movement	5.851883473
28 Fake Smile	5.856857012
1 Ambivalent Sp.	5.884166737
30 Fixed EC	5.964676646

52 Posture Conflict	6.045384587
64 Sweating	6.070496459
17 Crying	6.077584788
70 Unfocused Gaze	6.086142489
32 Gaze to 3rd	6.090383939
27 Expression Conflict	6.105629625
69 Turning Away	6.210186447
45 Nervous Laughter	6.239978194
40 Minimizing	6.246542011
11 Assertiveness change	6.288737543
49 Palms Forward	6.355141844
19 Dismissive Gestures	6.456189406
54 Rate	6.590035346
18 Disagreeing	6.596763594
57 Shoulders Hunched	6.607841241
10 Broad Stance	6.62189042
61 Absolutes	6.660184597
12 Pitch/Inflection	6.679983098
72 Volume	6.688754193
7 Body Touches	6.699694657
67 Tone	6.713143467
53 Putting Self Down	6.771643374
60 Slumped Posture	6.771796319
3 Tries for Forgiveness	6.781989247
41 Monotonous Sp.	6.800442556
71 Verbal Aggression	6.855346031
14 Chin Raised	6.868958406
26 Face Touches	6.875029398
9 Brisk Movement	6.943727106
35 Hands Together	7.067369261
42 Mouth Slack	7.109283387
43 Moving Towards	7.237316171
15 3rd relationships	7.293738203
50 Physical Aggression	7.313131265
6 Boasting	7.452360771