REPETITION: FROM COMPULSION TO STRUCTURE

by

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Abstract

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This work studied the different functions of repetition in the course of a long-term psychoanalysis. In empirical psychoanalytic research, repetition has been viewed as a maladaptive behavioral structure or speech disfluency. However, it was argued that repetition is a unique function of the mind that has various uses. Repetition can manifest as dominance of inertia; it can also be associated with traumatic anxiety and help develop a structure to alleviate the impact of trauma. In addition, some repetitions are in the service of difference where they modify and enrich the psyche.

In an effort to study the linguistic expressions of these different kinds of repetitive phenomena, this study identified the patient's use of fixed repetitions, where the same words were used over and over again to narrate an experience. It was proposed that an increase in the use of such fixed repetitions would point to an inability to create new meaning. In contrast, when the patient is able to reach an evocative, vivid and specific representation, the use of fixed repetitions was expected to decrease. A further goal of the study was to explore the relationship between repetition and defensive processes. It was expected that an increase in the use of fixed repetitions bespeaks of a failure in defensive strategies.

With these multiple objectives in mind, the transcripts of ten audio-taped psychoanalytic sessions were coded for the exact repetition of verbs. The language of verbs was expected to capture repetitions used with intention. Computerized linguistic measures of referential activity, which is a measure of imagistic language, as well as computerized linguistic measures of intellectualization and negation were used in order to capture patient's representational language and defensive processes.

As expected, the results showed a general negative correlation between fixed repetitions and representational speech. No consistent pattern was found between repetition and the measured defensive processes. The results were discussed through a clinical qualitative analysis. The study marked repetition as a significant measure that is able differentiate between sessions in terms of their affective and symbolic qualities.

Acknowledgments

Raymond Carver says the process of writing a story begins with “something glimpsed from the corner of the eye, in passing. Notice the glimpse part of this. First the glimpse. Then the glimpse gives life, turned into something that illuminates the moment and may, if we're lucky have even further ranging consequences and meaning” (Carver, 1985, pg. 50).

How to invest in this glimpse and with whom?

To my chairwoman, my mentor and my confidant, Dr. Lissa Weinstein; you brought “[your] sense of proportion and sense of the fitness of things; of how things out there really are and how [you] see those things - like no one else sees them” (Carver, 1985, pg. 50).

To my mentor and my support, Dr. Jeff Rosen; you taught me “a writer sometimes needs to be able to just stand and gape at this or that thing - a sunset or an old shoe - in absolute and simple amazement… Words filled with wonder and possibility. I love their simple clarity, and the hint of revelation that is implied” (Carver, 1985, pg. 47).

I am also grateful to the other members of my advisory committee, Dr. Diana Diamond and Dr. Alan Bass, whose unique theoretical perspectives and clinical sensibility helped form and enrich this study. I would also like to thank Dr. Wilma Bucci and Dr. Virginia Goldner, who made this dataset available to me in the spirit of scientific inquiry.

Dr. Norbert Freedman is no longer with us; however, his psychoanalytic vision on progressive symbolization and transformation has shaped my empirical and clinical thinking forever. I not only benefited from his generative ideas but was also lucky enough to be in the

presence of his warm heart, unique attunement and generosity. His memory will continue to guide my professional and personal growth.

Table of Contents

List of Tables

List of Figures

Introduction

Repetition is a concept applicable to both biological and psychological phenomena. Researchers in cognitive, developmental and experimental psychology have all pointed to the centrality of repetition in the development of cognitive structures, as well as its importance in emotional maturation (Sander, 1980, 1983; Pine, 1980; Stern, 1985; Wilson and Malatesta, 1989). One seeks familiarity and obtains mastery by repeating, thereby creating recognizable patterns that allow for a feeling of safety in both the internal and external world. A basic mode of organization of one's psychic world, repetition allows for the development of fundamental continuities in one's sense of self and relationships.

Repetition is a central dynamic of developmental organization. In the cognitive literature, habituation, a chief index of information processing in infancy, is one of the terms used to represent repetition. Bornstein and Suess (2000) define habituation as the decrement in attending that infants show to a continuous or repeated non-reinforced stimulus. Habituation reflects the infant's mental construction of the repeated stimulus, in addition to the infant's ongoing comparison of new stimulation with that representation. In this sense, repetition is quintessential in one's adaptive attempts to make sense out of the universe by either seeing the universe as a comprehensible and coherent system, or experimenting with the new, unassimilated data over and over again in an effort to discover new patterns. These elementary patterns form the bedrock of higher order mental representations of self, others and the environment that will serve as the building blocks of psychic structure.

Much of adult psychic reality is derived from repetition of early life. Repetition connects "past and present, the id and the ego, the biological and the psychological" (Loewald, 1971, pg.

59). For instance, expectations and perceptions of relationships throughout life are patterned by early experiences of separation, loss and attachment that make up “internal working models” (Bowlby, 1969) consisting of an emotional knowledge of dyadic interactions. In early childhood, working models appear to be relatively open to change; however, with a consistent pattern of care giving throughout childhood and adolescence, they become solidified and result in abstract representations of oneself and the social world. They operate unconsciously as the core features of personality in adulthood shaping social perception and behavior in close relationships (Bowlby, 1973; Stern, 1985; Hazan and Shaver, 1987; Brennan, Clark and Shaver, 1988; Main, Kaplan and Cassidy, 1985).

Any consideration of repetitive phenomena leads inevitably to a discussion of trauma. Empirically, the tendency to repeat traumatic experiences is a well-established phenomenon (van der Kolk, 1989; Herman, 1992; Caruth, 1996). Trauma victims suffer from re-experiencing the trauma through flashbacks, nightmares, and reenactments. Trauma has an overwhelming and disorganizing effect on the psyche, interfering with one’s capacity to perceive, represent and form memory traces such that traumatic repetitions are relived and acted out outside of one’s intention and awareness (Krystal, 1968). People who experience violence, sexual abuse, and other forms of trauma as children are far more likely to become victims of trauma as adults or to perpetrate similar traumas on others. Researchers from a variety of theoretical perspectives have described and documented the “intergenerational transmission” of trauma, mediated primarily by early childhood experiences (Oliver, 1993; Green, 1998).

Psychoanalytic theory also referred to the phenomenon of repetition as one of the most basic characteristics of the human mind (Freud, 1914, 1919). As Freud developed the metapsychological underpinnings of psychoanalytic theory, he recognized that all of the bedrock

concepts such as instinct, wish, transference, fixation and regression were based on variations on the theme of repetition. Similarly Klein (1976) stated, “A potential for repetition is implicit in all the core psychoanalytic principles. That growth, and even life itself, is in critical ways a repetition, is basic to psychoanalytic understanding and knowledge” (pg.34).

In Freud’s evolving conceptualization repetitive phenomena, the concept of repetition took on multiple meanings, describing different clinical processes at different stages of his writing (Bibring, 1943). As Freud revised his theory of repression, trauma and drives, he grappled with many questions relating to the nature of the archaic that repeats itself: Is it something that is repressed? Is it the product of wordless trauma? Does it have to do with the unmasterable aspects of the drive?

“Remembering, repeating, and working through” (Freud, 1914) is noteworthy for placing the concept of repetition in the center stage of psychoanalytic technique and for identifying the repetition as a type of memory: “The patient does not remember anything of what he has forgotten and repressed, but acts it out. He reproduces it not as a memory but as an action; he repeats it, without, of course, knowing that he is repeating it” (pg. 150). In this case, repetition itself is “a way of remembering” (1914, pg. 370), a return of the repressed, as conflictual contents excluded from consciousness exert pressure on the psyche and return in the form of action. This kind of neurotic repetition also has positive consequences as it serves communicative functions in the transference: “What interests us most of all is naturally the relation of this compulsion to repeat to the transference and to resistance. We soon perceive that the transference is itself only a piece of repetition … The greater the resistance, the more extensively will acting out (repetition) replace remembering (pg. 150, 151).” Such transference repetitions can become the essence of psychoanalytic treatment as they represent a major channel

for the expression of patient's history that can be worked through in the analytic relationship (de M'Uzan, 2007).

Repetition and its compulsive insistence found a new conceptualization, when Freud returned to his analysis of repetitive phenomena in the "Uncanny" (1919) and "Beyond the Pleasure Principle" (1919). The problem now was to be able to explain the repetition of painful experience as in the repetition of severe trauma in dreams or the automatic repetition of markedly unpleasurable patterns in some people's lives. Freud observed that these distressing and past experiences were relived repeatedly outside of one's will and consciousness. This was very different than the repetitive phenomena that he explicated in 1914, as the automaticity of the repetition and its "perceptual recurrence" could not be due to conflict and the repression of wishes. This was now a form of psychic functioning that is dominated by the power of a drive, "the pressure of a compulsion" (1919, pg.21) where the subject deliberately but unconsciously places himself in distressing situations which cannot be viewed as pleasurable in any way.

Until "Beyond the Pleasure Principle", Freud had viewed the pleasure principle as a basic law governing the mind, such that all psychic phenomena were seen as attempts to avoid unpleasure and decrease tension. However this could not fully explain the repetition compulsion as it was seen in traumatic dreams and neurosis because these experiences, though clearly unpleasurable, were repeated involuntarily. In effect, Freud found it necessary to revise his basic theory and postulate that the repetition compulsion is related to more primitive phenomenon which is not regulated by the pleasure principle: "…a compulsion powerful enough to overrule the pleasure principle, lending to certain aspects of the mind their daemonic character, and still very clearly expressed in the impulses of small children; a compulsion, too, which is responsible for a part of the course taken by the analyses of neurotic patients" (1919, p. 238).

Once Freud attributed the work of repetition to a compulsion that is powerful enough to overrule the pleasure principle, he radically reformulated the tendency to repetition and linked it to the death drive. The death drive, according to Freud, operates on the principle of inertia; is opposed to change and progress and aims to reduce tension to point zero in order to try to return to its starting point, over and over again. This kind of repetition is associated with an "anti-life" force of the most destructive aspects in the unconscious that have not been transformed into psychic representations and in fact resist such a transformation.

It is clear that the concept of repetition compulsion has been given different formulations in Freud's papers and seem to have more than one meaning (Inderbitzin and Levy, 1998). However, the range of definitions ranging from recollection to trauma to the very essence of drive created much debate in literature about the aim, causes and manifestations of repetition compulsion (e.g. Klein, 1976; Peterfreund & Schwartz, 1971; Schafer, 1976; Orlandini, 2004). Many writers argue that these various forms of repetition have very different functions in the psyche and in the treatment situation and therefore have to be defined separately from each other (Marucco, 2007; Riolo, 2008; de M'Uzan, 2007).

Marucco (2007) differentiates these different types of repetition based on their relationship to mental representations. Mental representations are a central theoretical construct in psychoanalysis, as well as in cognitive science, in developmental and social psychology. In psychoanalysis, they are generally used to refer to an unconscious structure capable of evoking in consciousness a symbol, image, fantasy, thought or affect (Blatt and Auerbach, 2001). Different repetitive forms bring up the question of what can be represented and what escapes representation in the psyche. For instance, certain transference repetitions that clearly relate to a reworking of one's past, where repetition goes along with recollection, have a representational

structure as one's history is brought to consciousness in a meaningful relationship (Marucco, 2007; de M'Uzan, 2007). In contrast, traumatic repetitions are recorded as sensory traces which remain outside the chain of representations and are repeated in terms of their perceptual impact. The discharge of the chaotic contents associated with trauma cannot yet be directed into representational channels, as is the case with transference repetitions. These repetitions can ultimately become extremely disruptive such that they can interrupt all psychic organization, deaden all meaning and associate themselves with an absence of representation (Botell and Botella, 2001).

Moreover, the clinical manifestations of these repetitive forms are very different. Patients who are capable of investing in a meaningful transference never repeat in exactly the same way. There is always a change from one repetition to another however microscopic the difference may be (de M'Uzan, 2007). In other patients, the phenomenon of repetition is of a quite different nature. There is a monotonous and invariable repetition characterizing "the eternal return of the same" (Freud, 1919).

This work will address these different kinds of repetitions and their clinical/linguistic manifestations by exploring the pathways from fixed traumatic repetitions towards psychic representability and from unchanged repetition towards a new represented occurrence. Each chapter will develop this idea from a slightly different view point. In the first chapter, the diverse repetitive phenomena identified in the Freud's theoretical framework will be explicated from a contemporary psychoanalytic lens. The nature of that which is being repeated and its relation to representational forms will be addressed. It will be argued that some of these repetitions can be classified as exact repetitions which oppose the work of representation, whereas other repetitions are in fact crucial to form a new organization out of the old.

In the second chapter, in order to demonstrate the strikingly different clinical manifestations of the discussed repetitive phenomena, their linguistic derivatives will be compared. It will be argued that exact linguistic repetitions are associated with psychic contents that have not yet been represented and when the person is able to use representational language that is vivid, imagistic and evocative, exact repetitions are no longer necessary. The linguistic analysis of exact repetitions and representational speech will form the empirical framework in this study in an attempt to analyze different psychic states in the context of an ongoing psychoanalysis.

The third chapter will trace the empirical studies of repetition in psychoanalytic process research. It will be argued that there are major limitations in the way the concept of repetition has been applied to these empirical studies. Repetition has generally been viewed as either a measure of recurrent maladaptive behavior pattern (i.e. Luborsky, 1988; Dahl, 1988; Hoffman and Gill, 1982) or a speech disfluency due to patient's inability to express himself/herself (Bucci, 1997). All of these studies do not take into account different forms of repetition and their relationship to representational structures.

In the current study, the above-mentioned conceptualization of repetition and representation will be applied to a research design that reflects the final generation of psychoanalytic process research on a long-term psychoanalysis making use of multiple perspectives that involve quantitative ratings of the clinical material, computerized linguistic measures as well as a qualitative analysis based on clinical impressions (Bucci, 2007; Dahl, Kächele and Thomä, 1988). In the final section, the psychoanalytic case to be used in this study will be discussed and the empirical studies applied to this case will be reviewed. Finally, the methods and key aims of the current study will be explicated.

Review of the Literature

The Theory of Repetition and Repetition Compulsion

Various kinds of repetitions appear in the course of an analysis however they differ in terms of their representational structure. A representation is an idea in visual images built upon available memory-traces (Rapaport, 1950). The central observation behind all clinical expressions of repetition has been the fact that there is “something” that cannot be remembered, that resists recollection in the form of word representations (Maruco, 2007). There are two different lines of thinking that attempt to explain the nature of the phenomena that repeat themselves. Some have understood repetitive behaviors in treatment as a regression to a characteristic pre-representational type of thinking that is ubiquitous in childhood. In these formulations, repetition has been handled as a developmental and affective-cognitive problem. In contrast, others have understood the primitive and compulsive nature of these repetitions as traumatic traces and/or aspects of the mind that resist representation.

Developmental Repetitions

Developmental repetitions span from sensori-motor presymbolic repetitions in infancy that are on the lower end of the continuum in terms of their representational structure towards the achievement of “symbolic repetition” characterized by mental representations. "Symbolic repetition" (Wilson and Malatesta, 1989) is a fundamental tool that aims at achieving familiarity and obtaining mastery. When repetition is out of control and beyond symbolic mediation, it becomes associated with "primal repetition." Primal repetitions originate earlier than symbolic repetitions and represent the earliest affective dyadic interactions between caregiver and infant

during the pre-oedipal stage. Their pre-verbal and pre-symbolic nature makes it beyond the reach of memory and language. Primal repetitions are less subject to influences of maturation and are more fixed in personality organization.

In the first few years of life associated with primal repetition, the ego is dominated by an "instinct for mastery" (Freud, 1914) where sensory and motor organs are repetitively used for environmental mastery through action. This instinct, mainly in the service of learning and adjusting to the new demands in the environment, is most powerful during the first two years of life. At this time, the ego needs to practice over and over again in order to naturally integrate certain functions and use them for a variety of situations. When the mastery of these functions is achieved, repetition naturally tends to disappear (Hendrick, 1943).

Moreover, at this stage, words and language are not used symbolically but rather are used as actions. Speech may thus constitute action that symbolizes something in addition to, or even entirely different from its verbal content. Busch's (1989) concept of "action-thoughts" and Loewald's (1975) concept of "language action" designate forms of verbal repetition in action that originate in the early preoperational, concrete-operations stage of thinking (ages two to five), when talk and action are not yet fully distinguished. During this stage the child is in the process of transforming the earlier action mode of thinking into the mental arena where reality can be represented internally. Mental experience in this stage, however, continues to remain closer to overt action.

The transition from primal repetitions towards symbolic repetitions occurs with the introduction of the capacity for self-recognition during the second half of the second year of life. During this period, defense mechanisms are established and self awareness arises (Stern, 1985). Gradually, the child gains the capacity to differentiate state from behavior and experience an

emotion but restrain its behavioral demonstrations. A fundamental dichotomy between what is felt and what is lexically represented typifies the onset of symbolic repetition. As the infant matures, symbolic repetition takes up hegemony and primal repetition gradually recedes from the forefront of repetitive activity.

Symbolic repetition is based upon the formation of schemas, or representations of self and objects. A schema (Piaget, 1951) is an enduring organization or structure within the mind and is the outcome of the processes of organization — assimilation, accommodation, generalization, differentiation, and integration. Sensorimotor schemas become more refined as interaction with the environment increases. At each slightly different repeating encounter, the schema is forced to modify in order to accommodate the new. The ongoing process of assimilation and accommodation leads to an elaborated ability to adapt and reach higher levels of cognitive development (Pine, 1980). In summary, developmental repetitions are central to the formation of structure as they allow for the construction of an internal representation of the external world.

Analysts who adopt the developmental theory behind the progression of repetitive forms towards symbolization concern themselves with the time at which neurosis is formed. If the core of the patient's problems dates back to a time when the ego is under the dominance of action-thinking, then "memories in action" (Busch, 1989) are viewed as essential and inevitable components of remembering. A regression to an infantile ego organization where the ego functions under repetitive practice and action may be crucial in the working-through of the neurosis (Hendrick, 1943).

Even though the developmental point of view partially explains the nature of the pre-symbolic and symbolic repetitions, it mainly addresses repetition that is more related to an

affective-cognitive skill, a way of adapting to an unfamiliar world and managing new and overwhelming stimulation. This definition is closer to that of habituation (Bornstein and Suess, 2000) and fails to relate fully to a theory of anxiety and defense which is a crucial part of psychoanalytic process. Moreover, developmental repetitions fail short of the definition of the "compulsion to repeat", which according to Freud is driven by the need to master instincts as well as trauma that overwhelms the psyche.

Repetition Compulsion as a Marker of Trauma

Trauma is associated with sudden disruption and breakdown that occurs when the psyche is flooded with excessive stimulation that cannot be integrated or assimilated in the usual way. In this case, a postulated protective barrier is breached, the ego is overwhelmed and loses its mediating capacity. In effect, a state of helplessness results, ranging from total apathy and withdrawal to disorganized behavior bordering on panic (Freud, 1919). Krystal asserts more incisively: "… trauma refers to an overwhelming, paralyzing psychic state, which implies a loss of ego functions, regression, and obligatory psychopathology" (1988, p. 145).

In thinking about repetition in relation to trauma, Freud (1926) distinguished between two types of repetition one of which helps strengthen the ego to progress towards a representational structure whereas the other leads to the collapse of representation. With regards to the former, Freud spoke of repetition of painful experiences as an attempt to develop the signal anxiety which would ultimately mitigate the impact of trauma: "anxiety is … on the one hand an expectation of a trauma, and on the other, a repetition of it in a mitigated form … The ego, which experienced the trauma passively, now repeats it actively in a weakened version, in the hope of being able itself to direct its course" (pp. 166). The repetition refers here to attempts

to repair the traumatic breach by binding and discharging tensions caused by traumatic experiences and to reestablish the pre-traumatic situation. This is accomplished by active repetition and replication of the trauma with the aim of tranforming what was experienced passively into an experience under the person's agency. This conceptualization of repetition compulsion, which mainly regards it as a regulating mechanism, has been elaborated by many authors especially within the tradition of ego psychology (Lipin, 1963; Cohen, 1980) who named it "the restitutive tendency" of the ego used to actively "unite the instinctual urge with repetition" (Bibring, 1943) in order to manage or master trauma.

Memories formed under the influence of trauma are initially reproduced in a primitive somatic form and they are different from normal memories because they lack the symbolic structure necessary for recall in a narrative structure. Narrative memory includes mental constructs which people use in order to make sense of their experience. While familiar and expectable occurrences are easily integrated into existing mental structures without much conscious awareness or particular attention to details, frightening or novel experiences may not easily fit into existing schemas and may either be remembered with particular vividness or totally resist integration. Under severely traumatic conditions, existing meaning schemas may be entirely unable to integrate these frightening experiences, which cause the memory of these experiences to be stored differently. These memories are not available for retrieval under ordinary conditions and are dissociated from conscious awareness and voluntary control. Fragments of these unintegrated experiences later disrupt the regular functioning of the psyche (Van der Kolk, 1984). In this case, repetition compulsion serves a structuralizing function; transforming traumatic registrations characterized by absence of linguistically coded and

verbally accessible memory traces and diffuse affect, towards a higher order organization (Cohen, 1980).

In psychoanalysis, patients utilize or transform external reality so that essential details that are necessary for the replication and resolution of trauma are available to them particularly in the transference (Lipin, 1963). Through numerous editions and renditions of these replications, patients can create a differentiated psychic space where they can own and represent the trauma. When such a psychic space has formed sufficiently, the traumatic registrations are altered and restructured obviating the need for continued repetition.

The therapeutic relationship is very important in the restructuring of these memories and the role of transference and transference interpretations are crucial in the transformation of trauma. Traumatic experiences initially lack the quality of thinkability in that they are unnamed, undated and unexplicated however through the analyst's presence and interpretations that summon up memories in the here and now of the analytic situation, there is an opportunity to contextualize and historicize these pre-symbolic traces which raises them "to a higher level of representability" (Loewald, 1971). With time, these traumatic repetitions take on the character of "re-creative repetitions" capable of achieving psychic representability and opening the way to the possibility of working through the patient's past experiences.

However, when the mind cannot find an adequate way to discharge the traumatic excitations, especially when there is no vital other to help transform these sensations, the result is further repetition and tension. This kind of passive repetition is a tendency towards duplication of traumatic experience with no aim towards resolution or mastery (Loewald, 1971; Bibring, 1943). Such repetitions, which Freud associated with the death drive, don't aim to work through

the trauma but instead primarily function to further inhibit or unbind the integration of affect and representation.

Before going into the nature of such repetitions, it is important to clarify the way the notion of death instinct will be used in the current study. The death instinct is a highly controversial concept and has met widespread skepticism among psychoanalysts. Objections ranged from arguments that Freud misapplied thermodynamic principles to psychology (Barros, 1971; Szasz, 1952) through criticism of his natural science theorizing in general (e.g. Klein, 1976; Peterfreund & Schwartz, 1971; Rubenstein, 1967; Schafer, 1976) to arguments that all traumatic repetitions are perfectly explainable as modified forms of neurotic repetitions in general (e.g. Hendrick, 1942; Kubie, 1939; Schur, 1966). Without going into the controversial aspects of this notion, this work will be using the death instinct as it relates to the problem of symbolization and as a metaphor for what cannot be represented or differentiated in the psyche. As opposed to the life drives (Eros) which aim to synthesize elements into different units in order to promote new representations and change, the death drive metaphorically captures a state of rigidity and stillness in the psyche that does not allow for variation. This is also associated with traumatic experience that cannot be represented and made more accessible to analytic work (Marucco, 2007).

Green (2002) addresses the problem of what resists representation as he tries to understand the nature of the archaic that repeats itself. He talks of a nonrepresentable repetition that blocks the analytic process, an unmasterable aspect of the mind that eludes signification and gets fixated on a trauma without an object. This is the realm of pure repetition. In Marucco's words:

> *"… 'pure' repetition (commanded by the death drive, almost in the realm of the pre-psychic …) is expressed in a halted time that, through the succession of acts, constitutes a permanent repetition of an atemporal present. What is more, 'pure' repetition, that is only discharged either through acts or through the soma, … leads to the impoverishment of the psyche. Pure repetition slowly causes the silence of the representative capital, rendering it mute (pg. 319)."*

According to Green (2002) these unbound contents of the psyche that are destined to be repeated create "short circuits" in one's representational chains and reduce the psychic life to "associative voids". The repetition compulsion is stronger than the desire to communicate by word-representations that are about "linking, representing, putting in context, deferring, imagining; and consequently, it is about changing form in order to evolve" (Green, 2002, pg. 76). Repetition compulsion pushes the psyche to empty itself of the conflictual tensions which could ultimately enrich its organization. In this case, the discharge associated with repetition creates "a vacuum at the heart of the psychical apparatus" that deletes meaningful mental activity and results in a "black hole" in the mind (Bion, 1962).

It is through relation to objects that meaning is created. However, the object in the compulsion to repeat acts like "the object of melancholy" (Green, 2002), that is to say an object that is clearly absent and no longer carries out its primary functions but it cannot be displaced or substituted. When this psychically dead object is internalized, the ego is left with an unrepresentable void and is overwhelmed with sensory and perceptual traces that cannot be directed towards integrative channels. The trauma, captured in the loss of the vital libidinal object, cannot be put in a temporal sequence unlike the wooden reel game where there is a succession of disappearances and returns. Instead time has frozen and there is a threat of death.

There is a psychic hole in the patient's thinking and representational world and in this state the patient aspires to "non-being" and nothingness: "We have a destruction of the image, a blotting out of it or a fading that creates a wound in the mind; produces a hemorrhage of the representation, a pain with no image of the wound but just a blank state, as I said, or a hole" (Green, 1998, pg. 658). "When this happens the ego becomes disinterested in itself as in the object, leaving a yearning to vanish: to be drawn towards death and nothingness" (Green, 1986, pg.13).

Green, like Loewald, calls for a representational conjecture that will stop the force of these repetitions. In this case, the "historizing temporality of the experience of transference" (Green, 2002) can work against the force of the unrepresentable that is timeless. A relationship that can help narrativize the trauma is crucial in transforming these exact repetitions towards repetitions that can be a life force in the mind.

Representantional Repetitions

Unlike the "anti-life" manifestations of repetition, representational repetitions are associated with Eros, a life force in the psyche, which imbues experiences with emotion and meaning (Freud, 1919; Bass, 2006). The aim of Eros, via the integration of affect and representation through an investment in object relations, is the possibility of symbolization (Green, 1999). Bass (2006), using Deleuze's work, explains that when Freud associated repetition with the death instinct, this left Eros without a concept of repetition. However, difference in life can only be understood in relation to repetition. As such the "representative" repetitions that are under the force of Eros do not simply return to a previous point but also generate a plurality of events, a sequence of experiences that relate to one another through

resemblance. From one repetition to another in the analysis, the psyche is modified and a real elaboration takes place through multiple renditions of the same narrative (de M'Uzan, 2007).

In patients who have been able to start a meaningful transference that is an "internal rewriting of the past", the repetitions are never identical. The elaboration and transformation that takes place in the repetition of an early traumatic experience in the transference is due to the crucial difference between the original unconscious experience and it coming to consciousness in the analytic session in a different context and with a new object, all of which create possibilities for change. Without this difference, one would be doomed to substitute a permanent transference neurosis for the original trauma (Rimmon-Kenan, 1980). The constructive repetition allows for "the transference to be more than *mere repetition* and become a *revised and extended reiteration*. Such 'true singularity' might *constitute an element of symbolization in the transference when it enables an unchanged* repetition *to become a new represented occurrence*" (Marucco, 2007, p. 321). The transformation of repetitive forms, from an exact repetition towards repetition with variation; from lack of symbolization towards sublimated forms of representation, is a model change in psychoanalysis (Freedman and Russell, 2003).

Conclusion

It is possible to identify different types of repetition that serve diverse functions. Repetition has a developmental function in that it serves to create structures that lead to the achievement of symbolic repetition via the patterning of the child's impulses and defenses. Repetition is also a marker of trauma which may overwhelm the ego and disrupt essential ego functions which then results in the phenomenon of repetition compulsion. In this case, it may stand for the unmasterable aspects of the psyche which elude representation and get fixated on a

trauma. At the same time, repetition has a regulatory function and is an attempt to bind excessive stimulation and transform it into a meaningful experience that can be put to use in the transference relationship.

Each type of repetition has a different relationship to what can be represented. As such, it is possible to classify these repetitions under three categories: The repetition of the "unrepresentable" (sensory impressions, traumatic experiences, prelexical repetitions) which escapes representation and blocks the analytic process; the repetition of the "non-represented" that may gain representation through a transformation most likely in the transference relationship and finally, repetition of the "representative" associated with Eros and difference, that already has a representational structure. These various types of repetition differ in clinical and lingustic expression and in the necessary therapeutic strategy in psychoanalysis. In the next section, the linguistic derivatives of these repetitions will be discussed to be later used in the empirical framework of the study.

Linguistic Expressions of Repetitive Phenomena

The major distinguishing feature between the representative repetitions that are under the influence of Eros is the proportion of difference or variation within the repetition. Bass likens this to Deleuze's definition of difference as that which lies between two repetitions and repetition as the "differentiator of difference" (2006, pg. 104). Clinically, repetitions that aspire towards a representational structure do not present as a simple series of back and forth movements but in fact with each repetition there is a gradual shift detected in the speech and the behavior of the patient. De M'Uzan talks of a sequence of such repetitions in a patient of his in the following way: "The tone of voice (of the patient), which at first glance was perfectly level and similar from one repetition to another, was in fact marked by quite variable subtleties ranging from defiance to resignation: variable but so discrete that it was only *après-coup* that they became perceptible—almost a difference, for example, when a more important variation happened (pg. 1212)." This interplay of variable repetitions starts to take on the appearance of a developed story by means of working out a new narrative.

Rimmon-Kenan (1980) applies these ideas to semiotics and explains that difference is at the heart of repetition in the discourse of the narrative, which uses repetition of multiple devices such as the narrator, context, characters, time etc. as well as their substitutes to achieve narrative transformations of the same text. As an illustration, Rimmon-Kenan distinguishes between the repetition of sign, signifier and signified: "The first type includes repetition of words, phrases, sentences, refrains, complete stanzas; the second - homonymy, alliteration, assonance, rhyme, meter, syntactic structures; and the third - synonymy and pleonasm (the use of

more words or word-parts than is necessary for clear expression like black darkness or burning fire)" (1980, pg. 152). This classification, if applied to narrative discourse creates these classifications: Repetition of the whole sign is a retelling of an event with the same words, in the same context with the same subjects; repetition of the signifier uses the same discourse elements to narrate a different event; and the repetition of the signified uses different discourse elements to narrate the same event. In contrast to the variable repetitions that can be achieved through the repetitions of the signifier and the signified, the exact repetition of the sign preserves the original narrative and closes down any psychic distance or representation that can be achieved.

Such a stuckness where sameness overrides difference is what characterizes repetitions associated with the non-represented: "perpetual recurrence of the same thing" (Freud, 1920). In this case, there is monotony in the vocal tones and inflections of the patient as well as an abundance of verbal stereotypes, language tics and the use of an unchanging exact style. There is a paralysis of thought, the stripping of affect from verbal communication coupled with psychic confusion (de M'Uzan, 2007). Marucco calls these repetitions a "re-petition (a request for help)" (pg. 315) which begs for binding, representation and symbolization.

In order to demonstrate what will later form the empirical framework behind this study, namely the linguistic derivatives of exact vs. representable repetitions and their relationship to the transformation an internal narrative, a literary example will be provided using the work of a writer whose hallmark was repetition and revision.

Linguistic Analysis of Two Versions of a Story

Raymond Carver, an American writer and poet, was dedicated to short stories of the ordinary lives of everyday people who are alienated, disconnected and entrapped in a menacing

reality that cannot be communicated. A close re-reading and comparison of his two key stories, “The Bath” (1981) and another version of that story, “A Small Good Thing” (1983) reveal lives disrupted by a severe trauma; however even though the basic plot repeated in both stories is the same, the stories depict the original trauma in different representational structures.

In both stories, the protagonists, Howard and Ann Weiss, experience a severe rupture in their lives due to the trauma of their only son Scotty being struck by a car and hospitalized on his eighth birthday. The baker, from whom his birthday cake has been ordered before the accident, begins to make threatening telephone calls to the parents when the cake is not picked up. However, the parents naturally forget about the cake when their son is hospitalized. "The Bath" closes on a note of existential terror with the mother answering the phone, assuming the hospital is calling only to hear the baker respond to her question "Is it about Scotty?" with the cryptic, "It has to do with Scotty, yes." Conversely, "A Small, Good Thing" is three times longer than "The Bath," and introduces a different conclusion which is one of healing and forgiveness. In this story the mother finally realizes that it is the baker who is calling, and she and her husband confront him with the news of Scotty's death whose condition was left undisclosed in the first version and they all come together to mourn his loss.

Even though both stories deal with an abrupt trauma and the suddenness of death, “The Bath” leaves one with a sense of confusion, meaninglessness and terror. On the other hand, in “A Small, Good Thing” the despair of death is shared and communicated between the characters in an affectionate way leading to a transformation towards redemption, healing and a note of rebirth. While the backbone of both stories is the same, there are significant textual differences, especially with relation to what is repeated and what is omitted, which account for the fullness of

style and for the final scene of resolution and reconciliation in the second one that was so absent in the first work.

First, the characters of “The Bath” are unnamed. Except for the mother, Ann, the other characters are just referred to as the boy, the father, the dog, etc. These characters seem to be undefined, permanently locked in individual spheres, turning the narrative into something cold and impersonal. It is as if the reader is viewing this story from a distance, only aware of the most prominent characters’ names, those of the mother and her dying son, while the rest exists mostly in the background. In contrast, in “A Small, Good Thing” everybody has a name and the few who aren’t named are given at least some description. The naming of characters brings the reader closer into the story, reinforcing that these are real people with real emotions that one can readily identify with. Moreover, the characters in “A Small, Good Thing” not only get proper names but are also described in rich detail letting the reader accompany their psychic struggles. Carver also gives detailed descriptions of locations, objects and the character’s actions which help the reader develop clearer notions of a representation involving temporality, spatiality and vivid images of the characters.

Furthermore, there are significant stylistic differences between the stories. In “The Bath” Carver uses a monotonous pattern of repeated subject words followed by nouns of object words:

> *Instead of talking, **she looked** into the back of the bakery and saw a long wooden table with pie pans stacked up. **She saw** the oven, the empty racks on rollers. **She heard** a radio going, a voice giving the top of the news. (emphasis added)*

In contrast, there is a lot more variation and detail within a single sentence in “A Small, Good Thing” instead of exact repetitions of subject words that start the sentence in “The Bath”:

She looked *into the back of the bakery and could see a long, heavy wooden table with aluminum pie pans stacked at one end; and beside the table a metal container filled with empty racks.* ***There was*** *an enormous oven.* ***A radio*** was playing *country-western music.*

The sentence structures that Carver uses in “A Small, Good Thing” create a detailed narrative, where the characters are vital figures in the composition of the scenes. In contrast the rote repetitions in “The Bath” give a sense of alienation and disconnection from the character and the context. Moreover, the interaction between the characters is also much more vivid and palpable in the second story compared to the first. Ann and Howard, who seem to be torn apart in “The Bath” demonstrate a deep caring for each other in “A Small, Good Thing”. A good illustration of this is the scene just after the doctor comes in the second time to tell them more of the same news. In “The Bath”, Howard’s responses to Ann amount to exactly ten words: “That could be it”, and, “I think you should do that”, are all he can say to his distraught wife as they stand over the body of their son in a coma. This same scene in “A Small, Good Thing” is much deeper emotionally, and shows a level of caring from Howard completely absent from “The Bath”, as Howard says to Anne “Just sit and rest for a little while when you get home. Eat something. Take a bath. After you get out of the bath, just sit for awhile and rest. It’ll do you a world of good…Let’s try not to worry. You heard what Dr. Francis said”.

Another example of the stylistic differences between the stories is in the descriptions of a black family, who are also awaiting the outcome of their son’s accident in the same hospital that Scotty is in. In “The Bath”, repetition of the "there was" structure which has a very impersonal quality makes the black family like other substances such as the chairs and tables.

She went past the nurses’ station and down to the end of the corridor. At the end of the corridor she turned and saw a little waiting room. She saw a family in there, sitting in

wicker chairs. ***There was*** *a man in a khaki shirt and pants, a baseball cap pushed back on his head.* ***There was*** *a large woman wearing a housedress and slippers.* ***There was*** *a teen-aged girl in jeans, her hair done in dozens of little braids.* ***There was*** *a table littered with hamburger wrappers and Styrofoam cups.*

Conversely, In "A Small, Good Thing" the mother and the daughter become the subject word and are in the foreground giving them a vivid presence as human beings. The stiff robotic characters suddenly begin breathing, stretching out their legs and smoking in the revision.

She went past the nurses' station and down to the end of the corridor, looking for the elevator. At the end of the corridor, she turned to her right and entered a little waiting room where a Negro family sat in wicker chairs. There was a middle-aged man in a khaki shirt and pants, a baseball cap pushed back on his head. ***A large woman wearing a housedress and slippers was slumped*** *in one of the chairs.* ***A teenaged girl in jeans, hair done in dozens of little braids, lay stretched out*** *in one of the chairs smoking a cigarette, her legs crossed at the ankles.* ***The family swung their eyes to Ann as she entered the room****. The little table was littered with hamburger wrappers and Styrofoam cups.*

To conclude, both of these stories deal with the retelling of a traumatic experience but more importantly, a close rereading of the stories brings up an essential question: How do the characters in "A Small, Good Thing" transform the original trauma into something bearable? Based on this analysis, the level of detailed descriptions of locations, object and characters in "A Small, Good Thing" as well as the deep emotional connection between the characters, the reader and the text is crucial in "raising the trauma to a higher level of representability" (Loewald, 1971). This is consonant with the work of Eros, which, as explained before, is about linking, representing and imagining towards changing form (Green, 2002).

This contrast between the use of exact monotonous repetitions in one story vs. a representational language that imbues the text with meaning and connection in another is crucial in differentiating the psychic state with which a person relates to traumatic experiences. In the current study, this linguistic understanding will be used as an empirical framework to study varying psychic states and their progression in a psychoanalysis.

Empirical Studies of Repetitive Phenomena in Psychoanalysis

The presence of different kinds of repetitive forms, their relationship to representation and symbolization, though clinically observed in the psychoanalytic process, has only been subject to partial empirical investigation. The empirical study of repetition has been taken up by increasing conceptual sophistication and methodological enhancement as psychoanalytic therapy research advanced (Wallerstein, 2001).

Early Studies of Repetition in the Psychoanalytic Process

In the initial stages psychoanalytic psychotherapy research, the emphasis was on quantitative process and outcome measures that objectively measured predefined concepts that were expected to capture the internal dynamics of the patient and the psychoanalytic process. Taking the concept of interpersonal schemas as a basis for their psychotherapy research, a group of researchers focused on recurrent maladaptive structures of behaviors that get activated repetitively in relationships. The structure of these schemas involved recurrent wishes, beliefs, fears and cognitions about one's self and significant others and provided the basis of what gets repeated in the transference. Among these researchers are Luborsky and Crits-Cristoph (1988) with "Core Conflictual Relationship Themes (CCRT)"; Dahl (1988) with "Fundamental Repetitive and Maladaptive Emotion Structures (FRAMES)"; Gill and Hoffman (1982) with "Patient's Experience of the Relationship with the Therapist (PERT)"; Weiss and Sampson (1986) with "Control Mastery Theory (CMT) and Plan Formulation Method"; Horowitz (1992) with "Configurational Analysis and Role-Relationship Model (CARR)"; and Silberschatz, Cutris and

Nathans (1989) with “Plan Compatibility”. Even though each of these measures have a slightly different way of identifying and categorizing repetitive behaviors, they all depict the role of repetition, structure, and representation through a systematic description of a patient's manifest wishes and beliefs.

CCRT (Luborsky and Crits-Cristoph 1988), FRAMES (Dahl, 1988) and PERT (Gill and Hoffman, 1982) have especially been used as micro-analytic measures of the psychoanalytic process (Dahl, Kächele and Thomä, 1988) and therefore these measures and their application to psychoanalytic therapy will be explained in further detail below.

Luborsky's (1988) Core Conflictual Relationship Theme (CCRT) assessed patient's "relationship episodes" that involve a wish, a response from the self and a response from the other, told to the therapist during treatment. Luborsky and his colleagues have tested an extensive series of hypotheses concerning the origin, the functions and the stimuli that activate the transference. Their observations include a central repetitive relationship pattern, which originates with early parental figures and comes to involve the therapist, and that it is partly of awareness in the treatment (Luborsky and Luborsky, 1995; Luborsky, Popp, and Barber, 1994).

Dahl’s Fundamental Repetitive and Maladaptive Emotion Structures (FRAMES) (Dahl, 1988) was another research tool that was built upon maladaptive affective scripts that underlie the repetitive stories that patients tell about their life experiences and relive with the therapist. This tool can provide a detailed description of each patient's recurrent maladaptive structures, can identify the nature of the therapist's and the patient's contribution to the therapeutic process, and is able to assess outcome by determining the fate of the FRAMES at the end of treatment (Dahl and Teller, 1994; Siegel, 2010).

Finally Gill and Hoffman's PERT schemata explored the patient's experience of the relationship with therapist pointing to implicit and explicit references to transference in the patient's verbalizations (Gill and Hoffman, 1982) Hoffman and Gill's codings, like CCRT's, begin with a set of predetermined categories and can be considered a particular type of frame in which the patient's experience of the relationship with the therapist is representative of other contexts (Dahl et al., 1988).

In summary, all three measures are methods of evaluating repetitive relationship patterns and the derived transference experiences. They can all be used to define psychopathological repetitive forms and track their change over the course of psychodynamic treatment. However, they have serious limitations. One problem with regards to the conceptualization of repetition is the overemphasis on behavioral repetitive patterns that bypass different functions of repetition that are not necessarily behavioral such as the role of repetition in language (Fonagy et al., 2002). Moreover, repetition is primarily seen as a maladaptive pattern through a pathological lens without taking into account the other functions it can serve in psychoanalysis.

Another major problem in the case of CCRT and FRAMES is their emphasis on manifest content. The fundamental problem with using these measures is associated with inferring the relationship between conscious and presumed unconscious mental representations and processes (Dahl & Teller, 1994). Even though PERT relies less on manifest content, a major problem that it brings is the identification and selection of patient material for use based on predefined categories instead of the narrative of free association itself (Dahl, Kächele and Thomä, 1988).

Computerized Studies of the Psychoanalytic Process and Repetition

One way to overcome the problem of predefined categories has been to use the natural features of the narrative as a target for research (Bucci, 1995, 1997a, 2002). To this end, Bucci (1997a) created a computerized measure of language style called "Referential Process" that looks beneath the surface of manifest content by relying on lexical items which the clinicians are not explicitly aware of and that can enable a new perspective on the therapeutic discourse through the use of graphic images. Similar to the previous measures discussed, Referential Process is built on repetitive emotion schematas that constitute the sensory and bodily knowledge one has about other people such as the recurrent wishes, fears, expectations, and beliefs that make up one's interpersonal worlds. The theory postulates that these schemas create different language styles both in terms of access to certain narrative themes as well as the use of narrative/imagery depending on which information processing system is used in the mind. Moreover, different quantities of repetition are expected to be found in the language derivatives of these schemas. However, repetition in referential process is defined differently than the one proposed in this study. Before, comparing the definition of repetition in referential process to the one proposed in this work, the details of referential process will be described in more detail.

Referential Process

The referential process is a general theory of emotional information processing that is derived from current work in cognitive psychology and affective neuroscience. Humans, like all species, have multiple forms of information processing in sensory and bodily systems. The major processing systems are characterized as "Subsymbolic" and "Symbolic"; the Symbolic system is further divided into "symbolic nonverbal" and "symbolic verbal" codes.

The Subsymbolic system has been seen as predominantly nonverbal and involves crucial information concerning one's bodily and feeling states in motoric, sensory or visceral forms. Subsymbolic processing is also responsible for knowing one's own bodily states and responding to the facial and bodily expressions of others, without being able to measure them in discrete units or categorize them in symbolic form. It may operate outside of awareness, outside of the focus of attention, and without intentional control.

The symbolic system involves usually nonverbal visual images or words that differ from the subsymbolic system in content and form. These images and words are discrete symbolic entities, and unlike the unspecified and diffuse components of the subsymbolic system, they refer to or represent other entities and play a crucial role in the reorganization of the nonverbal structures. Bucci refers to language as the quintessential symbolic code and words as the quintessential symbolic forms: "phonemes are combined to form morphemes, then words, then sentences; ultimately producing the full array of spoken and written discourse. Words are arbitrary and abstract in their reference, carrying the same meaning in written or spoken form or in braille, and not resembling the entities that they represent" (Bucci and Maskit, 2007, pg. 5).

These different processing systems are connected by the referential function which links all types of representations to one another and to words. Psychic structures are made up of components of all three systems and adaptive functioning depends on the integration of these systems. Pathology is determined by dissociation and distortion among these components (Bucci, 1997).

The referential process includes three major phases, arousal, symbolizing, and reorganizing, which repeat within sessions and also across treatments (Bucci and Maskit, 2007).

Arousal. In the first phase, a dominant emotion schema is aroused, is active in subsymbolic form, not yet symbolized. The emotion schema that has been aroused is problematic, conflictual, or threatening in other ways. This schema is likely to be dominated by sensory and somatic experiences that are disconnected and dissociated from objects, events and words. The patient is aroused but doesn't know why or how or what it means, or attributes a distorted meaning to his state.

In this state the referential process is not fully in place and the connections within oneself and to others are not yet adequately available, therefore the effective development of referential process depends on the patient's permitting the activated, unsymbolized emotion schema to direct the discourse. In order to do this, the patient needs to be in a state of exploring internally and opening himself up to what he does not consciously know. The somatic feelings and fleeting thoughts about the analyst may provide some entry into symbol systems as symbolization starts in the body.

Symbolizing. If the referential process is operating effectively, the patient enters two new stages; retrieval of symbolic imagery and its verbalization. The patient thinks of a fantasy, an episode, a memory, a dream, and tells it in narrative form. The narratives the patient tells in free association, which may feel trivial and irrelevant, whose meaning he/she does not know, may now be seen as metaphors that represent the emotion schemas, linking subsymbolic experience to images and words. The patient is engaged in the story and is communicating it in a way he could not have done in the first phase, but is unlikely to recognize its meaning as yet. The story will include the analyst, sometimes explicitly, almost certainly implicitly. The representations of events in the here and now relationship will interact with the retrieved fantasies and autobiographical material. Bucci and Maskit (2007) call this process “pivotal integrative process

of the psychological cure" where the connections between self and other, present and past are experienced and processed in multiple systems, including sensory modalities, motoric actions all potentially link to language.

Reorganizing. In the third phase, once the story has been told and shared, the patient and the therapist can reflect on its emotional meaning and identify the wishes, expectations and beliefs that underlie the story. If the referential process is working, then the words spoken by the therapist and the patient connect components of the patient's emotional schema that were previously dissociated, leading to a potential reconstruction of the schema. This phase adds the component of "reflective self function" (Fonagy, 1997) to the process of symbolizing that was at the core of the previous narrative phase. Bucci calls this final phase "structural change" as "this involves connection or reconnection of subsymbolic sensory or somatic components to symbolic nonverbal or verbal forms." (Bucci, 2007, pg. 188).

Repetition and Referential Process

In each phase of referential process, Bucci expects different quantities of repetition. However, repetition in this theory is conceptualized differently than the one proposed in this study. In referential process research, repetition is measured by the patient searching for the right words; apparently not quite able to express what he/she means. As such, incomplete words, repeated words and repeated two word phrases are all scored as "disfluencies". Kingley (2010) found that the arousal phase of the Referential Process is best characterized by disfluency and expressions of affect without specific valence. Consistent with the theoretical understanding of this phase, patients in the arousal phase are grappling with finding the right words to express an idea, or are trying to avoid the articulation of an idea or theme, and are speaking in a disfluent,

hesitant or repetitive manner. In contrast, the symbolizing phase is characterized by language that is more specific, clear and evocative. The use of repetition is found to be minimal in this phase (Kingsley, 2010). The reorganizing phase is characterized by use of reflection, affect and somatic words and again the use of disfluency is found to be low.

Coding repetition as a sub-phase of referential activity and defining it as disfluency do not address the full scale of its functions or uses. In a recent study by Goldfine (2010), it was found that repetition, which was defined in similar terms to the present study, is a process that operates independent of referential activity in survivors of Hurricane Katrina. In her study, Goldfine found unexpectedly high RA scores amongst a sample of traumatized individuals who scored as "Unresolved" according to the Unresolved Trauma and Loss Scale of the Adult Attachment Inventory (AAI) (Main and Goldwin, 1998). These findings were also consistent with previous studies of RA on traumatized populations (Jepson and Bucci, 1999; Grayson, 1995) and a narrative analysis of these trauma survivors' stories revealed that RA could not distinguish between evocative language and the language of trauma. As a result of this limitation, a non-traumatized person and a traumatized person could receive equally High RA scores based on their use of evocative language; however, the meaning of these scores differs.

In contrast, when these people's narratives were analyzed in terms of repetition it was found that people who were unresolved in relation to trauma resorted more frequently to the use of fixed, exact repetition whereas the resolved individuals were found to rely more on the use of higher-order, variable repetition. The presence of exact repetitions in a trauma narrative may indicate the speaker is unable to assimilate the traumatic experience. By repeating certain words or phrases in an unvarying manner, the narrator may be trying desperately to habituate himself/herself to traumatic elements that feel too foreign and threatening to be easily integrated.

In comparison, variable repetition is a more flexible device in that the repeated words and phrases are intermingled with the rest of the individual's language rather than preserved as a separate, frozen entity. The presence of variable repetition may indicate that the person is actively striving to transform the traumatic experience (Goldfine, 2010).

Such findings indicate using the RA alone measure, especially with traumatized populations, does not capture the level of assimilation and transformation that has been achieved in the psyche in relation to the traumatic experience. However, using repetition along with RA measures may help reach the precision needed to analyze the language of trauma. In this study, repetition will be used as a separate mechanism than RA rather than a sub-category of RA in order to analyze the different kinds and functions of repetition found in the narrative of a psychoanalysis.

Final Generation of Psychoanalytic Process Research: Implications for the Study of Repetition

The recent generation of psychoanalytic process research includes multiple perspectives on the analytic data that involves impressions of the treating analyst, quantitative ratings of clinical judges (such as CCRT or PERT) as well as computerized linguistic measures (such as Referential Process). Such a design allows a comparative process and outcome study integrating multiple lenses (Bucci, 2007). This framework will also be adopted in the current study.

An intensive single case study of an ongoing treatment, now being carried out by the Research Group of the Institute for Psychoanalytic Training and Research (IPTAR), is one of the few examples of this approach (Freedman, Lasky and Hurvich, 2003). Freedman and his group (1985, 2002, 2003, 2009) systematically study the varying levels of symbolization in an analytic session and try to empirically predict significant moments of change in psychoanalysis, which

lead to a transformation in the patient's functioning. Although they don't specifically focus on the mechanism of repetition, similar to the proposed repetition continuum in this study that runs from exact repetitions towards representational forms, they too propose a scale of incremental symbolization that starts from concrete somatic states of expression towards a narrative that has vivid temporal, contextual and imagistic qualities and involves a relationship with the analyst.

Freedman and colleagues (Freedman and Lavender, 2002; Freedman and Russell, 2003) identified three phases that make up their incremental symbolization scale: A "pre-representational phase" predominantly characterized by action and discharge; a "symbol generating" phase by which actions are transformed into symbolized thought and a "symbol-deployment" phase where images are transformed to symbolized thought giving rise to more elaborate and higher order associations. Afterwards, they created a rating scale to characterize these shifts in the patient's mental functioning taking into account processes of integration, developmental progression, relatively stable exploration and reflective function as well as qualities associated with non-integration, regression and destabilization (Freedman, Lasky, Hurvich, 2003, pg.208). Using measures of referential process and this rating scale, Freedman et al. (2003) found a statistically significant difference between sessions that were high in symbolizing activity which involved much reflection and a wide affective range and sessions low in symbolizing activity which were found to be not only low in terms of reflection and affective range but also revealed higher "speech disfluencies" (pausing, fragmentation and repetition) and prevalence of negative affect.

Freedman's work on incremental symbolization and Bucci's referential process model, each using different lenses, look at transformation of emotional information from presymbolic forms of expression towards symbolic forms. However, even though they partially consider the

use of repetition, they don't take into account its full functions. It is the contention of this work that different types of repetition that enter the analytic field can also be used as a lens to identify different levels of mental organization/representation and significant moments of change in treatment. This conceptualization of repetition will be applied to a long-term psychoanalysis for empirical validation. The psychoanalytic case to be used in this study will be discussed in the next section.

Case of Study

The case to be examined in this study, that of Mrs. C was a six-year, five day per week, classical analysis. The patient, a married social worker in her late twenties, had sought treatment because of lack of sexual responsiveness, difficulty in experiencing pleasurable feelings, and low self-esteem. The case has been widely studied by many researchers (Weiss and Sampson, 1986; Dahl, Kachele & Thoma, 1988; Jones & Windholz, 1990; Jones, 1993, 1997; Ablon & Jones, 2005; Spence, 1993, 1995, 2003; Caston& Martin, 1993; Vaughn & Roose, 1995). In a quasi-outcome study carried out by Luborsky et al. (2001), seventeen recorded treatments were evaluated by clinical judges using quantitative outcome measures applied to the contents of three early and three late sessions from each treatment. In contrast to the "moderate," "equivocal," and failed outcomes of most of these treatments, Mrs. C was described as having made "very good" improvement. However, individual studies, using different measures reported contradictory results about the patient's improvement.

Jones & Windholz (1990) conducted a systematic study of the psychoanalytic process of Mrs. C's analysis, using the method of the Q-technique (Block, 1961; Stephenson, 1953). Blocks of ten consecutive transcribed sessions were selected at regular intervals (roughly one block/year) throughout the treatment. Clinical judges applied the Q-sort technique to these transcripts in order to provide a standard language to classify and describe the process in a longitudinal framework. Jones and Windholz were able to describe each year-block with a high level of reliability. To summarize their results, the first year was dominated by conflicts around sex (fears of being raped, finding sex dirty, aggressive wishes). In the second year, Mrs. C's

conflicts extend to wishes of being reassured by her husband, and concerns about sexual identity, her womanhood, and becoming pregnant. The third year spans the time immediately preceding and following Mrs. C. delivering her first child and at this time she is occupied with feelings of disappointment and powerful aggressive fantasies (for example, of harming her child). The fourth year is filled with long and frequent silent periods, where Mrs. C oscillates between feeling defiant and angry, wishing to avoid her analyst and husband, and feeling guilty, deserving of punishment. The fifth year is dominated by continued conflicts about her aggressive feelings as well as feelings of remorse towards her husband. Finally, the sixth year is characterized by a focus on Mrs. C's feelings toward her analyst and her husband as she gains greater contact with her sexual feelings and speaks more directly about her wishes/fantasies.

With the Q-technique, Jones and Windholz were also able reliably to identify meaningful shifts in the treatment between three major phases of the analysis: from the first to second year (Early Phase) Mrs. C began to feel generally freer; less shy, more trusting and confident. The Middle Phase (shift from third to fourth year) was characterized by a remarkable shift toward increased resistance in the form of increased silences, difficulty starting the hour, pronounced struggles to control and ward off painful feelings, diffuse dialogue, absence of material from early history, and increased ambivalence. The Late Phase (shift from fifth to sixth year) was characterized by a marked shift toward increased access to her own fantasies, more frequent and direct expression of sexual and romantic feelings and longings, greater independence, and increased, open expressions of positive feelings toward the analyst. Using summary estimates of the course analysis, Jones and Windholdz described the analysis to be a success as Mrs. C was noted to have moved from intellectualization, resistance, and hostility to greater trust, self-

confidence, openness and a more natural discourse, less dominated by rationalization, expressing a deeper and wider range of emotions.

Bucci (1997b), using the same 70 sessions studied by Jones and Windholz, set out to observe shifts in the quality of the patient's language in the course of the analysis using computerized versions of the referential process. Using the earlier versions of the computerized referential activity dictionary, the CRA (Mergenthaler & Bucci, 1993), she noted the paradoxical way the patient's referential activity declined over time while the analyst's increased. In contrast to Jones and Windholdz's Q-sort study, Bucci's linguistic overview indicated that Mrs. C. showed a general decline in expression of emotional experience across the six years of her treatment and that her language style in treatment became more intellectualized and abstract. In effect, she essentially reached opposite conclusions from those of Jones and Windholz, using the same set of seventy sessions.

Weiss and Sampson (1986), using a set of process research methods based on assessment of the patient's unconscious pathogenic beliefs, goals, and plans, studied the first and last hundred hours of this case. According to Weiss and Sampson, the patient's plan, as inferred from the first hundred sessions, was still guiding her behavior during the final hundred: "Throughout her analysis, Mrs. C. was unconsciously worried about the analyst, for whom she felt omnipotently responsible. During the first 100 sessions she tested her belief in her responsibility for the analyst by attempting to demonstrate to herself that she could not push him around. During the last 100 sessions she tested this same belief by attempting to demonstrate to herself that she would not hurt the analyst if she made clear to him her wish to terminate" (p. 25).These findings led the researchers to question the effectiveness of Mrs. C.'s treatment in addressing her pathogenic beliefs.

In order to understand these contradictory findings, Bucci (1997b) found it crucial to analyze the progression of the psychoanalytic process within single sessions. She picked two sessions from the earlier and later phases of the treatment that indicated different levels of engagement in the referential process. Session 38, for example, was chosen for having the highest combined scores on Referential Activity and two other measures, “emotional tone” which tracks patient’s capacity to select words that reflect his/her emotional state at the time and “abstraction” which consist of patient’s access to complex and abstract words that are understood to be signs of logical reflection and evaluation. This session was expected demonstrate the referential process in relatively clear form. By contrast, session 726 was singled out for its low level of engagement in the referential process.

Bucci carried out a microanalysis of the sessions. For example, in session 38, she drew parallels between the linguistic patterning and Kris' (1956) model for the "good hour," noting the way that the patient began in a phase of disfluent, emotionally activating arousal, followed by flourishing narrative, filled with imagery, dreams, vivid associations, followed by the analyst's interpretation which spurred the patient into a more abstract, reflective period.

As expected, the microanalysis of session 726 depicted a different picture from that of session 38. Here, the unusually high abstraction, low Referential Activity, and low emotion tone distinguished this session as intellectualized and affectively dead, a "stalemate" in the process. In both cases, the consonance between the global linguistic analysis and the in-depth, qualitative microanalysis provided validation for the use of linguistic profiles/models to distinguish productive and struggling hours.

Another collaborative study that micro-analysed a single session in the treatment was conducted by Luborsky (1988), Dahl (1988), Gill (1988) and Bucci (1988) who all applied their

own measures to a specimen session (session 5) that takes place in the beginning of the psychoanalysis.

The application of CCRT to session 5 in Mrs. C's psychoanalysis revealed a relationship episode between the patient and her husband regarding her desire to seek approval and her fury when her request was rejected. At this point, the analyst's interpretation was, "What strikes me is you went home after you left here and talked to your husband about it wanting reassurance, but not here". The congruence of the therapist's response with the patient's CCRT wish was marked to be "moderately good" and this congruence was also found to be moderately good throughout the interventions in this whole session and in other sessions as well. This kind of congruence was expected to be associated with the benefits the patient received from the treatment. Dahl's FRAMEs measure, in the same session, identified that the patient has conflicts at work and wants support; she expects not to get support, and indeed does not get support because she delays talking to those who might help; she then expresses hostility. In this sense, FRAMEs revealed similar results to CCRT and reliably pointed to a uniquely maladaptive pattern.

When applied to the specimen hour in the treatment of Mrs. C., PERT revealed a series of relationship episodes including hostility and jealousy in relation to an aggressive rival teacher, obsessional tendencies when it comes to decisions, especially with regards to potentially pleasurable experiences with her husband; inhibition and anxiety in her relationship with her father; and feeling she was tactless and impulsive in stating the faults of one of her students to the child's mother. According to PERT, all these relationship episodes were related to the transference and the analyst offered two transference related interventions. In the first, as also identified by CCRT, the analyst pointed out that the patient seeks reassurance from her husband but has omitted reporting certain experiences to the analyst as if she were avoiding leaning on

him as she has claimed she intended to do. The second intervention is a suggestion that the patient may be inhibiting some critical thoughts about the analyst. These interventions were found to be fruitful in that they open the door to the disclosure by the patient of several previously suppressed ideas about the relationship with the analyst.

Bucci (1988) also applied her linguistic measures to this specimen hour in the psychoanalysis of Mrs. C. She found that passages marked as containing emotional frame structures mentioned before (the patient's desire to seek reassurance and react with hostility in absence) were significantly higher in Referential Activity level than those not so marked, indicating more direct access to nonverbal experience in the associative process of the patient at those points. These data provided a strong demonstration of converging evidence for emotional structures in the free association of an analytic patient. The assessment of emotional structures and the evaluation of linguistic quality were carried out by applying distinct concepts and following independent procedures, but showed striking correspondence.

In summary, there are diverging findings regarding the effectiveness and outcome of Mrs. C's psychoanalysis. Studies that look at the overall course of treatment across sessions provide differing findings based on the conceptual framework and the type of measurement applied. However, the use of process measures within single sessions that focus on the identification of dominant themes, the interaction with the therapist as well as language styles provide more consistent results. Such findings suggest that the application and comparison of multiple measures within single sessions can provide a research framework to reliably compare differing clinical conceptualizations (Bucci, 1997). A framework involving the micro-analysis of single sessions using multiple measures will also be adopted in the current study.

Statement of the Problem and Exploratory Hypotheses

This work focuses on a fundamental line of transformation between repetition and representational forms. Early developmental repetitions have a presymbolic and preverbal nature, and they gradually develop into symbolic repetitions resulting in more articulated and distinct forms of representation. Similarly, traumatic repetitions that start as exact replicas of the original experience move towards symbolic levels of repetition that involve variation, detail and clear notions of temporality. The presence of a transference object, whose psyche can be used to help decode, metabolize and transform original traumatic perceptions towards a representational structure, is crucial in this process.

The clinical observation of different kinds of repetitive forms, their relationship to representation and symbolization in the psychoanalytic process, has only been subject to partial empirical investigation. In empirical research, repetition in the patient's narrative has generally been viewed as a maladaptive behavioral structure or speech disfluency derived from patient's inability to clearly express himself/herself. However, it is hypothesized in this study that repetition is a unique and separate function of the mind that has various uses. Therefore, the overarching goal of the present study is to track the differentiation of repetitive forms in psychoanalytic discourse.

The study specifically seeks to identify the patient's use of fixed repetitions, where the same exact words are used over and over again to narrate the original experience. It is proposed that an increase in the use of fixed repetitions during a session will point to a blocked process of

assimilation and integration where the original experience remains frozen and desymbolyzed without being able to change form. In contrast, when the patient is able to reach a narrative that involves a vivid, specific and evocative representational structure (i.e. dream, fantasy, memory) that points to the transformation of the original experience, the use of fixed repetitions within the session is expected to decrease. Therefore, a specific goal of the study is to analyze the interaction of fixed/exact repetitions and representational language, which will be tracked through the patient's use of referential activity (Bucci, 1997) which is a measure of vivid, imagistic and detailed language that is associated with the person's capacity to link non-verbal and bodily modes to words. A general inverse association is expected between these measures.

Another goal of this study is to differentiate repetition and referential activity. It is hypothesized that repetition, as defined in this study, is a separate mechanism and not a sub-category of referential activity as theorized by Bucci (1997). Goldfine (2010) noted that referential activity did not distinguish between evocative language and the language of traumatic immersion. However, if the referential activity measure is used in conjunction with the linguistic measure of exact repetitions, it was found that despite their high RA scores, people who were unresolved in relation to trauma resorted more frequently to the use of fixed/ exact repetition as opposed to those who were more resolved about the traumatic experience (Goldfine, 2010). Therefore, in this work, repetition will be used in conjunction with referential activity to precisely measure their interaction and its correlates in the clinical material.

A further goal of the study is to explore the relationship between repetition and defensive processes that can be measured linguistically. It is expected that an increase in the use of fixed repetitions bespeaks of a failure in a defensive process that can put distance between the original experience and one's account of the event. To this end, two common defenses, intellectualization

and negation, that can be readily observed in language were selected. In order to measure linguistic processes associated with intellectualization, patient's use of reflection words (such as think, reason, know etc.) that concern how people think and communicate thoughts is tracked. It is expected that such words, when used without affect, could point to a higher-order defensive process. Moreover, it has been found that the extent to which a speaker is telling a story using high RA tends to move in the opposite direction as their use of cognitive words involving knowing and thinking (Kingsley, 2010). This is due to the fact that one's ability to reflect on a story requires that they extricate themselves from the story and put distance between themselves and the original experience in order to be able to reflect on it. In contrast, referential activity requires a stronger level of immersion that may interrupt one's ability to separate themselves from the event to think about it. Another defensive process of interest is negation, measured by a set of words people use when negating in communication (e.g. no, not, never) (Mergenthaler and Bucci, 1993) and is also found to have a negative correlation with referential activity (Mergenthaler and Bucci, 1993).

Methods

This work studied the progression of repetitive forms in the course of a long-term psychoanalysis. The transcripts of audio taped psychoanalytic sessions, which provide the spoken words of both analyst and patient were used in order to provide a direct window into the psychoanalytic process.

Data

The data are fully transcribed sessions from the archival psychotherapy of Mrs. C, a fully recorded psychoanalysis of a young woman of six years, conducted five days a week, for a total of 1,114 sessions. This case was selected for several reasons. It is one of a handful of long-term psychotherapies that was audio-recorded in its entirety, more than one third of which has been transcribed verbatim. As noted earlier, this case has also been studied using a number of different methods, which sets the stage for comparative studies.

Sampling of Sessions

Sessions were selected from existing archival data, over a span of general time periods in the treatment (early, middle, and late). Sessions were also selected based on their temporal proximity to those already studied in depth by other researchers who focused on the progression of repetitive forms in psychoanalysis (Jones and Windholdz, 1990; Weiss and Sampson, 1986; Bucci, 1993; Siegel; 2010). Two session blocks at relatively regular junctures were used: Session 91 and 92 from the first year, session 259, 260 from the second year, sessions 431 and

432 from the third year, session 628 and 629 from the fourth year and session 1000 and 1001 from the sixth year of treatment.

Measures

Repetition. Each transcript was coded for the exact repetition of verbs. Verbs were chosen as a unit of analysis because verbs forms are part of “action language” and “action is human behavior that has a point; it is meaningful human activity; it is intentional or goal-directed performances by people; it is doing things for reasons” (Schafer, 1976). The language of verbs is expected to capture repetitions that are used with intention.

In order to do the coding, all the verbs within the transcript were extracted in the order that they were articulated by the patient. Afterwards, the first uttered verb was compared to the next three verbs. If this verb was repeated in the next three consecutive verbs, then it was assigned a score of 1. If there was no repetition in the next three verbs, then it received a score of 0. For example, if the patient used the verb “go”, and if this verb was found in any syntactic form (went, will go, have gone etc.) in the next three verbs, it received a score of 1. This procedure was used to code every verb in the session and was completed by hand due to the inexistence of a linguistic computer program that could perform these functions.

Weighted Referential Activity Dictionary (WRAD). Referential Activity (RA) is a psychological construct that "concerns the degree to which speakers (or writers) are able to access nonverbal, including emotional experience, in their own minds and to express this verbally in a form that is likely to evoke corresponding experience in the listener” (Bucci and Maskit, 2007, p. 1366). Initially, referential activity was scored by judges along four scales that reflected components of the concept (concreteness, specificity, clarity, and imagery described

above). Computerized measures modeled after the judge scoring (and empirically validated) were constructed. First, the measure of CRA was developed by Mergenthaler and Bucci (1999). This comprised two dictionaries that included 181 word types. One set of types was considered characteristic of high RA speech, and the other, low. This first generation computerized measure has been used successfully in many research studies (Bucci, 2002).

A second generation computer dictionary, the Weighted Referential Activity Dictionary (WRAD), was developed to more closely reflect judges' scoring by differentially weighting items in the dictionary. A complete description of the building of the WRAD is explicated in Bucci and Maskit's *A Weighted Referential Activity Dictionary* (2005). What distinguishes the WRAD dictionary from other computer dictionaries, is the way it captures language style rather than content. Rather than developing this dictionary from conceptual categories, words were selected for the WRAD empirically based on their correlation to texts rated by judges to be high or low along the dimensions of referential activity. To develop the WRAD, these judges scored a set of sample texts using the four RA scales (concreteness, clarity, specificity, and imagery). The sample texts included monologues, early memories, Thematic Apperception Test (TAT) responses, and portions of analytic sessions. The judges achieved inter-rater reliability of at least 0.80 as measured by Cronbach's alpha. RA ratings for both clinical and non-clinical populations were used to develop the WRAD. WRAD contains 696 items that account for 85% of spoken language found in texts used by the measure. The WRAD assigns weights to the words contained in the dictionary that are proportionate to the RA level of each word. The assignment of weights allows for greater coverage of sample texts and yields a closer correlation to judges' ratings of RA. The WRAD has weights lying between -1 (for words most common in Low RA speech), and +1 (for words most common in high RA speech) (Bucci and Maskit, 2005). This

dictionary has been normalized so that an average WRAD weight of zero corresponds to the neutral RA score of 0.50.

Reflection. Reflection words are those concerning the communication of thoughts and the thinking process itself. In order to measure the patient's use of such words, a computerized reflection dictionary developed by Maskit and two other judges (2005) was used. Items were selected based on agreement among the judges using the conceptual definition of dictionary contents. Sets of items were discussed among the judges until a reliability above 0.80 was attained. The dictionary involves words referring to cognitive or logical functions (*e.g., assume, think, plan*) or entities (*e.g., reason, cause, consequence*); problems or failures of cognitive or logical functions (*e.g., confuse*); complex verbal communicative functions (*e.g., comment, convince, argue, obfuscate*); features of mental functioning (*e.g., creative, logical*). The computerized text analysis matches the words in the sessions to the reflection dictionary, count the number of occurrences and divide by the total word count to calculate a proportion.

Negation. Negation refers to a set of words that people use when negating in communication. This is an example of a defensive process that can be measured linguistically. Negation dictionary includes words such as *no, not, never or nor*. For example, a sentence that includes a negation word such as "I don't want to think" is identified as a match by the computerized dictionary measure. In order to measure the patient's use of such words, a computerized negation dictionary developed using the same procedures as the reflection dictionary by Maskit and two other judges (2005) was used. The computerized text analysis calculates the proportion of negation words used in a session.

Procedures

In order to assess the patient's overall use of repetition, session means for repetition were calculated by dividing the number of repeated verbs with the total number of verbs uttered. Moreover, in order to micro-analyze the psychoanalytic process within the sessions and to analyze the fluctuations in the use of repetition during the sessions, each session was divided into 50 verb blocks and repetition means were computed for each block and then these means were converted to standard scores.

Afterwards, all transcribed sessions were coded according to Maskit and Bucci's Discourse Attributes Analysis Program (DAAP) transcription rules (version 21, 2007) to facilitate computerized operations. DAAP is able to apply all computerized measures of linguistic process and content to the text of the sessions. In effect, DAAP calculated mean RA, reflection and negation scores for the ten sessions. In addition, DAAP computed means of each measure for each 50 verb blocks and these means were also converted to standard scores.

In the next step, all these scores were graphed in order to create a visual linguistic profile of each session. These graphs allow the identification of segments in the session in which the measures peak or decline and thus were used to direct one to significant therapeutic moments in the sessions. Moreover, it is possible to analyze the extent to which these measures tend to move together or move in opposite directions within a session. Thus it is possible to see the effect of one measure on another throughout the session.

Based on these graphs, segments of sessions were selected for a qualitative clinical analysis. The four segments of interest were low repetition & high RA, high repetition & low RA, high repetition & high RA and low repetition & low RA.

In each of these segments, if present, the effect the use of negation and reflection were also taken into account. Three example for each linguistic pattern was chosen for a qualitative analysis with

the aim of illustrating different types of language use associated with different underlying psychological processes and their impact on overall session productivity.

Results

Quantitative Analysis

Overall Use of Repetition, RA, Negation and Reflection Across Sessions

The application of the repetition measure to patient's speech revealed considerable fluctuation in her use of repetition. The mean of repetition (sum of repetition mean for each session divided by number of sessions) across the sessions was 0.33 (sd = 0.04) with the session means (the number of repeated verbs divided by with the total number of verbs uttered in a session) ranging from 0.28 to 0.40 (See table 1). In order to address the role of repetition in sessions, two sessions were selected. One of these sessions (session 91) had the highest repetition mean whereas the other session (session 260) had the lowest repetition mean therefore a qualitative comparison of the process within these sessions was expected to provide the best comparison of the patient's use of repetition.

The mean Referential Activity (RA) score for the ten sessions was 0.43 (sd = 0.024) with the session means ranging from 0.38 to 0.45 (See Table 1).

There are no established normative WRAD scores published for psychoanalytic sessions therefore comparisons between established normative scores and the scores of the present sample could not be calculated. However, 288 sessions from the case of Mrs. C have been used in the establishment of relative norms for the RA measure yielding a mean of 0. 37 (sd = 0.12) (Bucci and Maskit, 2005). The mean RA score of Mrs. C in the selected ten sessions is close to her mean RA in these 288 sessions suggesting that the selected sample for the current study is representative of the patient's RA use.

The mean negation score for the ten sessions was 0.03 (sd = 0.04) with the session means ranging from 0.022 to 0.036 (see Table 1). The mean reflection score for the ten sessions was 0.12 (sd = 0.008) with the session means ranging from 0.10 to 0.13 (see Table 1). There are no published normative reflection or negation scores for psychoanalytic sessions so it was not possible to compare the present sample to a normative sample. Therefore, these means will only be used to compare sessions within the selected sample.

Even though the reported overall means of these linguistic measures give a sense of the patient's use of these measures across ten sessions, this study focuses directly on the process within sessions, rather than providing measures for sessions as a whole. Bucci (1999) also differentiated her RA measure as a process measure rather than a global outcome measure and stated that "the computer assisted procedures point to *where* in the session particular aspects of the process are occurring; content measures are then applied to tell us *what* is happening (Bucci, 1999, pg. 263)". The same can be said for the repetition measure used in this study. Moreover, the sessions chosen come from different points in treatment and do not reflect an ongoing process that would make it meaningful to compare these overall means. Therefore, in the next section, the fluctuations of the linguistic measures within sessions will be closely examined.

Application of the linguistic measures to session transcripts. The application of repetition, RA, negation and reflection measures to individual sessions enabled the identification of discourse patterns in the treatment process. A graphic representation of each session was created representing the flow of linguistic measures within the sessions. For each figure, the transcript of a session was divided into 50 verb blocks; mean scores were computed for each measure in each block/unit and then converted to standard scores (see tables 2-11 for unit means of repetition, RA, negation and reflection for each session). The scores are fluctuating around

their mean (shown as z = 0) with units of their standard deviation from the mean. The y axis represents the standard deviations from the mean and the x axis represents the unit number that the standard mean scores refer to within the session (See figures 1a-10b). This procedure enabled breaking the sessions into units to compare the fluctuation of the measures and the patient's psychic states between the beginning, middle and end of a session.

First, the Pearson correlation coefficients between repetition and RA unit means scores were calculated in order to assess the association between these two linguistic measures within the sessions. As expected, correlations were all in the negative direction ranging from -.01 to - 0. 80, with high effect size for session 91(r (10) = -.78, p < .05) and 92 (r (9) = -.80, p < .05). Correlation coefficients and significance values are reported in table 12. These results confirm the prediction that the higher the RA scores (associated with representation) the lower the use of fixed repetition.

Second, the Pearson correlation coefficients between repetition and negation unit means scores were calculated in order to assess the association between these two linguistic measures within the sessions (see table 15). The correlations were significant with high effect size for session 91 (r (10) = .72, p < .05) and session 260 (r (11) = .83, p < .05). Contrary to expectations, these results reveal a positive correlation between repetition and negation in these sessions, which will be analyzed qualitatively in order to understand these findings.

Finally, the Pearson correlation coefficients between repetition and reflection unit means scores were calculated in order to assess the association between these two linguistic measures within the sessions. There were no significant correlations between these measures across the 10 sessions (see table 15). Contrary to expectations, no significant association was found between

repetition and reflection. A qualitative analysis will be conducted in order to understand these findings.

In the next step, before beginning the qualitative analysis, sessions were broken into low repetition & high RA, high repetition & low RA, high repetition & high RA and low repetition & low RA segments according to peak and declines of repetition and RA as observed in these graphs. A peak was considered to be one standard deviation above the mean and a decline was taken to be one standard deviation below the mean for both measures except in the last category, low repetition & low RA, where there wasn't enough instances of repetition or RA that were one standard deviation below the mean therefore any score that is 0.5 standard deviations below the mean were considered to be a decline. The identified segments (3 representative segments for each discourse pattern) were selected for a qualitative analysis. Patient's use of negation and reflection in each segment was also studied.

Qualitative Analysis

The results of the quantitative analysis helped enable the selection of two sessions from the first and second year of treatment with polarized repetition scores. A clinical sequence analysis of these two sessions was conducted using the linguistic measures combined with the clinical material identified as salient by these measures.

Session 91 (see figure 1a and 1b). Session 91, from the first year of treatment had the highest session mean for repetition. The session was also remarkable for having the highest session mean for RA which made it possible to study the interaction between repetition and RA. Moreover, in this session, repetition was found to have a significant negative correlation with negation which makes it meaningful to qualitatively evaluate the association between these measures.

In the first two units of the session, the patient starts the session with a long silence followed by one of her repetitive relationship patterns of not wanting to have intercourse with her husband and trying to punish him by being cold and withholding. At the same time she feels demeaned when she realizes that her husband was turned on by a book he was reading; in effect she was not the true object of his desire: *"My husband came home and he said he didn't feel well at all. And then later in the evening he did have a fever. And I think, unconsciously, I probably thought to myself, "Well, I'm safe tonight, he won't want to have intercourse." And then later in the evening -- he'd been reading a book that, from what I gather, is quite erotic. And later on in the evening he did want to have intercourse, which I just couldn't conceive, since he was so sick as he had said he was earlier… But he was just going to keep pestering me so finally I did (have sex). And I had to just sort of disassociate myself from it all and be very cold to him and, and almost punish him for asking this of me… And I think there was something, too, about the fact that it was the book that made him feel that way and not anything to do with me, that bothered me about it too."* After this, she moves into a series of narratives concerning her hair-dresser and supervisor following similar themes of feeling objectified by men with whom she is unable to express her needs: *"I just began thinking about my hairdresser -- I don't know quite why -- and, well, thinking in terms of, lately he's been rolling my hair differently and I don't like the way he has been. But I'm sort of afraid to say anything. Yet I find it's much easier if he combs it in the way I don't like, I find it's much easier to leave and then fix it the way I wanted it, at home."* In these first two blocks, repetition is at its lowest in the session whereas RA is relatively high as the patient is able to bring narratives relating to her central conflicts.

In the next three blocks (block 3, 4, 5) that follow this expressive phase, Mrs. C gets confused and panicked as she tries to refute the underlying meaning in these narratives: *"I don't*

know, there's something there that I don't quite know what I'm thinking about it. And then it occurred to me that I wasn't saying any of these things because somehow I have to see a point to them or they just have to seem important to me in some way. And then this made me start worrying that I won't be able to go through analysis successfully, which sometimes, I think, has been on my mind." The desire to not know and not think gets intensified as she reaches certain impulses that feel dangerous and she attempts to rid herself of the psychic tension through removing herself from carrying out a "successful" analysis. This turn of speech is reflected in linguistic measures as the repetition starts to spike and RA declines. At this juncture, the analyst's response is critical as her effort to turn to the analyst and ask for direction is an attempt to bind the anxiety marked by repetition by linking up with the object.

In effect the analyst intervenes with *"What would keep you from being successful (in analysis)"* ; however his question throws her into further panic that she may perhaps be lacking something that keeps her from being successful and assertive. She slips further into psychic disorganization as she keeps repeating that she is unable to think. There is also a prevalence of primitive defenses as she puts to use high levels of negation directed against the conflictual content as the well as the activity of thinking which creates a paralysis in the vital process of linking and meaning making: *"I couldn't, just -- (silence) I <u>was just thinking</u> that -- I <u>don't know</u> whether I use this as another way to sort of excuse myself from talking about things but this whole thing is something that I almost <u>don't even talk</u> about with my husband. And so I <u>don't really know</u> what words to use. And then if I <u>don't know</u> the words to <u>use</u>, it seems very easy <u>not to talk</u> about it then because I <u>keep telling</u>, I <u>can tell</u> myself, well, I <u>don't know</u> what words I should <u>use</u>."* Repetition (the repeated verbs are underlined) is at its highest at this juncture and RA is lowest marking that the transference relationship has failed to help her bind the impulse by

a representational structure. The representational impasse is further marked as she regresses into part-object relationships and says *"I don't blame his husband, I just blame his penis…"*.

However, following this retreat from linking, she is able to pull herself out of this state and start to represent the repudiated impulses through accesing a memory and a movie as a vehicle for her narrative construction. In blocks 6 and 7, RA starts to increase and repetition begins declining. She remembers reading about the "Boston Strangler" who forced his penis into his victims' mouths and connects this memory with her relationship with her husband as she articulates *"…after reading "The Boston Strangler", which I had thought would upset me very much, the only thing that really bothered me in the book, or that affected me personally enough so that, I don't know, I sort of disassociated myself from the fact that these were really people strangled but the thing that I could feel was the fact that some of these women, as far as I understood the book, at some point had to put the penis of the Boston strangler in their mouth. And that, to me, was, well, I just can't understand how anybody could do it. Because I can't imagine doing it with MSCZ's penis and certainly not with somebody who's a stranger. And I don't know quite why I feel this way except that, again, it's somehow feeling that it's an unclean thing and you don't put unclean things in your mouth. And then this leads me to thinking again something that has often occurred to me. But because of this feeling I have about this, uhm, just sort of how vulnerable I am if a man ever got power over me. Well, it even sometimes I feel that way about my husband"*. Patient also references a movie in which a girl is attacked and raped by a perpetrator and no one came to her help. She expresses her shock and horror that the audience was watching and enjoying these scenes: *"And I remember once, we saw a movie … And it was, well, almost a takeoff on the incident when the girl was being attacked by a man and nobody came to help her. But this was a girl being sort of followed by a man who eventually tried to*

rape her and then killed her when she resisted and how she just couldn't escape him and nobody would help her. She tried to stop cars in the street at one point and everybody just thought she was kind of crazy and nobody would listen. And even though I knew the whole background to how the movie was made and so forth, and it was a very short movie, I got so involved in it that I was very upset at the end of it. And it just seemed to me like it was a newsreel or something -- I don't know how well the film was actually done but just the subject was something that, I don't know, it seemed like I lost all perspective while I was watching it. And I can remember being so shocked because most of the people who were watching it knew the different people who were acting in it and they never forgot that they knew these people so they were just enjoying it. And at the end, I've forgotten, something happened and they, they were, many people were sort of laughing. And it was such a contrast to the way I was feeling that it was just a terrific shock to me." One can surmise a reference to the analytic relationship in these associations.

These examples capture three dimensions of the symbolizing activity that Freedman (2003) specifies. The first dimension is the representation of time where there is a "historicization" of one's narrative through focusing on the past, present or the future as well as a shift from one temporal mode to another. The second dimension is the presence of a fantasy space where the patient can start to imagine and remember. The third dimension is the existence of an object relational space where the patient's investment in the analyst and the analysis is clearly present yet at the same time there is a boundary between the self and the other. In this case, the patient is able to associate to a movie and a newsreel and at the same time link them to her present relationship with her husband and make implicit references to what goes on in the transference. In effect, the patient, through the use of these different dimensions, strives to bind and narrativize the repetitive activity that was dominant mid-session by creating a vivid,

evocative and persuasive account at the end of the session. The presence of this symbolizing activity, the use of representational structures in the form of memories and movies and the reestablishment of the connection to the analyst and the transference is reflected in the repetition and RA scores as repetition markedly declines and RA reaches its highest value in the session.

The clinical material in this session points to high emotional arousal along with very conflictual content indicated by high repetition. A micro-analysis of the session reveals that repetition and negation are intensified (as marked by the positive correlation between these measures in this session) when the patient is pulled into psychic confusion as a result of her attacks on her ability to think which serves to repudiate the meaning associated the affectively charged material. In this case, the intensity of the repudiated impulse is marked by the repetitive activity. In contrast, when the patient is able to find a representational structure, through accessing the memory of a movie and a newsreel, to bind her impulse, then repetition decreases.

Session 260: (see figure 4a and 4b). The next example, session 260, coming from the second year of treatment, is notable for having the lowest repetition and lowest RA scores among the sampled sessions. Moreover, Mrs. C's negation scores are highest compared to other sessions. In her previous studies on Mrs. C, Bucci (1993) marked the decline in emotional speech and the increased intellectualization associated with a block of sessions from the second year of treatment that included this session. Similarly, Jones and Windholdz (1990) commented on Mrs. C's difficulty investing herself in treatment at this time as "she is aware of avoiding talking about certain things; she cannot remember what she talked about during the previous hour; she wonders if she has come late on purpose; she feels nervous; she cannot seem to get anywhere" (pg. 998).

In the first block of the session, Mrs. C reports a change in her sense of self and a move towards feeling more competent and her fear of losing this feeling if she were to immerse herself in the analysis: *"But then today I realized, whenever I thought of coming here, that this was on my mind -- the fact that I had changed. And so I knew I'd be saying something about it here. And I just began to feel more and more nervous about talking about it, almost as if I didn't understand what had happened, but by talking about it, it might go away again or reverse itself again."* At this point, RA starts to decline and repetition increases as she begins to retreat from meaningful analytic investment. In the third block, she reports a disturbing dream that she cannot remember and her complaint of somatic pain: *".. this morning when I woke up, I was very aware of having been having a dream. I have no idea what it was about, except that in some way it was disturbing to me. And it was a relief not -- oh, I don't know, it was almost -- it wasn't even so much a relief, as I wasn't sorry to be woken from the dream. But I didn't want to get up and I didn't feel -- I, I don't know, I had sort of a vague stomach ache or something from the dream"* In these first three blocks, the work of the negative (Green, 1998) is at play in the blocking of thoughts and in her turning inwards towards the body instead of the outside object. This psychic state is represented in the suppression of the linguistic measures, which are derivatives of meaningful psychic activity, as RA rapidly declines in the beginning of the session and negation is quite high. The analyst's intervention in the second block, asking her imagery related to the somatic complaints, an attempt to bring back into the psyche what has been disavowed, does not help the patient move out of this psychic impasse as she articulates her general indecisiveness and inability to invest: *"it also makes me think of this to_to_ today when I think of it, it also makes me think of a feeling I get when -- I don't know exactly how to describe it, but -- I guess when I have set myself, or when I really do have to do something, or if I've just set myself a*

certain thing to do. And either I'm, I don't feel I can make the decisions about it or, I don't know, in any case, I don't have confidence in myself and I don't, I'm indecisive." In effect, there is no significant fluctuation in the language scores.

In the fourth and fifth blocks of the session, the patient reaches a "nodal moment" (Freedman, 1985) that explains the terror associated with being able to think clearly. She explains that the risk of thinking and knowing is associated with losing an illusion (that she has a penis) *"And it was almost as if I was then thinking I'm just not going to follow these thoughts anymore, because it might cause me to lose it. And I don't quite know what to make of this feeling that I have that, I don't know, it's -- well, that I can lose this attitude and that it would be easy to lose it."* This primitive form of denial serves as a defense against reality (that she doesn't have a penis) and its substitution by powerful fantasy. In order to preserve the fantasy, she has to detach herself from fully perceiving, thinking or linking up with the analyst.

In the sixth and the seventh blocks of the session, the analyst makes multiple interpretations about her fear of losing the illusion however these interpretations assume a level of psychic differentiation between the illusion and the reality: "*Well, it's true you don't understand, but you also make it clear that you were afraid to find out. Because that would be equivalent to losing the illusion, what you're afraid is an illusion."* However, for the patient, there is little differentiation between the fantasy and reality which is replaced by the illusion: *"…That I have connected with feeling that I had a penis again, or somehow I was able to compete anyway… And just now it seemed to me, it's almost as if when I'm thinking about acting like a female or responding in a feminine way or being a woman, I still don't know exactly what it means. And somehow I begin to think just in terms of what I want, totally unconnected with any sense of responsibility."* The interpretation, which tries to differentiate between fantasy and

reality, has no effect on the material. The patient's responses remain overly intellectualized and affectively dead which is captured in the high mean reflection scores.

It is only towards the end of the session that the patient makes more contact with the disavowed fears. In response to the analyst's attempts to emphasize her fear of pregnancy in the ninth block, she is able to say *"And I've never been too sure what I've thought I'd be afraid of, except that, I'd keep thinking well, maybe I'd just be thinking about becoming pregnant and get very nervous. And it's almost as if I'm afraid that that's the test, and whether or not I can become pregnant, function like a woman. And that that's what I'm afraid of."* In the tenth block, she states, her fear is not that she can't be pregnant but that she can *"And so it's almost as if I'm not really -- well right now anyway, it seems that it's not so much I'm afraid I can't become pregnant, as that I might be, might be able to"* which would lead to facing what she cannot bear to face (that she is a woman) and lose the illusion forever. Her anxiety at this time is reflected in the marked incline in the repetition scores along with an increase in negation which at this time is directed against highly feared content that is threatening to come to consciousness and shatter the illusion.

Overall, this session is marked by avoidance of thinking and a refusal to fully engage with the outside world/reality. The analytic task is highly threatening as it brings with it the danger of losing a very concretized fantasy of having a penis. In effect, there is a tendency towards the concrete, an insistence on a single meaning and a wish not to know.

Comparison of the repetition measures. The differing linguistic measures in these two sessions clearly differentiate one session from the other. In the first session, session 91, the patient's intensity of affect and her investment in the analytic process are marked by the overall high repetition and high RA scores. Within the session, the high repetition and high negation

segments are associated with highly conflictual material which the patient tries to negate. At times her use of negation is directed against her own capacity to think however she is able to recover from these psychic states through the use of RA. When RA is high and repetition is low, she is actively thinking, remembering and connecting.

In comparison session 260 is marked by a pervasive disengagement from the analytic task with high avoidance and disavowal. The low repetition in this session is a reflection of her overall detachment from linking up with the analyst and the analytic process. The negation is completely directed against thinking which makes it impossible for the patient to recover from her regressed withdrawal.

These results mark repetition as a significant measure that is able differentiate between sessions in terms of their affective and symbolic qualities. Moreover, an increase in repetition is associated with an impulse that is intensified but cannot yet find a representational structure. Another significant observation is negation serves different purposes depending on the context within which they are used. In the first session, negation is generally used against conflictual content whereas in the second session, it is almost always directed against thinking and linking. In the next section, in order to systematically categorize the psychological organizations behind these linguistic patterns, the individual blocks from the sampled sessions is parsed out and compared individually.

Comparison of Session Segments: Changing Patterns of Repetition and RA within the sessions

The sessions were broken into low repetition & high RA, high repetition & low RA, high repetition & high RA and low repetition & low RA segments according to peak and declines of

repetition and RA as observed in the reported graphs. Examples for each pattern were selected from representative sessions to compare the different psychological organizations behind these linguistic patterns. In the high repetition segments, the repeated verbs are underlined.

Low repetition & high RA. These segments to be discussed, from the middle of session 92 unit 4/5/6 (see figure 2a and 2b), are exemplary of the low repetition and high RA pattern. In these segments, there is a clear symbolizing activity in the patient's use of vivid narrative that is evocative yet at the same time clearly differentiated in time and space. The patient associates to a memory depicted in much detail about her father's abusive behavior and her fearful mental state at the time and the reader can imagine with the patient and identify with her feelings: *"I think of the fact that, at home, it was always, when we were little, my father was mainly a person who was always yelling at us and attacking us in various ways by either yelling at us, hitting us or saying things that, well, demoralized us, is what comes to my mind. I don't know if that's quite the right way to express it. But it made us feel very stupid and insignificant and so forth. And I was afraid of him."* At the same time, there is clear self and object differentiation reflected in the difference between her father's behavior and its effect on her mental status.

This is followed by a temporal shift in which she is able to link an episode from the past to her current feelings about men: *"But then, if I carry that to why I'm often thinking these things about men today, I can also see that I'm very competitive with women and I don't quite understand if, if this would go back to my mother, what was happening. Well, I suppose in a way I do because I was always fighting with her. At least, there's many times I can remember I was. And then for the time I don't recall, she claims that I was. Or it's just simply, we've always had a problem in getting along."* She is fluidly able to transition between past and present without being stuck.

Finally, her investment in her objects is clear as she is able to articulate her love about her father despite all her ambivalence clearly marking the presence of an object relational space in which contradictory attitudes can co-exist. *"And I can recall feeling, too, a very ambivalent feeling toward my father because I was afraid of him and he was constantly doing things that upset me very much, making me feel stupid and so forth. But on the other hand, there was, well, I don't know, I suppose love for him. Or it was always very exciting to me when he came home at night. And he was the one that, if he was in a good mood, was a lot of fun to be with. And I did sort of look up to him as somebody who, in one way, could do no wrong. Although, on the other hand, when he hurt me the way he used to so often, with being unjust and saying cutting things, I used to feel I had to fight back and show him I didn't care."*

The segments clearly show that when the patient can enter into a differentiated evocative mental space in the presence of another, RA increases and repetition is no longer necessary. This is the hallmark of symbolizing activity.

High repetition & low RA. In contrast to the clarity and vividness of the low repetition and high RA segments, the high repetition and low RA segments are characterized by a pull towards psychic confusion due to highly intensified conflict in her identity. The patient tries to clarify her thinking and identify the nature of her feeling states. For example, in session 259/unit 4 (see figure 3a and 3b), she says *"But I don't know, I just have this feeling that I'm not doing anything good. …I, I don't know, I'm not sure exactly what I was thinking, except just sort of generally the feeling I had today. And again, I guess I'm, I keep thinking that if I understood it, if I keep thinking about it long enough, then I'll understand what's causing it and then I can handle it. Which is almost what I'm doing when I'm critical of my teaching, that if I just get more intellectual about it then I'll handle it alright. But if, I don't know, on the other hand I keep*

thinking what I'd like to do is be a little more free and less rigidly planned and I'll do that for a while. And then I'll get feeling I'm being a sloppy teacher, and then I'll try to go the other way." In this segment, there is a clash between her desire to be freer and her fear of loss of control and sloppiness. Even though she tries to ground herself in her thoughts and considers different alternatives in order to resolve this conflict in her identity, her narrative remains stale and vague. The feeling of not knowing intensifies and there is a sense of desperation. The resolution of the conflict is achieved through a state of "being nothing" where neither conflictual state is chosen: *"And I just keep going back and forth without being anything. It's almost as if that's it."*

Such a sense of identity confusion is also present in another high repetition and low RA segment in session 431/unit 6 (see figure 5a and 5b) as she tries to figure out the effects of her new IUD on her sense of self. *"Somehow I felt as if something were being taken away from me, or I'd lost something. And he (my husband) was kind of joking about I'd lost my second virginity, which maybe, i--, i--, i--, there's something, I don't think that's it, exactly. But, and I'm not sure this is part of what I was thinking I was losing, or if it were just another thing I was aware of. But I don't know, it's almost as if my feeling about myself was, or my image was very much I am a mother, I have a baby, and I don't know, (my husband) just sort of there as the baby's father. And, and having intercourse with him, it's the one thing where I can't, I can't sort of go around with that image. I have to have another idea of myself."* In this passage, the patient is trying to put together two contradictory self-images and is unable to integrate her sexual and maternal identities. This representational incongruity leads to concretized thinking as she says *"And it's almost b- beyond that, that I can't, in, in having intercourse with him, be aware of my daughter, right then"* as if the shift in her perception towards her baby would eradicate her sexual self. The inability to create a unified self representation culminates into further confusion. *"I don't*

know if it's so much that I want just to think of myself as a mother as well, I mean I want to, because I don't want something else, I think. But I don't think, I don't think that's what I want, if I, if I just think th--, what I want to be is, I don't know, it sounds kind of confusing." The representational impasse is resolved by an inability to think about what she wants so that neither self-representation could be further elaborated or chosen.

The lack of differentiation in her sense of self is carried over to her objects as well in the next segment found in session 627/unit 12 (see figure 7a and 7b). In this case, both the husband and the analyst are both made into a depriving object who refuses to recognize her needs and give her what she wants and she finds herself on the other of the split having to subjugate herself to the desire of the other. *"I was just thinking of you and MSCZ again … somehow in the end I get the feeling both of you are saying I want w- in your case it would be I want us now to keep this time and with MSCZ saying this I want to make love and my feeling in both cases I'm saying, but I don't want to. I want something else. And feeling that I'm the weaker one."* Even though she can articulate that she wants something other than her husband and her analyst's desires, what she wants can only be defined as the negative of what they want: *"And I, I think a feeling that my wants should be recognized but if, if both of you keep saying you want something else I can't, MM, well, maybe there are other things involved but I can't just feel that's not what I want and go my own way. I, the only way is f-, the only solution for me is for you both then to say all right, if that's what you want and give in on what you both want. Because otherwise, it seems like I give in and, and (sigh) that seems to be part of (sigh) I mean I I feel as, as if I'm giving in. That's what it is and I feel as if somehow I've lost something of myself then."* There is no further elaboration into the details of her desire as she is unable to name anything and there is a lack of specificity in her language that is uncommunicative. This state inevitably leads to an

impoverishment and loss in her sense of self. This lack of differentiation in object relational space is also present in the temporal space as she gets confused about the days and cannot place the incidents in a time sequence with a beginning and an end. *"and, and how whatever it is, I'm getting all mixed up now, but, but somehow it seems like just taking last night and this is typical. And taking, I guess it would have been last ni- I don't know when it was, Tuesday or whenever…"*

These high repetition and low RA segments consistently show the presence of incompatible mental states. In the first segment, the conflict is between her desire to be freer and her fear of loss of control. In the second excerpt, she is confronting another paradox in her self-representations, an incompatibility between her sense of self as a sexual woman and a mother. In the final segment, the patient is struggling between her desire to get her wants recognized on the one hand and her fear of assertion on the other. The resolution of all these conflicts is achieved by aspiring to be nothing and to negate her desires so as to not choose between either position.

In each case, the confrontation of the paradox creates tension, marked by the high repetition in the language however this creates an impasse because the patient is unable to form a higher order representation that would house contradictory attitudes. The patient is left in a passive and helpless state struggling with a sense of loss relating to her identity and identifications. The external objects are also turned into depriving figures who refuse to recognize her needs and this lack of recognition creates an impoverishment in her sense of self.

Low repetition & low RA. In high repetition and low RA sessions the patient is in a state of psychic confusion due to incompatible mental states, in contrast, in low repetition and low RA sessions, mental states are completely disavowed. The patient is invested in an avoidance of thinking and meaning making. An example of this kind of anti-reflection is present

in session 259/section 7 (see figure 3a and 3b), as she tries to answer the analyst's question regarding her inability to care about her students: *"Well, just now when I was thinking of it, I wasn't. Because I really just didn't know. But I remember before when I've noticed that, I've sort of thought well, if I'm thinking more about myself then I'm going to think less about them. And then at one point, I know, I used to think and perhaps it's still something I'm wondering about I used to think that when I cared about them, before the, before I went into the hospital, it was almost like an escape from not thinking about other things and but I don't know, I don't know, it does when I say that now, it doesn't seem that would be true."*

She employs the same mechanism again in session 432/unit 11 (see figure 6a and 6b) with regards to scheduling conflicts with the analyst: *"I don't know, somehow I have the feeling I'm not really getting at how I reacted. I, I feel as if I'm doing exactly what I did then, which was to concentrate on other things."* The patient repeats over and over again her investment in not thinking and not knowing. She refuses to be in contact with the outside world and avoids investing in others as she continues to say, *"Because I was just thinking now that all this wanting to eat and everything, which I have connected with, I don't know if it's exactly lack of confidence, but anyway, eating is a substitute for feeling interest in other things and, I don't know, feeling involved, anyway"*. She turns away from others and regresses into her bodily needs (the eating) which collapse her psychic space.

A similar lack of investment in her objects is again expressed in session 1000/unit 11 (see figure 9a and 9b) as she talks about the effect of receiving money from her dad: *"And he just sent me a letter recently saying he just realized what he'd done and I didn't ev- I don't know if I even know, I don't know, I just feel, sort of, I don't want to experience any emotions for anything he does. It's sort of like the way I feel about my aunt, who's his sister, too. You know, I just*

don't want to get involved. And, I'm not even sure I noticed particularly that he'd written my maiden name and when my husband pointed it out I just thought, who cares. That's typical of him. And, when he wrote the letter to essentially apologize, I wished he hadn't written it." She tries to sever her ties with her father and her aunt, foreclose any affect (especially any disappointment) and deny the psychic tension that any sort of contact brings.

There is also an intensification of concreteness as the patient in session 1001/unit 7 (see figure 10a and 10b) ruminates over whether to wear glasses or contacts which comes after a lengthy discussion of having gotten a hair-cut. *"I I also just thought of it's, I've been kind of thinking of it I guess, you know, my indecisiveness about using glasses. Actually, I'm not having so much trouble with my contacts now, but,. Well, I, I don't know what it means the way I waver on that. One minute it seems like I've, I've really just got to start wearing glasses again. It's almost like I feel I have to make some kind of a statement. And then other times I think I'd like to be, have the option of switching back and forth, but I can't imagine in working because I can't use the glasses I have now in that way or for any kind of, you know, purpose outside the house really. And then, and then I think, well, why do I want to switch and, you know, and, and I'll go back and forth on the two extremes. Although I suppose if I'm having a lot of trouble with my contacts then I think I really want to switch th- to glasses, but then I can't quite decide."* The wish to be less rigid creates an internal tension however this conflict can only be talked about in a concretized pre-representational mode of thought in the form of what she wears. It is not represented in object relational terms nor can it be translated into a fantasy which may open up an enlivened psychic space. Instead the conflict remains frozen and dead.

The low repetition and low RA segments show a consistent de-investment in thinking and meaning making. There is a disconnection from object relations and a lack of investment in the

outside world as she regresses into her body. The transference is deadened and all conflictual affect is foreclosed. This is the mark of desymbolization (Freedman, 2003).

High repetition & high RA. In remarkable contrast to the disconnection and deadness characterizing the low repetition & low RA segments, in the high repetition & high RA segments, the patient is overly involved and immersed in a very potent fantasy involving the bodily self. In these segments, the patient unequivocally is talking about either the memory of an operation, her experience of child-birth and/or the losing /mutation of a body part. For example, in session 259/unit 11 (see figure 3a and 3b), she talks about feeling different about her body after an operation (the details of the operation are not provided in the available transcripts) as she says *"And I've never gotten back to that feeling that I had before I went into the hospital. And I remember, before I went in, I don't know, it was almost as if I knew what I was going to do to myself. Because in one way I didn't want to go in, I suppose because I was afraid of it and all, unconnected with school. But then, I kept also thinking that everything's going so nicely at school and I'll lose it when I go in. But when I say it that way it makes me think, it's almost as if I thought I had a penis then and I was afraid of losing it."* The fantasy of the inner penis being cut-out is so powerful that it affects her use of language. The word "lose" collapses into a single meaning and gets immediately associated with the fantasy losing a penis. It no longer functions like a symbol but a "symbolic equation" (Segal, 1957) such that the immediacy and the proximity of the word brings up the castration fantasy with no psychological distance. The sense of conviction associated with the reality of the fantasy is further elaborated in her associations following the previous excerpt: "*It just makes me feel that if that were true and I remember once before, it was almost as if, when I was talking about how I felt before going into the hospital, I*

was seeing it almost in terms of having a penis then, and then that makes having felt good and competent and all; for the wrong reason."

The lack of psychological distance between fantasy and reality, memory and present time are crucial characteristics of these segments as the patient finds herself locked into images of the past. For example, in session 431/unit 12 (see figure 5a and 5b), she talks about her labor: *"But the part I found really bad, and I hadn't anticipated, it was after she was born, and just everything they did to me after she was born. And I don't, I don't know, and then it just occurred to me, I wondered if it had anything to do with the fact, then I was being stitched up. And since I hadn't had anything, there was no-, I had no- nothing to help me relax. And in the course we had had, had given us nothing to work with to handle that period, which I don't know, I just found very hard. And so I found it very upsetting, I guess, to be, to be stitched up. I, I'm not sure it really hurt all that much. I thought it did at the time, but I'm not sure now it did. And they knead your stomach a lot, and I found that very painful and yet now I think well, it couldn't have been all that bad. And then I, I, from the timing I know I was, they put me back in the room I'd been in labor in, to just check up on my recovery for a while. And I know it was a very short time, but it seemed like ages, and I seem, I felt as if I were in horrible pain and everything, then. And, I don't know, it a-, really surprised me that I reacted that way."* The primal bodily images of being cut and stitched up by nameless people (referred to as "they") and being left alone in excruciating pain for a timeless/endless period leaves the reader with a sense of impersonal coldness, meaninglessness and terror. This excerpt bears similarities to language of trauma in the evocation of raw primal bodily images and the lack of a temporal sequence in the experience.

The very intensity of these experiences suggest that there are specific inner derives that impel to be symbolized however when this process fails, they create a traumatized narrative that

replicates the original experience with no "as-if qualities". At other times, the desymbolized impulses create almost a dream-like narrative that bears similarity to the operations of primary process. For example, in session 431/unit 16 (see figure 5a and 5b), she further associates to her labor: *"And I immediately I think, asked him something I can't remember my question exactly now but it was something to with would what he was doing now, sewing me up, have any, be affected at all by my first operation, when I'd had to be sewed up. And I don't know, I gu--, maybe, or maybe I was wondering if he could tell where it was. Or anyway, the time when I'd fallen on the stick and had be to sewed up, came to my mind right then. And it's almost as if I, I, I think it's almost as if I were, just from the way I remember my question; I think of this as sort of a progressive thing, that whatever happened to my, in my vagina then, was just a little bit making it not right, or bad, or abnormal, or something. And then, this time it would be a little bit more."* In this account, the image of the inner penis and the vagina are condensed into one object, something that can concretely be located in her body ("*if he could tell where **it** was*") and are progressively mutating into something abnormal with the intensification of the feeling that she has lost the inner penis, an intact and potent object.

The damaged part-object representations lead to increased psychic confusion as the patient goes on to talk about her mother's labor and birth to her brother: *"… I was wondering just what had happened. Why had she had a hysterectomy then, or something? And it turned out that that operation was a year after he was born. And that particular operation, which I was recalling, was an operation for hemorrhoids, not a hysterectomy."* The fantasies around giving birth to a girl and its effect on her fantasized inner penis are now displaced onto her mother's labor to her brother. In her fantasy, the capacity to give birth to a boy is equated with being masculine and therefore the uterus, the ultimate feminine function that differentiates female and

male, needs to be removed through a hysterectomy. This fantasy is so powerful and timeless that she confuses her mother's hemorrhoid operation that took place a year after her brother's birth with a hysterectomy that in fantasy happened right after he was born.

Overall, the high repetition & high RA segments mark the presence of heightened powerful affect and intense motivational states that impel to be bound however repetition and representation, two avenues that can contain these powerful experiences are failing her. In effect, she regresses into the mode of psychic equivalence in which there is no differentiation between fantasy, memory and reality. She gets overly immersed in bodily memories and fantasies. Her narrative combines a traumatic immediacy in the evocation of raw vivid bodily images from an operation and childbirth with a dream like process in the heightened use of displacement and condensation in response to a very potent and concretized fantasy. In effect, the patient's use of evocative language that has a quality of stuck traumatic immersion with no venue for higher-order representations.

Conclusion of the Discourse Patterns

The qualitative analysis reveals that each discourse pattern is associated with a different psychological organization and it is necessary to use repetition and RA together in order to fully capture each psychic state because even though repetition and RA serve different functions, each are attempts to master and pattern stimulation. The low repetition & high RA segments are markers of symbolizing activity given that the patient is able to freely use vivid differentiated memories and fantasies that are clearly linked to her internal states and the transference. The high repetition & low RA segments point to a representational impasse as the patient fails to integrate conflictual representations and in effect is thrown into psychic confusion and concreteness. In the low repetition & low RA segments the conflictual psychic state is

completely disavowed as the patient attacks all activity associated with thinking and meaning making. She withdraws her investment from anything associated with the external world (i.e. analyst, analytic task or demands of reality principle) and in contrast, she preserves an archaic fantasy that substitutes reality. In the high RA & high repetition segments, the patient is overly involved and immersed in a traumatic narrative governed by the principles of primary process that disrupts the continuity in her identity, in time and in space. In the discussion, each psychic configuration will be analyzed in terms of their relationship to representation and symbolization.

The Use of Negation and Reflection in Repetition and RA segments

With regards to the relationship of repetition and RA with negation and reflection, it was hypothesized that an increase in negation and reflection would decrease the patient's investment in the use of repetition. However, the correlation coefficients did not reveal a consistent pattern between repetition and negation (except a positive correlation in session 91 and 260 which were qualitatively analyzed) or between repetition and reflection. This may be because negation and reflection were clinically observed to serve different psychic purposes in the four repetition and RA segments discussed previously and these different functions could not be captured through quantitative measures. These clinical observations will be summarized below.

Qualitatively, the use of negation and reflection were found to be most relevant in low RA segments. The extent to which repetition was employed in these segments seemed to change the function of negation and reflection. In low repetition & low RA segments (such as session 259/unit 7 which is high in both negation and reflection (see figure 3b)), the use of active negation directed against thinking and meaning making was found to suppress patient's investment in any meaningful psychic activity: *"Well, just now when **I was thinking** of it, I wasn't. Because **I really just didn't know**. But I remember before when I've noticed that, I've*

*sort of thought well, if I'm thinking more about myself then **I'm going to think less** about them. And then at one point, I know, I used to think and perhaps it's still something I'm wondering about I used to think that when I cared about them, before the, before I went into the hospital, it was almost like an escape from **not thinking** about other things and but **I don't know**, **I don't know**, it does when I say that now, it doesn't seem that would be true."* Even though the patient used words concerning the thinking progress, this was fused with negation (I don't think) which served to sever the ties between the patient, the analyst and the analytic task.

In high repetition & low RA segments, negation served to further defend against the conflictual content when the patient found herself stuck between two incompatible mental states. In effect, her solution was to negate her investment in either position. However, in contrast to the low repetition & low RA segments, the negation did not repudiate the conflict or impede the mind's ability to think. Therefore, as observed in session 91, it was more possible for the patient to recover from such states. In terms of the use of reflection, words concerning the communication of thoughts and the thinking process were used towards intellectualization without vivid affective connections.

In high RA segments, the patient did not show a marked investment in neither negation or reflection. In high repetition & high RA segments which showed the presence of high anxiety in consciousness, the patient was unable to extricate herself from the narrative and mobilize any psychological distance in the form of defense (negation) or higher order reflection. In low repetition & high RA segments, the patient was immersed in an evocative story that is differentiated and represented through the use of detail and imagery. In this case, the negation and reflection were not necessary as a higher order representational structure was used to bind the psychic contents.

Discussion

Psychoanalytic treatment is founded on the principle of repetition. It is based on repeated therapy sessions, taking place over years, with the analyzand who is haunted by the past, doomed to repeat what he/she cannot remember or forget, working-through by the use of repetitive interpretations. The central question undertaken in this work was: "What are the different manifestations and roles of repetition with different meanings for the patient and for the psychoanalytic process?"

This work proposed that repetition, a unique function of the mind, has different uses relating to trauma, representation and symbolization in psychoanalysis. Repetition can manifest as dominance of inertia, the absence organizing space and the deadening of meaning (Lagache, 1953). This is the domain of the "non-represented" repetition. Repetition can also be an alarm bell associated with the traumatic anxiety, as the psyche is overpowered by unanticipated pain. In this case, repetition can attempt to develop the signal anxiety that would alleviate the impact of unforeseen trauma (Freud, 1919). Such repetitions can aspire towards a representational structure that can bind, historicize and contexualize the trauma. Repetition, under the force of Eros, can also be a differentiating force, used by the psyche to bind, represent and symbolize psychic contents. These repetitions are in the service of difference where each repetition enriches and modifies the psychic structure towards complex representational structures (de M'Uzan, 2007).

In this study, the varying roles of repetition as used in the patient's language were examined in psychoanalytic sessions. An overarching goal of this study was to establish repetition as a function that can be used to differentiate between sessions and empirically evaluate the relationship between repetition and representational forms. Another goal of the

study was to understand the interaction between repetition and other linguistic measures associated with defense and use these empirical tools as cues one can use to direct to significant therapeutic moments in the sessions. The following discussion will elaborate on the results associated with these goals in the context of overarching theoretical and clinical points.

The Role of Repetition in the Sessions

The study specifically sought to identify the patient's use of fixed repetitions, where the same exact words were used over and over again to narrate the original experience. Repetition of verbs was chosen as the unit of analysis because they are motivational structures used with intent on the part of the patient. It was proposed that an increase in the use of such fixed repetitions would signal that an impulse seeks to be bound however the continuing use of exact repetitions would interfere with representation of the impulse as well as patient's symbolic capacities.

A qualitative comparison of two sessions (91 and 260), one with the highest and the other with the lowest overall repetition means revealed markedly different processes in terms of the patient's psychic states, her capacity to symbolize and her relationship to the psychoanalytic task. The difference in the process was also reflected in other linguistically derivative expressions, that is referential activity, negation and reflection. It was found that in session 91, a high repetition session, the patient, though stuck at times in the repetition of highly conflictual states and unable to find a representational structure, was able to recover easily because of her high use of RA and start actively thinking, remembering and connecting. In contrast, in session 260, a low repetition session, a pervasive disengagement from the analytic task was observed with high avoidance and disavowal reflected in the high negation and low RA scores. The low repetition in this session

when coupled with low RA was a reflection of the patient's overall detachment from thinking, meaning making and linking up with the analyst.

These results show that it is possible to use varying levels of repetition as one factor to differentiate between sessions and to track the patient's psychic states with regards to the analyst, analytic task and her availability for interpretation. However, the function of the repetition can be understood with more depth when the patient's use of other linguistic measures and especially her RA scores are concurrently taken into account. Moreover, similar to the RA score, repetition is also a process measure rather than a global outcome measure. Therefore, it is more meaningful to study the fluctuations in repetition with relation to other linguistic measures in the process of individual sessions.

The Relationship between Repetition and RA

Correlational analyses testing the association between RA and repetition within the sessions revealed significant results for two of the ten sessions, with all correlations in the negative direction. These results had two significant bearings in the current study. First, they confirmed the prediction that the higher the RA scores (associated with representation) the lower the use of fixed repetition. The implications of this finding will be further discussed under identified low repetition & high RA session segments.

Secondly, it had previously been suggested that repetition is a sub-category of referential activity (Bucci, 1993) such that in the early stages of the referential cycle, patient's use of repetition was associated with "speech disfluencies" defined as the patient's search for the right words without being able to express what he/she means. However, the results of the study indicated that repetition, though associated with RA, functions as a separate mechanism. This

was reflected in the correlational analyses which did not show a consistent significant association between these two linguistic measures. Moreover, when a micro-analysis of the sessions was performed through the use of graphic representations which mark the flow of linguistic measures, it was possible to identify meaningful segments where repetition and RA functioned as separate mechanism and captured different aspects of the patient's psychic states. This was especially relevant when the role of repetition was analyzed in high RA segments. High RA & *low* repetition sessions marked a symbolizing process where the patient was able to bring to consciousness vivid memories and fantasies in differentiated space and time in the presence of the analyst. In contrast, high RA & *high* repetition sessions revealed a traumatic narrative associated with the evocation of raw vivid bodily images from patient's past operations that were highly disturbing. Patient lost the psychic space between the immediacy of these memories and her sense of self at that moment and was found to be suffering "in the present tense of the painful past" (Freedman and Lavender, 2002, pg. 192). This kind of remembering has been linked with a form of retraumatization in the treatment (van der Kolk, 1989).

These results are in line with previous studies that found that while High RA in non-traumatized individuals is indicative of mental health (e.g., Connelly, 1994; Samstag, 1996; McMath, 1991; Bucci and Miller, 1993) high RA in traumatized individuals may reflect the presence of trauma-related pathology (Goldfine, 2010). However, RA, if used alone, cannot differentiate evocative language associated with health and such language that may be associated with traumatic immersion and give contradictory results in traumatized populations (Jepson and Bucci, 1999; Grayson, 1995; Goldfine, 2010). In this case, the repetition measure is instrumental and when used in conjunction with the RA measures, is able to provide a level of precision that cannot be achieved if these measures are used alone.

The RA and repetition measures, when used together, were not only instrumental in differentiating patient's symbolic integration vs. traumatic immersal but were also indicative of other underlying psychological processes. The interaction of these measures pointed to four different "psychic zones" (Marucco, 2007) or modes of functioning of the mind that are distinguished in terms of their representational structures. Each emerged with unique traits at different moments in the analysis with distinct demands from the analyst. The dynamics of each psychic zone with regards to repetition, representation and symbolization will be discussed. Moreover, in each psychic zone, reflection and negation was found to serve a different function, which contrary to what was hypothesized, indicates that it is hard to talk about one's use of these measures and their meaning independent of the context in which they are used.

Repetition and Representation: A Study of Different Psychic Zones

Attacks on thinking and difference: Low repetition & low RA. The low repetition and low RA linguistic pattern consistently revealed a collapse in psychic representational space such that the patient was observed to be extremely concrete and invested in attacking thinking and meaning making. One possible reason behind such concreteness was observed in session 260, a low repetition and low RA session, where the patient defended against knowing because she was engaged in a highly powerful fantasy to patch over objective reality. The analyst's interpretations, addressing the derivatives of the fantasy material and emphasizing the difference between reality and fantasy fell flat. In this session, engaging in the analytic task and linking up with the interpretative process were equated with losing the illusion that she has a penis.

All these observed processes, the defensive substitution of reality by fantasy, the investment in concreteness and the resistance to interpretation, have been extensively written

about in psychoanalytic literature (Jacobson, 1957; Sandler, 1976; Bass, 1997, 2000, 2006) and linked to the problem of concreteness: The patient treats "psychic strivings as if they were concrete objects perceived" (Jacobson, 1957, pg. 73). Underneath this tendency is a regression to a "concretistic" infantile stage of thinking (Jacobson, 1957) where the child, though aware of the difference between internal and external world and between the self and the objects, still treats them in the same manner. The literature on "primal repetition" (Wilson and Malatesta, 1989) and "action thoughts" (Busch, 1989) addressed a similar problem where mental experience, preverbal and beyond the reach of language, remains closer to action. However, in the case of the patient used in the current study, this is not a developmental arrest, but an active attempt to destroy the "mental space" necessary for differentiation and representation in order to hold onto an archaic illusion. This disavowal of differentiation, according to Bass (1997, 2000) is possible at any stage of development and is related to the structure of fetishism.

The fetishist repudiates the reality of sexual difference and substitutes a patch in the form of a fetish (a phallic substitute). In the studied excerpts, the patient used a primitive form of denial that served as a defense against reality (that she doesn't have a penis) and its substitution by powerful fantasy (that she does). This "perverse" relationship to reality involves an oscillation between the registration of the castrated position and the non-castrated illusion. Freud (1938) called this process disavowal where through the splitting process, the ego can register the reality but at the same time repudiate it by fantasy.

Bass (2000), extending on Freud's theory on fetishism argued that this kind of disavowal not only repudiates sexual difference but is a defense against the experience of all difference and differentiation. This idea is based on Freud's introduction of Eros as a drive which brings "vital differences" into the psyche. However, every difference/differentiation brings forth an increase

in the psychic tension levels which, at times, for certain people, and most of the time, for the "concrete" patient can be traumatic. Therefore, such patients aspire towards a destruction of any difference and also attack the mind that has the capacity to register difference (Chasseguet-Smirgel, 1984). The psychic result, as also observed in the studied patient, is avoidance of thinking, meaning making (where one thing can mean something *different)* and refusal to fully engage with the outside world/reality. As has been theorized previously by Bion and Green, repetition compulsion that is associated with a "de-differentiating" force (which they equated with the death drive) pushes the psyche to empty itself of the conflictual tensions which could ultimately enrich its organization and it deletes meaningful mental activity especially when coupled active negation (reflected in high negation scores directed against thought processes).

The transferential impact of this kind of repetition is a resistance to the interpretative activity of the analyst which, by definition, works on the principle of difference as it introduces the possibility multiple meanings. Freud linked this transference to "daemonic repetition" precisely because it produces an un-interpretable transference where the patient is unable to see repetition as of the past (Bass, 2006). It closes the possibility to see repetition as repetition and to introduce historicity—the possibility of relation between past and present; here and then.

When analyzed in terms of its relationship to representational structures, the psychological constellation associated with low RA & low repetition is associated with direct destruction of psychic tensions states, an adherence to concrete mode of thought and a pervasive defense against the experience of difference "with the aim of establishing an illusory oneness" (Freedman and Lavender, 2002).

The Language of Trauma: High Repetition & High RA

As discussed before, high repetition & high RA segments are associated with the language of trauma. In these segments, the patient is locked into memories/fantasies of bodily mutation with no psychological differentiation between fantasy and reality, memory and present time. The horrific bodily images in her narrative relating to being cut-open and stitched up, the immediacy of the visceral sensations as she associates to excruciating pain and the overall sense of helplessness are characteristic of the sensorimotor level of organization of these memories: "The body keeps score" (van der Kolk, 2007; Krystal, 1988).

Such repetitions are the reason Freud (1914) envisaged a beyond the pleasure principle, as he observed repetition of pain in dreams of the severely traumatized patients. The psyche, in these cases, is flooded by unmanageable quantities of excitation which provokes a state of psychic disorganization that interferes with the capacity to perceive, represent and form higher-order memory traces. These are close to "passive repetitions" (Loewald, 1971) where the memories reproduced are under the timeless power of primary process with rudimentary condensation and displacement. They dangerously resemble the search for the identical (de M'Uzan, 2007) for that which has been lived through but not experienced and never categorized as the past: "when this category of the "past" has not been able to develop properly, a sort of "chronology" takes precedence over a novel made up of yesterdays, and one sees, in extreme cases, the *scattered-island (archipelago) personalities*... In those cases, we are witness either to violent eruptions of conglomerates of affect-representation, or to thinking predominated by a regime of *pensée operatoire,* or even an interweaving of the two" (de M'Uzan, 2007).

At the same time, these "passive" repetitions have the potential to become "recreative" repetitions because the activity of the repetition compulsion is also an attempt to achieve mastery and control of the traumatic experience through multiple editions and renditions: "Reproduction

and recreation are not merely in an oppositional relationship; they are also complementary" (Loewald, 1971, pg. 61). The traumatic themes that the studied patient is struggling with in these excerpts, namely her fear of bodily damage in the form of losing the fantasied inner penis and the effect of this fear on her feminine identity are very much present in the transference as observed in the other sessions. The repetition in the transference of these unconscious infantile experiences is an attempt to bring them to consciousness and open them up to ego's organizing activity as well as to the analytic interpretations.

If thought about in terms of their relationship to representational forms, these passive repetitions, where the trauma is merely replicated, have not yet reached a representational space; however because it is possible to find derivatives of these traumatic experiences in the transference, they carry the potential to change form in the psychoanalytic process.

Confronting inner conflict: High repetition & low RA. High repetition & low RA segments reflect intolerable ambivalence regarding patient's identity and identifications, which becomes a source of panic. Patient's recurring repetitions and concreteness is a process borne out of this terror. The clinical challenge in this case is to be able to differentiate such repetitions from what was observed in low repetition & low RA segments. Even though in both psychic zones the patient comes close to a mode of psychic equivalence and an inability to think, in the case of low repetition & low RA, the derived linguistic pattern is motivated by a destructive force that aims to sever any link between the patient and the analytic process and with the part of her mind that can generate meaning. In effect, it is much harder for the patient to recover from such states (as observed in session 260). In contrast, the main motivation in the high repetition & low RA segments is to resolve distinct conflictual strivings which would in effect lead to more complex awareness of self and others. It is true that the evocation of such conflicts throws the patient

towards a state of psychic equivalence; however she is able to recover from such states (as observed in session 91) and fluidly transition in and out based on the intensity of her anxiety. This state has the potential to evoke allusions and alternative images in a way where the inner stuckness can be altered (as observed at the end of session 91 where the patient was able to reach vivid representations relating to her conflicts.)

The idea that repetition can be transitory and furthermore a precursor to new meaning is the essence of repetition in the service of difference. What is encountered is that the repetition, "as opposed to the eternal return of the same" (Freud, 1919) does not return in order to get stuck but from one repetition to another, the psyche is modified. Such a model of change, from conflict to stuckness towards higher levels of integration and back, has been written about extensively by Freedman and colleagues (2002).

In a series of empirical studies, Freedman and his colleagues (Freedman, Lasky and Ward, 2009) recognized that the analytic process involves a sequence of events from higher to lower levels of development (regression) and back again. At the core of this cycle is the notion of desymbolization, characterized by tendency towards the same and a wish not to know. The patient can gradually move out of this state towards a narrative with greater coherence and expanded representations of herself and others. This is almost always a narrativazation of the transference which creates further psychic space for vivid representations of experience. What is striking is that the very attainment of a reflective space brings with it the danger of awareness and containment of the previous inner conflict and a potential encounter with the anxiety provoking situation. Such encounters have the potential to collapse the symbolizing space and threaten a return to concreteness and stuckness. These regressive and organizing movements in the psyche are crucial in the process of structure building and psychic change.

In terms of the relationship between such repetitions and their psychic representability, such repetitions are associated with conflict that is already in the psychic space and has reached the level of words. However because of the conflictual nature of the representation, the patient fluctuates between concreteness and symbolization as she tries to integrate the conflict into her psyche.

Rewriting of the past: Low repetition & high RA. Low repetition and high RA segments are the hallmark of differential repetitions as the patient is able to bring the repeated past into the transference relationship and open herself up to a new experience. In this case, patient is no longer stuck in fixed repetitions but is able to use repetition of multiple devices such as the narrator, context, characters and time in the internal rewriting of her past (Rimmon-Kenan, 1980). For example, in session 91, she is able to narrate her fear of being subjugated through a character in a movie and another character in a newsreel and shift fluidly between these characters as she also references her position in the transference relationship. Moreover, in the analyzed segments of session 92, she is able to create rhythmic variations in time as she associates to a memory, then to her current relationship to her husband and also generalized fearful and competitive pattern with men that characterizes the here and now of the treatment situation. She is also able to switch the narrators in her account and at some point start telling some aspects of her story from her mother's perspective.

As opposed to the paralyzed, fragmented or absent objects in the other segments, repetition in this case is bound up with alive objects who are loved, feared, hurt but more importantly preserved. The ambivalence felt against these objects is used towards building a complex awareness of others. This, in Green's words, is the hallmark of objectalization. In these segments, there is a clear symbolizing activity in the patient's use of vivid narrative that is

evocative yet at the same time clearly differentiated in time and space. The higher order representations, in effect, as hypothesized, put out of use the exact repetitions.

Possibilities for Psychoanalytic Technique

These four distinguishable modes co-exist with varying degrees of prevalence and emerge in different moments of a psychoanalysis. They determine the very conditions of the patient's as well as the analyst's positions. In each case, the analyst's listening and interventions require a responsiveness that is unique to the demands and characteristics of these modes.

With regards to unrepresentable repetitions, the analytic task is one of recognizing the patient's paralysis of symbolic functions, attacks on thinking and linking (Bion, 1959) as well as fear of differentiating from powerful wish-fulfilling fantasies (Bass, 1997). The clinical challenge is one of hearing patient's endless repetitions and concreteness not as a diagnostic fact but a demand on the analyst to help the patient tolerate a degree of difference. However, as long as the patient maintains this state, any introduction of new meaning by the other is foreclosed. In fact, it is not just new meaning that is barred but the mind of the analyst that can generate any difference may be disavowed.

Going back to session 260, a low repetition and low RA session, where the patient is predominantly stuck in a de-symbolized state and is holding onto an organizing fantasy of having a penis in order to deal with her tension states, it is possible see how the analyst's interpretations that attempt to create a symbolic space lead to further concretization and collapse of meaning. In this session, in unit 6, the analyst makes multiple interpretations that differentiate reality and the illusion that she has a penis: *"Well, you know, you say it again today and you said it yesterday, that you had the idea yesterday that you wondered if you had felt better about yourself and about*

the school before the operation, because you had fooled yourself into thinking you had a penis. And you allude to that again today. Then you say you're afraid you will lose what you have. You will lose the illusion, really is what you seem to be saying." However, the interpretation does the opposite of what it intends because it only serves to confuse the patient as she gets concrete about what an illusion is and how it works: *"So that would mean unless I think I have a penis, I don't have any confidence. But then I, I don't understand how I got this illusion yesterday, so that by the time I got home I felt differently about the reports, anyway. I didn't even -- today when I was going to school I was kind of afraid I'd still feel the same way I had yesterday at school. And then I didn't."* In effect, the analyst, possibly realizing the problem in the reception (and the rejection) of the interpretation, restates more forcefully his original claim: *"Well, it's true you don't understand, but you also make it clear that you were afraid to find out. Because that would be equivalent to losing the illusion, what you're afraid is an illusion."* The interpretations are fruitless attempts at working-through as the patient remains in a state of psychic equivalence throughout the session because these interventions assume a level of psychic differentiation between an illusion and the reality and also prematurely force the patient to abandon a very powerful regulating fantasy.

In this case, Bass (2006) recommends avoiding causal content interpretations which only heighten the patient's fear of difference and integration, and aiming at naming the investment in the sameness in order to modify the rigid defensive maintenance of it. Moreover, because the introduction of structural interpretations can create a power struggle as the analyst is confronted with a sense of helplessness and feel bereft of any valid identification, there is also a recommendation to hold onto a non-impinging analytic position, such as a state of reverie that is able to tolerate confusion or the sense of unbearable tension with the aim of containing what has

been evacuated by the patient (Grotstein, 1979; Meltzer; 1983, Ogden, 2004). If the analyst can set aside his causal interpretative stance while maintaining such a symbolizing space in his mind, he/she can survive these more primitive mental states and work toward an enhanced symbolizing capacity.

In the case of repetitions where the patient is locked into overwhelming and disturbing sensations, raw perceptual impressions and disintegrated images, the challenge is to be able to "connect bodily excitations with psychic representations" (Lecours and Bouchard, 1997, pg. 855). This is a process of transformation in which the analyst needs to participate as a mediator following very closely these fragmented, disharmonious and non-rhythmical messages from the patient, contextualizing them in time and space and returning them back to the patient in a more metabolized form (Bion, 1962). With time, the traumatic potentiality of these repetitions decreases as they get represented and ultimately worked through in the transference.

An example of this transformational process is present at the end of session 431/ units 16 &17, both high repetition and high RA units, when the patient is talking about her labor. In the session, one witnesses the disconnected ideas in her communication, the somatic primitive contents and the lack of psychological distance between fantasy and reality as the patient is immersed in a traumatic fragmented narrative: *"And uh, but then when he started sewing me up, and I had, I knew what I'd had and I don't know if I'd seen her yet, or not. But anyway, I wasn't going to s--, uh, I think they were doing th--, whatever they do to babies when they're born. So I couldn't see her right then. And I immediately I think, asked him something -- I can't remember my question exactly now -- but it was something to with would what he was doing now, sewing me up, have any, be affected at all by my first operation, when I'd had to be sewed up. And I don't know, I gu--, maybe, or maybe I was wondering if he could tell where it was. Or anyway,*

the time when I'd fallen on the stick and had be to sewed up, came to my mind right then. And it's almost as if I, I, I think it's almost as if I were, just from the way I remember my question; I think of this as sort of a progressive thing, that whatever happened to my, in my vagina then, was just a little bit making it not right, or bad, or abnormal, or something. And then, this time it would be a little bit more. And -- (Pause)". In response to this chaotic narrative that contains idiosyncratic impressions and sensations that are confusing and disorienting, the analyst asks: *"Do you remember shortly before we interrupted, before you went into labor, you had among other things thought about an operation your mother had after your brother was born? For some reason that occurs to me now."* This question introduces a "historicizing representation" (Baranger et al., 1988) as the analyst uses his mind to open up pathways for an organizing memory that is clearly demarcated in time, space and person. In effect, the patient's ensuing narrative completely shifts as she is able to differentiate different moments in the past as well as separate out fantasy, memory and reality, which until then, had been fused. Moreover, the affective tone of the session remarkably changes from pain and horror towards the use of humor as she responds with a chuckle: *"Because that, that's kind of funny, actually. (Chuckle) Because my mother came down after my daughter was born, to uhm, help me in my first week home. And I'd been, I w--, that was on my mind then too, because I was wondering just what had happened. Why had she had a hysterectomy then, or something? And it turned out that that operation was a year after he was born. And that particular operation, which I was recalling, was an operation for hemorrhoids, not a hysterectomy. Although, and so then I was thinking my husband and I were laughing about it because, uhm, at first I was wondering, well did she ever have a hysterectomy. And then later on, uhm, she said something and, and, and said, "When I had my hyster--." Oh, I know, we were talking about appendix and appendicitis and she said, "Well, when I had my hysterectomy, they*

took my appendix out, too." So I--, now I don't even know when that was. But yet that's how I thought of it. and it was a year after my brother, not right after." The analyst's intervention that aimed at containment and construction is crucial in creating bridges of cohesion for the patient's disjointed memories, fantasies and communications towards a more integrated narrative.

Finally, the latter two types of repetition identified were of a different nature as the patient had reached a representational space. In these modes, the patient was attempting to sort out opposing and contradictory feelings and to revisualize scenarios from the past. This process took place at a level of triangular organization, defined as the patient's ability to confront the dilemma of opposites in her sense of self, face conflict and ambivalence and still survive a crisis in her identity (Britton, 2004; Feldman, 1989; Chasseguet-Smirgel, 1984). This triangular space, also known as "the third" position, has been identified to be the optimum space for analytic work to take place (Green, 1975; Ogden; 1986, 1994). In this case, the technical choice for the analyst is to engage in a joint interpretative process with the patient in the context of a symbolizing transference.

For example, in session 432/unit 6, a high repetition and low RA segment, the patient is torn between her desire to receive the analyst's approval and her fear of not getting it. This happens within the context of wanting to reschedule one of her sessions; however she finds herself unable to make a direct demand. The analyst makes an interpretation addressing the conflict: *"You know, it seems possible to me that one of the reasons you didn't want to ask, was because you're inhibiting exactly the opposite. As though you really would like to have me change the time as sort of a token of my appreciation and you have passed your test very well, and that I'm pleased by it, and all that. It would indicate that I was giving you something in return to show my appreciation."* The patient's response is markedly different than it had been

when she was in a state of de-symbolization. She is able to associate to an incidence regarding her parents which in fact deepens the reasons underlying her conflict and is later on able to face the two contradictory sides of her conflict that has led to the inhibition regarding making a demand*: "Mm. Yeah, when you say that, first I think that's crazy. Why would I do that, if that's what I want. But then, it reminds me of when I was at my parents' house, and my father was giving us some money. And then I had that reaction to I don't know, not feeling good on one hand, but yet feeling awkward about showing any, any signs of affection, physically. And, and then, anyway it's, it's something about, I don't know, I'm so used to thinking I wish my parents had been more a--, openly affectionate with me. Because I wanted to be in return. And yet, it seems like I want to avoid anything that will then sort of make me feel obligated to, or I m--, it s--, it seems sort of awful to use the word that I'd be in debt, but I think that's how I feel, And then I'd owe something. And I don't know, maybe it's with you too, just as it's with my parents. There's something about if you don't do anything for me, then I can feel freer about feeling angry at you when I want to. If you do nice things for me, then I won't feel that I can be free and feel angry, or anyway, feelings that I don't like having. And, or maybe I shouldn't say don't like having so much as don't like showing, don't like admitting… And (Pause), and I, I don't know, it just, I was just thinking that it seems like I'm caught either way. Because by asking, I was just remembering there was a time when I was feeling very strongly this way. And I don't think it's just that time, I think it's always true, that I feel a certain anger, or some negative feeling anyway, if I don't get what I want, which is to change the time. And so, I don't want to face, or set up the possibility that you'd say no. But on the other hand, it seems like I can't handle your saying yes, too."* In this case, there is a rich therapeutic interchange where the both the patient and the

analyst work together to allow for shared meaning that is further elaborated into new meanings and associations.

It is important to note that the patient's possible move from one of these psychic states to another in response to the analyst's interventions is not a linear phenomenon as constituents of each mode was identified in multiple sessions across the course of treatment. These transitions and transformations involve cyclical processes of integration, disorganization and reorganization towards the attainment of a higher level of organization which is the essence of true change in psychoanalysis (Freedman et al., 2002).

Possibilities for Psychoanalytic Research

In the current study, repetition itself, with its blockages and transformations emerged as an empirical tool to differentiate forms of psychic functioning that undergo alteration in the psychoanalytic process. This was made possible with the proposed definition of repetition, which is quite different than the way it has conventionally been used in psychoanalytic research. The empirical operationalization of repetition had heavily relied on behavioral relationship patterns which missed the underlying unconscious states (Luborsky, 1988; Dahl, 1988; Hoffman and Gill, 1982). In effect, applying these previous measures to the process of psychoanalysis produced contradictory findings about Mrs. C.'s improvement (Weiss and Sampson, 1986). However, the empirical lens adopted in the study was able to differentiate distinct forms of mental organization and study their fluctuation without expecting linear behavioral progress and outcome which does not coincide with the way change comes about in psychoanalysis. In terms of the application of empirical research to psychoanalysis, it has generally been agreed upon that the most essential part of psychoanalysis is not its outcome but its process (Cooper, 1993; Wallerstein, 2001; Bucci,

2007). In psychoanalysis, the process is not a means to an end but a goal in itself. Therefore, fine grained studies of the treatment process that include multiple measures, such as the ones used in this study, applied to verbatim transcripts of psychoanalytic sessions enables the identification of specific features of treatment process that are essential for overall treatment effectiveness.

In the case of Mrs. C, this was achieved through systematic coding of the discourse style of the patient and identifying different patterns of language which permit "reaching beneath the surface of the therapeutic interaction" (Bucci, 2007, pg. 21). Afterwards, it was possible to select parts of sessions found to be crucial for therapeutic process and outcome and apply a qualitative clinical analysis for an in depth understanding towards theoretical formulations. This is an ideal model for process-outcome methodology in psychoanalysis (Wallerstein, 2001, 2006).

Limitations and Further Research

The results of this study point to a number of limitations and directions for future research. First, there is the problem of limited sample size. Even though longitudinal studies of single cases are ideal to study the psychoanalytic process in depth, there is an issue with generalizing from a single case. An improved methodology would be based on a repeated single case design, involving relatively large sample of treatments for adequate comparison.

Another area for future research is the impact of the analyst's interventions on the patient's psychic states. Even though this study did not systematically consider the particular patterns of the patient and therapist interactions, it is impossible to single out the patient's psychic states independent of the analyst's influence. The timing and the types of interventions used by the analyst are crucial in understanding the fluctuations in the patient's psychic states.

Such a study could use the repetition measure devised in this study to assess which interventions on the part of the analyst help the patient stay psychologically generative.

A further way of using the repetition measure is to systematically study different kinds of linguistic repetitions and their relation to psychic states. This study specifically focused on fixed repetitions however it is possible to identify "variable repetitions" where a word or phrase is repeated with slight alterations (alliterations, synonyms, homonyms etc.). Golfine (2010) and Grofman (2008), using children's books and traumatized populations, both suggested that subtler, more varied forms of repetition may be consonant with the attainment of a higher level of cognitive development and integration however they did not apply this understanding to a psychoanalytic case. In addition, this study focused on verb repetitions because of their relationship to motivational states however looking at repetitions of different parts of speech, such as subject or object repetitions is likely to reveal further information regarding one's object relations. Approaching repetition as a multi-leveled phenomenon and categorizing the progression of different repetitive forms in psychoanalysis can be used as a lens to study processes of transformation.

Table 1

Session Mean Repetition, RA, Negation and Reflection Scores

Session Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
91	0.40	0.45	0.03	0.10
92	0.38	0.44	0.02	0.12
259	0.33	0.42	0.03	0.13
260	0.29	0.38	0.04	0.13
431	0.39	0.45	0.04	0.12
432	0.29	0.41	0.03	0.13
627	0.33	0.42	0.03	0.12
628	0.34	0.42	0.03	0.13
1000	0.31	0.43	0.03	0.12
1001	0.31	0.40	0.03	0.12

Table 2

Session 91
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.32	0.48	0.03	0.09
2	0.30	0.43	0.02	0.12
3	0.44	0.43	0.03	0.09
4	0.46	0.39	0.03	0.13
5	0.52	0.38	0.04	0.10
6	0.50	0.39	0.03	0.12
7	0.36	0.54	0.03	0.12
8	0.34	0.51	0.01	0.08
9	0.29	0.52	0.02	0.05
10	0.32	0.48	0.03	0.09

Table 3

Session 92
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.38	0.46	0.02	0.14
2	0.4	0.46	0.01	0.11
3	0.52	0.35	0.01	0.14
4	0.32	0.50	0.01	0.13
5	0.26	0.46	0.03	0.09
6	0.52	0.40	0.02	0.12
7	0.24	0.46	0.04	0.11
8	0.41	0.40	0.02	0.11
9	0.38	0.46	0.02	0.14

Table 4

Session 259
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.28	0.41	0.02	0.13
2	0.34	0.43	0.01	0.14
3	0.24	0.40	0.05	0.12
4	0.40	0.36	0.03	0.12
5	0.40	0.43	0.04	0.09
6	0.30	0.44	0.04	0.10
7	0.30	0.36	0.04	0.19
8	0.30	0.46	0.02	0.11
9	0.42	0.40	0.03	0.15
10	0.26	0.43	0.01	0.13
11	0.34	0.44	0.02	0.10
12	0.41	0.45	0.02	0.11

Table 5

Session 260
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.20	0.44	0.02	0.10
2	0.28	0.42	0.05	0.10
3	0.30	0.34	0.04	0.14
4	0.18	0.40	0.03	0.11
5	0.18	0.37	0.03	0.19
6	0.32	0.35	0.04	0.12
7	0.24	0.42	0.03	0.13
8	0.36	0.37	0.04	0.15
9	0.38	0.36	0.04	0.11
10	0.26	0.39	0.03	0.14
11	0.47	0.36	0.06	0.12

Table 6

Session 431
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.30	0.42	0.03	0.14
2	0.38	0.41	0.04	0.15
3	0.22	0.41	0.03	0.12
4	0.16	0.48	0.05	0.11
5	0.34	0.41	0.05	0.14
6	0.50	0.39	0.04	0.12
7	0.46	0.43	0.06	0.10
8	0.46	0.42	0.02	0.13
9	0.44	0.41	0.03	0.10
10	0.48	0.46	0.03	0.08
11	0.38	0.47	0.05	0.09
12	0.46	0.49	0.03	0.10
13	0.40	0.44	0.03	0.13
14	0.50	0.47	0.05	0.14
15	0.28	0.49	0.04	0.15
16	0.42	0.52	0.02	0.11
17	0.46	0.50	0.02	0.11
18	0.38	0.44	0.03	0.13
19	0.49	0.44	0.03	0.09

Table 7

Session 432
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.28	0.41	0.02	0.16
2	0.32	0.39	0.03	0.15
3	0.22	0.41	0.02	0.10
4	0.3	0.38	0.05	0.14
5	0.28	0.41	0.01	0.14
6	0.38	0.38	0.04	0.14
7	0.32	0.39	0.05	0.16
8	0.26	0.42	0.03	0.11
9	0.16	0.47	0.04	0.09
10	0.32	0.39	0.05	0.14
11	0.22	0.38	0.02	0.11
12	0.34	0.41	0.03	0.16
13	0.36	0.45	0.02	0.09
14	0.36	0.42	0.03	0.10
15	0.15	0.42	0.02	0.14

Table 8

Session 627
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.28	0.45	0.03	0.09
2	0.28	0.44	0.03	0.10
3	0.38	0.42	0.06	0.11
4	0.52	0.43	0.03	0.11
5	0.38	0.38	0.03	0.14
6	0.28	0.59	0.04	0.13
7	0.24	0.45	0.02	0.13
8	0.26	0.45	0.01	0.13
9	0.30	0.41	0.02	0.13
10	0.26	0.38	0.04	0.16
11	0.34	0.39	0.03	0.11
12	0.50	0.36	0.02	0.12

Table 9

Session 628
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.24	0.43	0.03	0.13
2	0.26	0.48	0.03	0.10
3	0.28	0.40	0.03	0.14
4	0.30	0.43	0.03	0.10
5	0.38	0.37	0.03	0.13
6	0.38	0.39	0.04	0.14
7	0.20	0.44	0.05	0.12
8	0.52	0.43	0.03	0.13
9	0.36	0.37	0.04	0.18
10	0.32	0.38	0.03	0.13
11	0.36	0.35	0.04	0.16
12	0.40	0.48	0.02	0.09
13	0.47	0.48	0.04	0.13

Table 10

Session 1000
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.36	0.44	0.04	0.14
2	0.36	0.37	0.03	0.13
3	0.36	0.42	0.03	0.08
4	0.22	0.52	0.03	0.09
5	0.36	0.43	0.03	0.10
6	0.26	0.39	0.03	0.11
7	0.34	0.48	0.04	0.09
8	0.36	0.39	0.03	0.19
9	0.22	0.45	0.02	0.11
10	0.34	0.36	0.06	0.10
11	0.26	0.37	0.05	0.13
12	0.3	0.38	0.02	0.13
13	0.4	0.49	0.02	0.10
14	0.2	0.44	0.02	0.12
15	0.4	0.39	0.04	0.13
16	0.25	0.43	0.03	0.10

Table 11

Session 1001
Unit Mean Repetition, RA, Negation and Reflection Scores

Unit Number	Mean Repetition	Mean RA	Mean Negation	Mean Reflection
1	0.26	0.39	0.02	0.12
2	0.36	0.40	0.04	0.10
3	0.40	0.45	0.03	0.09
4	0.18	0.45	0.04	0.08
5	0.38	0.42	0.03	0.10
6	0.40	0.42	0.03	0.15
7	0.18	0.37	0.03	0.14
8	0.26	0.42	0.01	0.12
9	0.32	0.44	0.02	0.12
10	0.20	0.39	0.02	0.12
11	0.40	0.37	0.03	0.12
12	0.32	0.37	0.02	0.15
13	0.38	0.35	0.03	0.15
14	0.34	0.44	0.03	0.10
15	0.44	0.29	0.05	0.15
16	0.32	0.37	0.05	0.18
17	0.22	0.46	0.02	0.10

Table 12

Pearson Correlations between Repetition and RA scores; Repetition and Negation Scores and Repetition and Reflection Scores

Session Number	Repetition & RA	Repetition & Negation	Repetition & Reflection
91	-.780*	.728*	.558
92	-.800*	-.590	.522
259	-.057	-.118	-.093.
260	-.589	.830*	-.146
431	-.028	-.294	-.284
432	-.322	.202	.265
627	-.455	.120	-.302
628	-.006	-.196	.150
1000	-.191	.280	.227
1001	-.325	.430	.232

*$p < 0.05$

Figure 1a

The Fluctuation of Repetition and RA Measures in Session 91

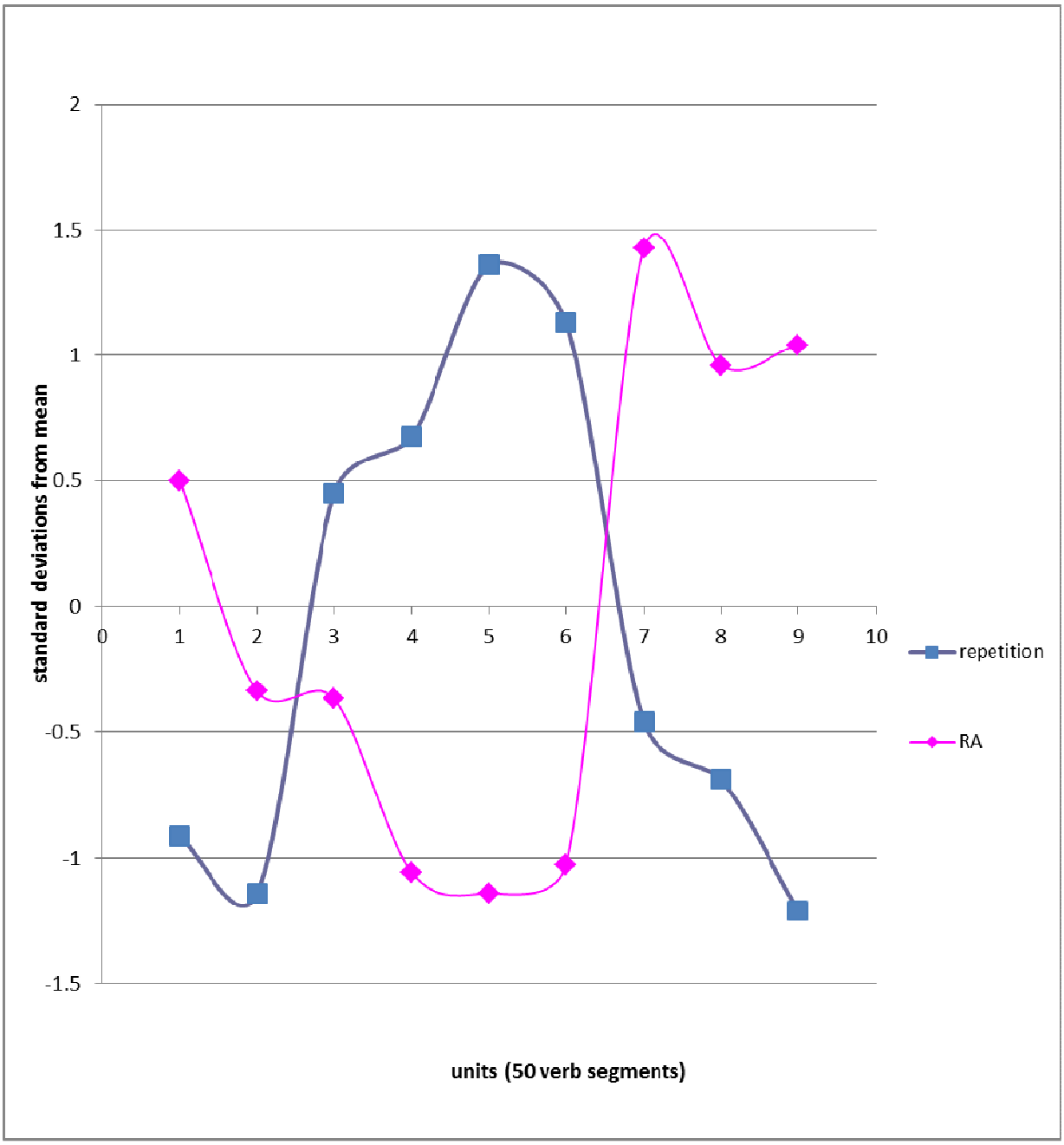


Figure 1b

The Fluctuation of Reflection and Negation Measures in Session 91

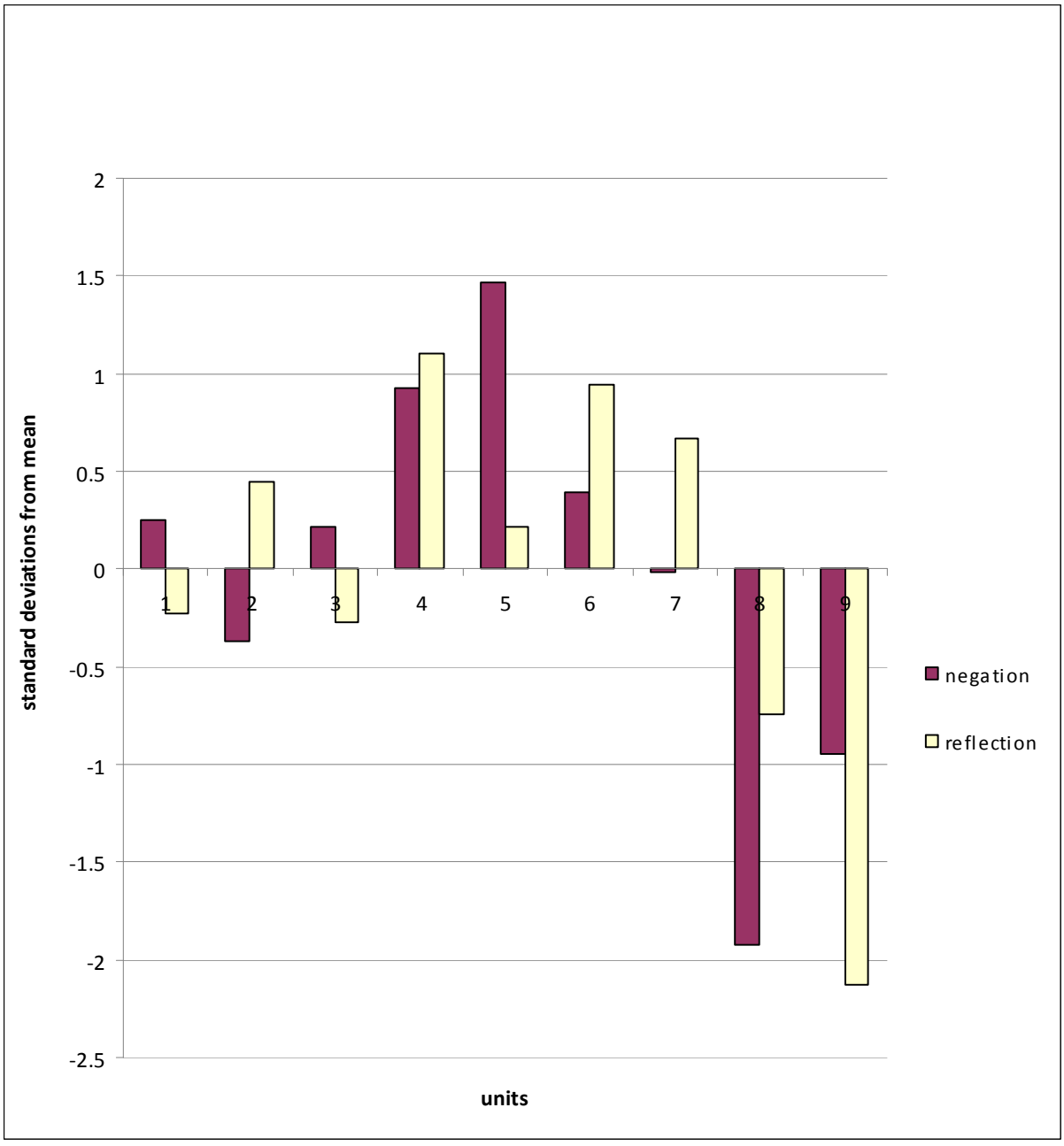


Figure 2a

The Fluctuation of Repetition and RA Measures in Session 92

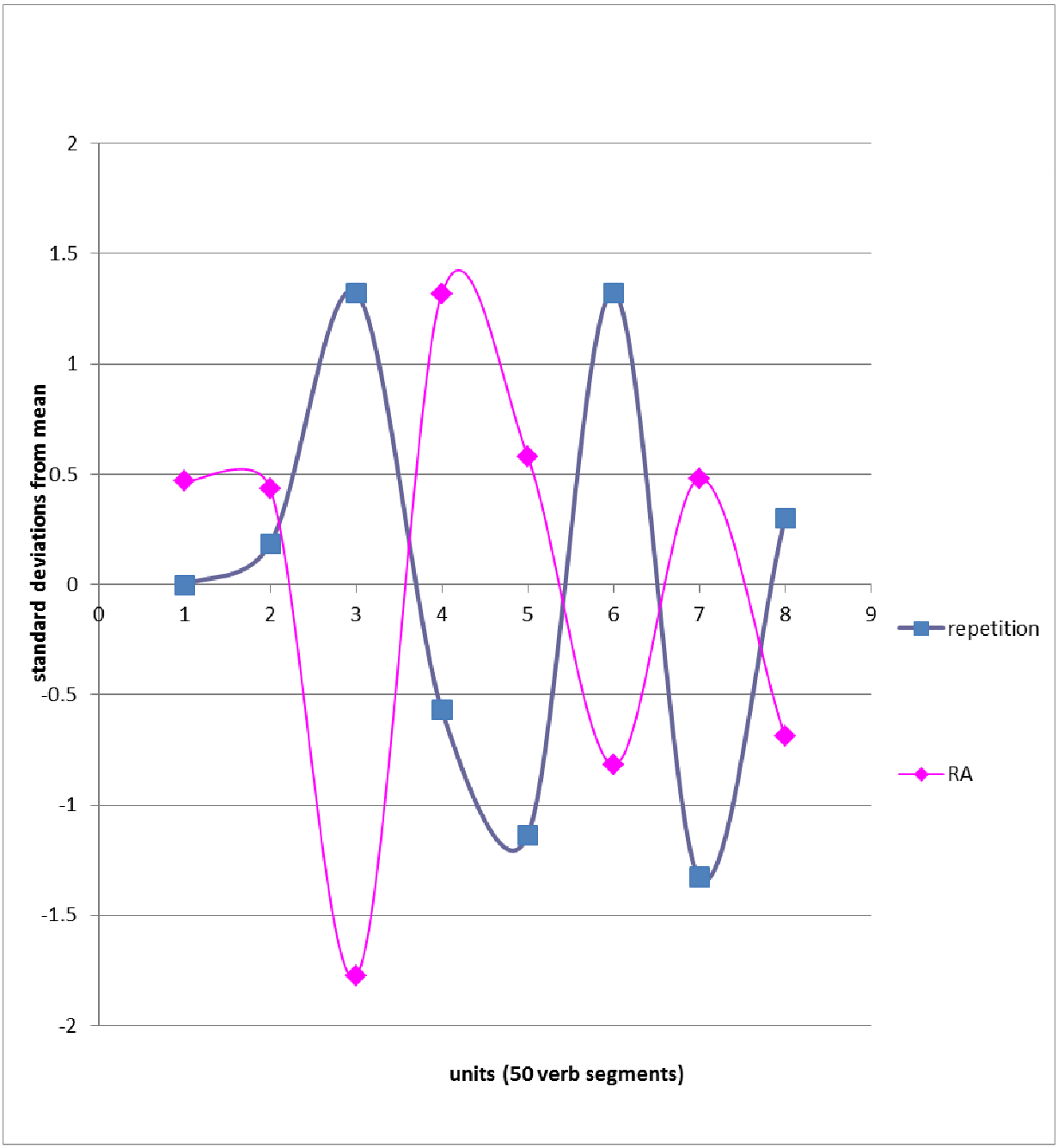


Figure 2b

The Fluctuation of Reflection and Negation Measures in Session 92

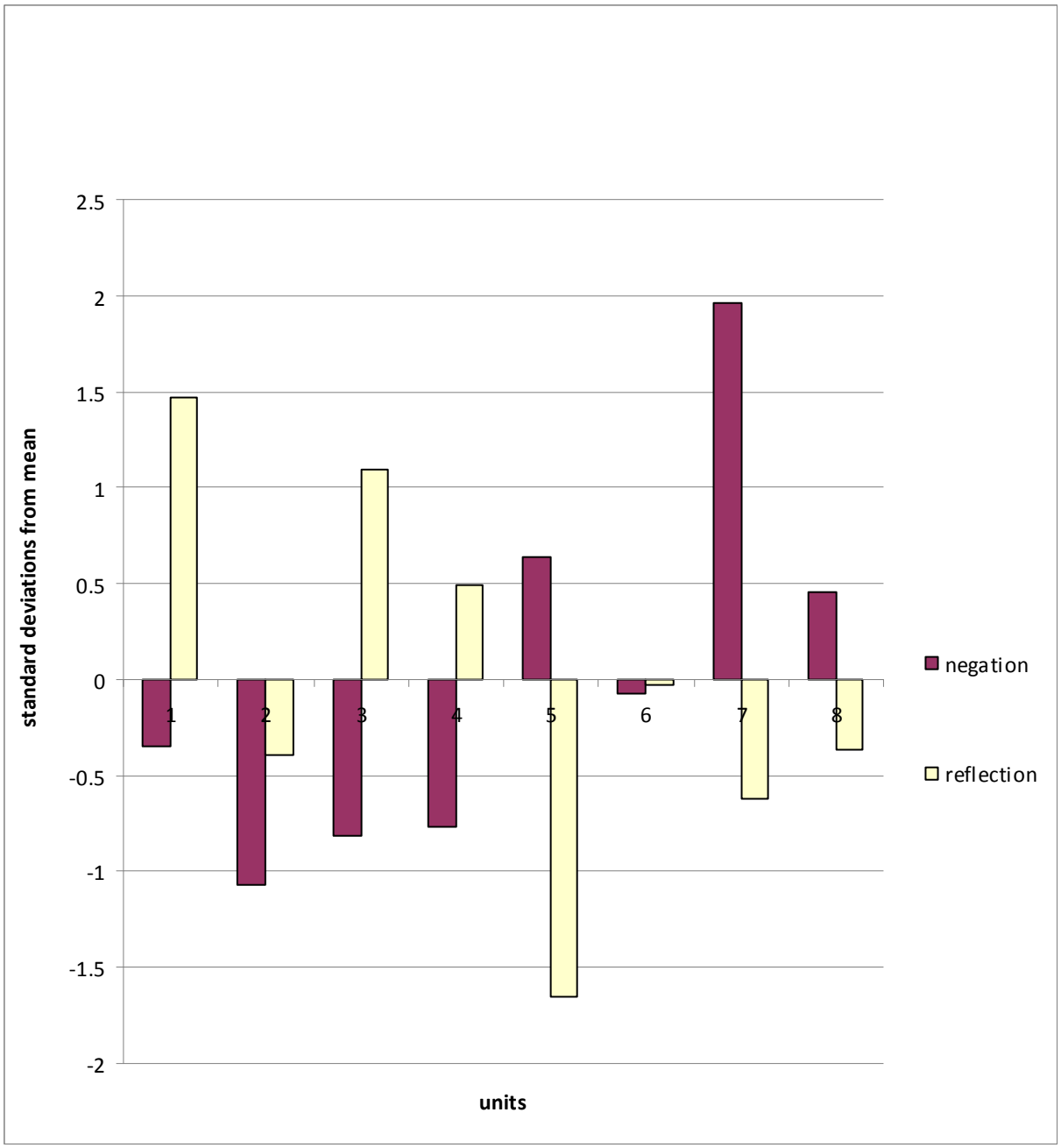


Figure 3a

The Fluctuation of Repetition and RA Measures in Session 259

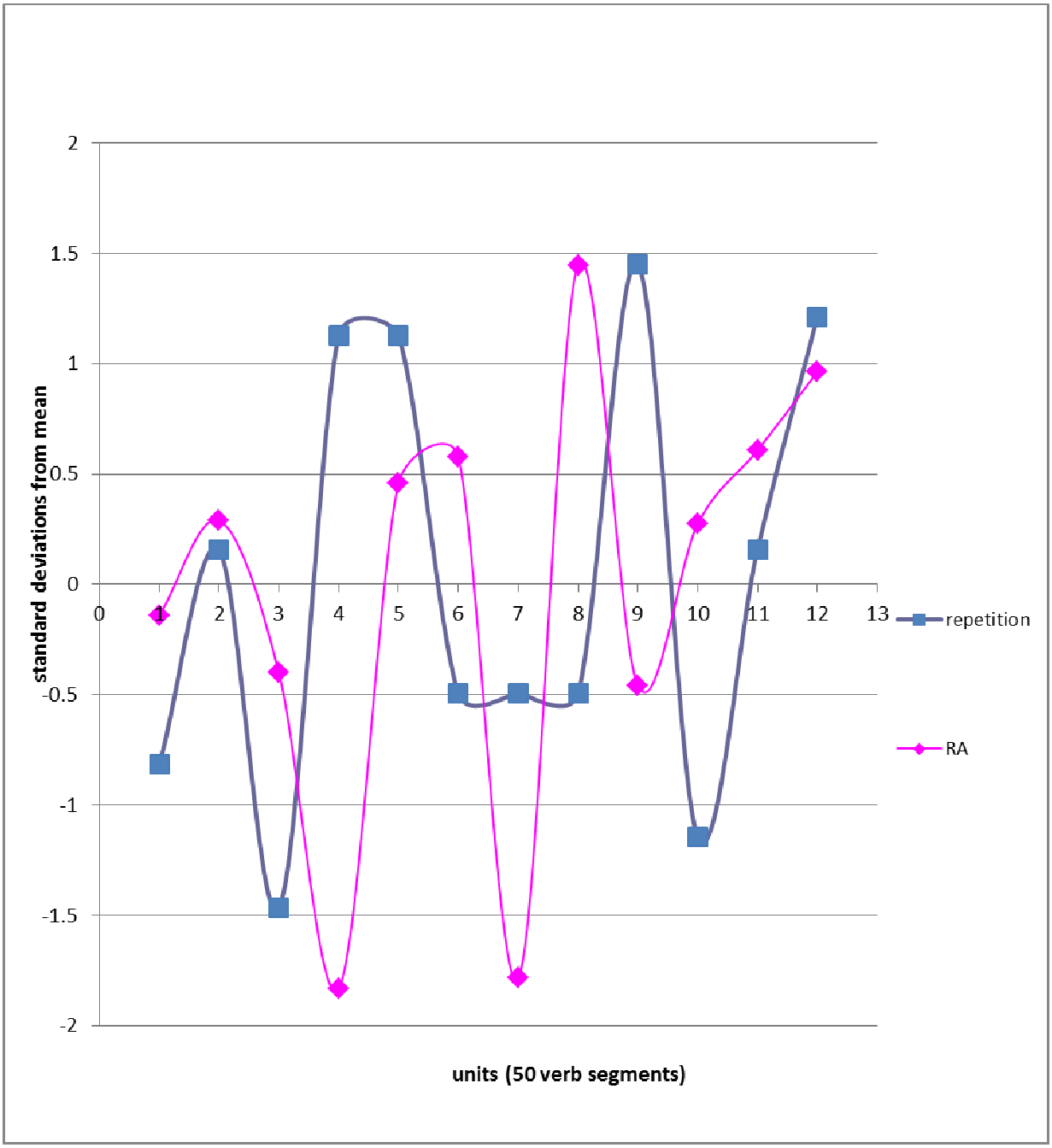


Figure 3b

The Fluctuation of Reflection and Negation Measures in Session 259

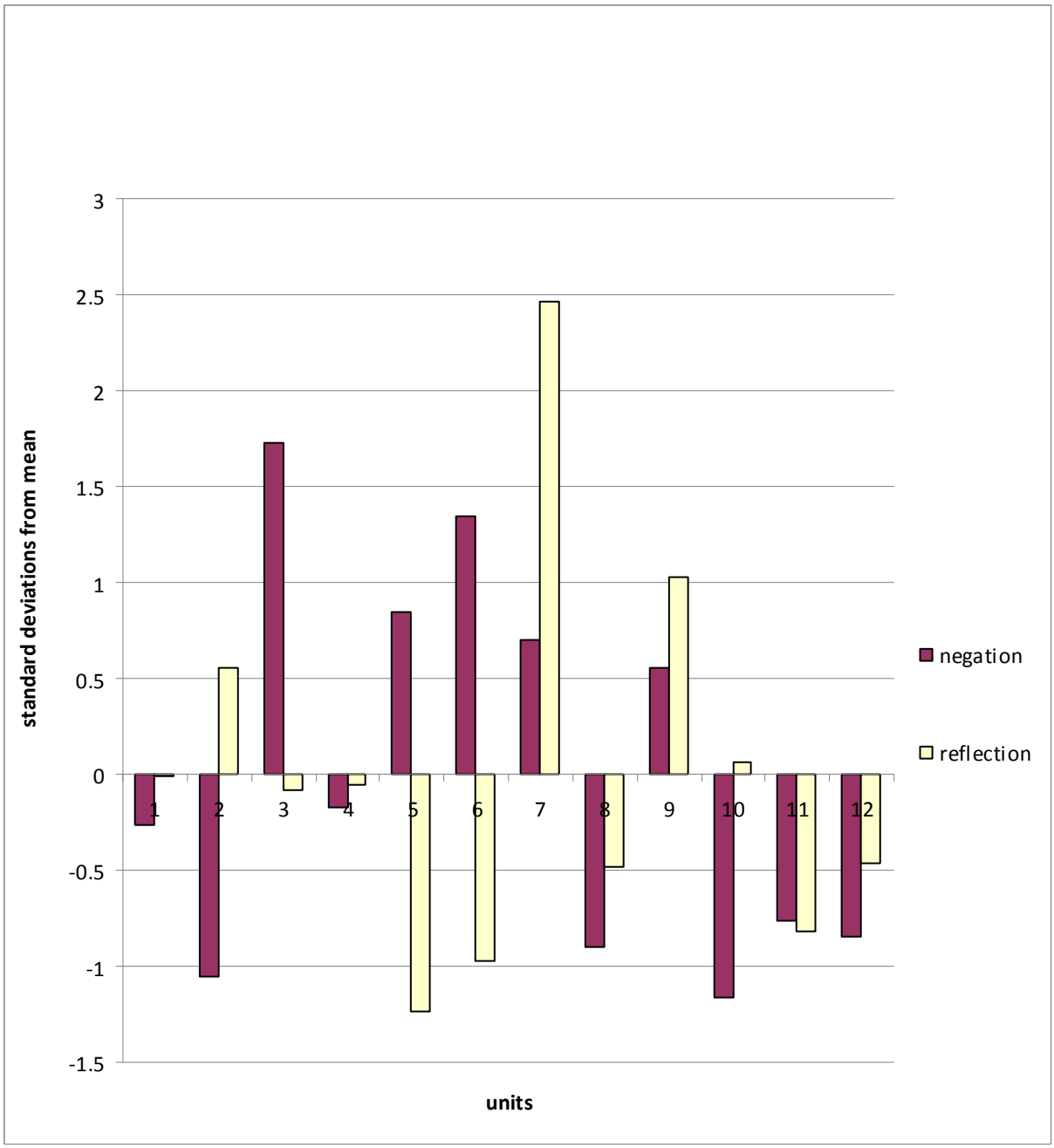


Figure 4a

The Fluctuation of Repetition and RA Measures in Session 260

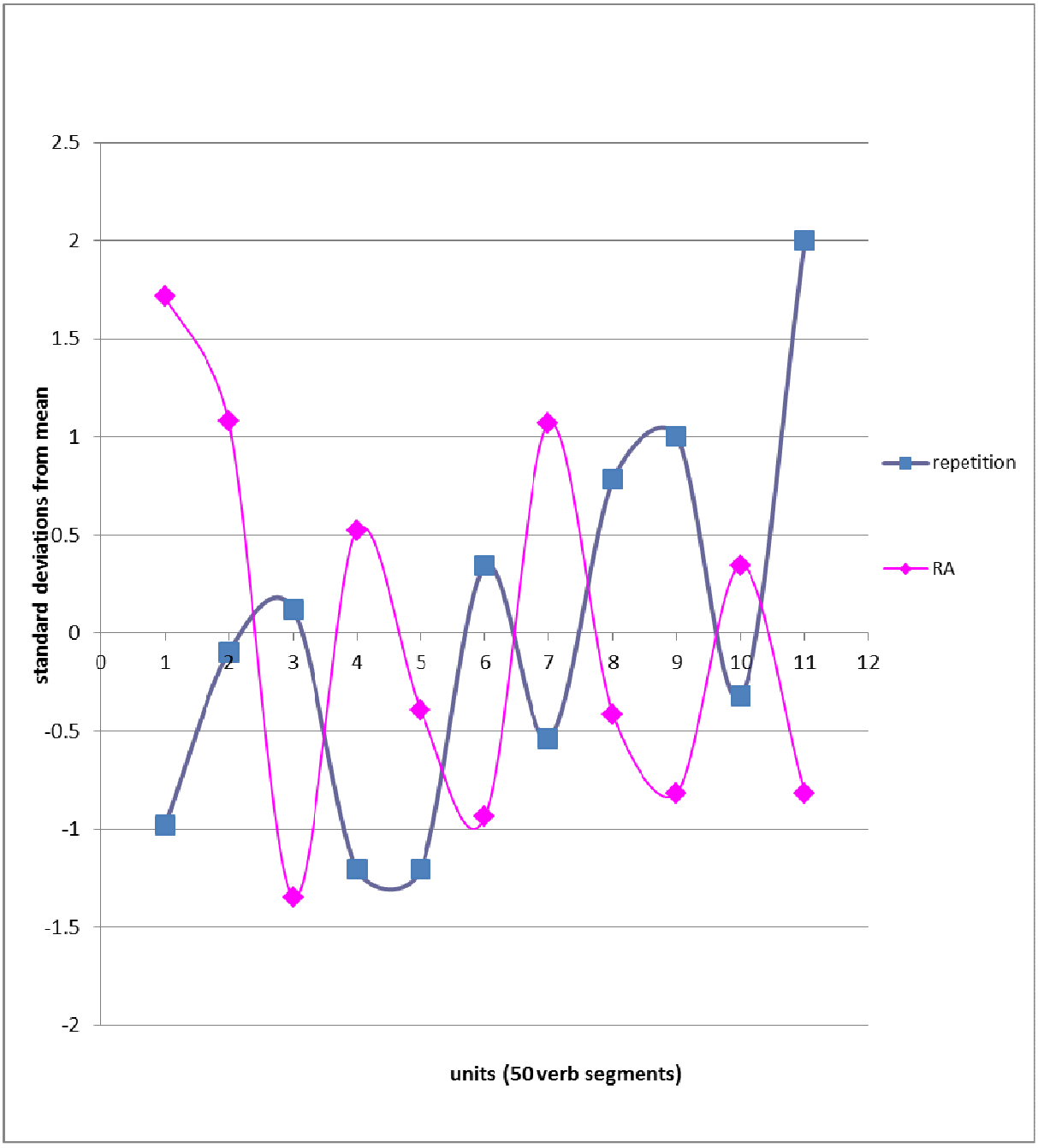


Figure 4b

The Fluctuation of Reflection and Negation Measures in Session 260

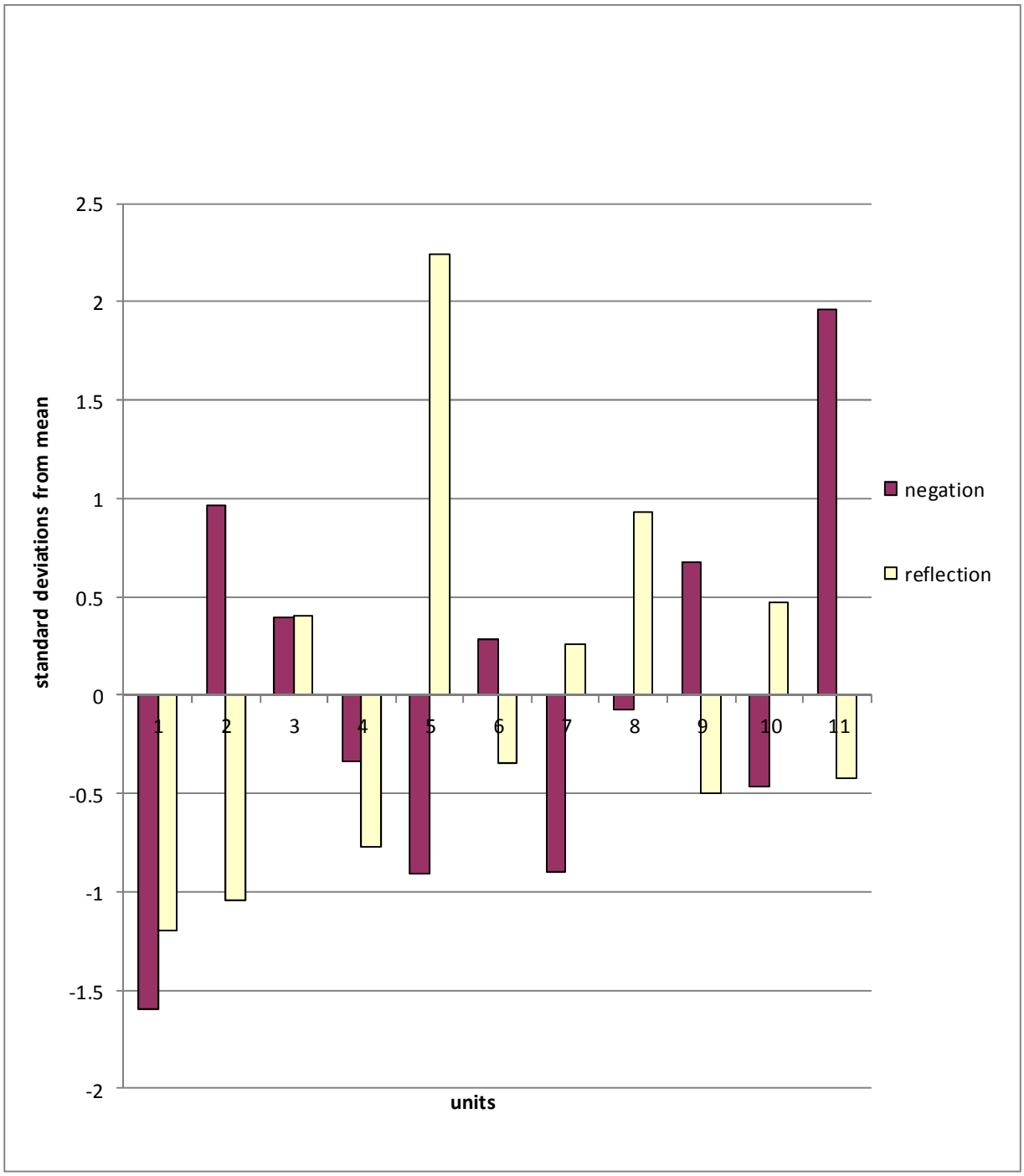


Figure 5a

The Fluctuation of Repetition and RA Measures in Session 431

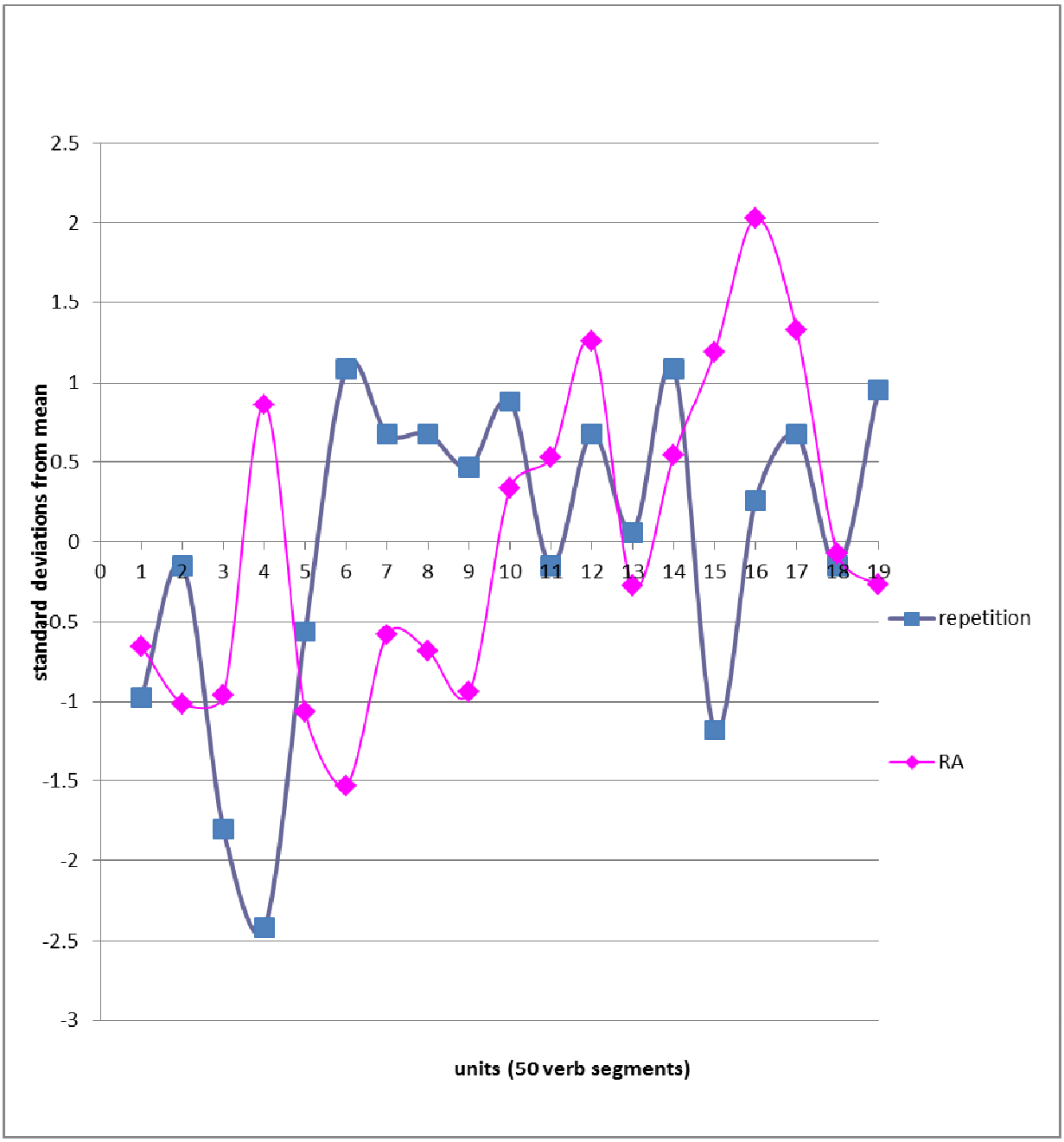


Figure 5b

The Fluctuation of Reflection and Negation Measures in Session 431

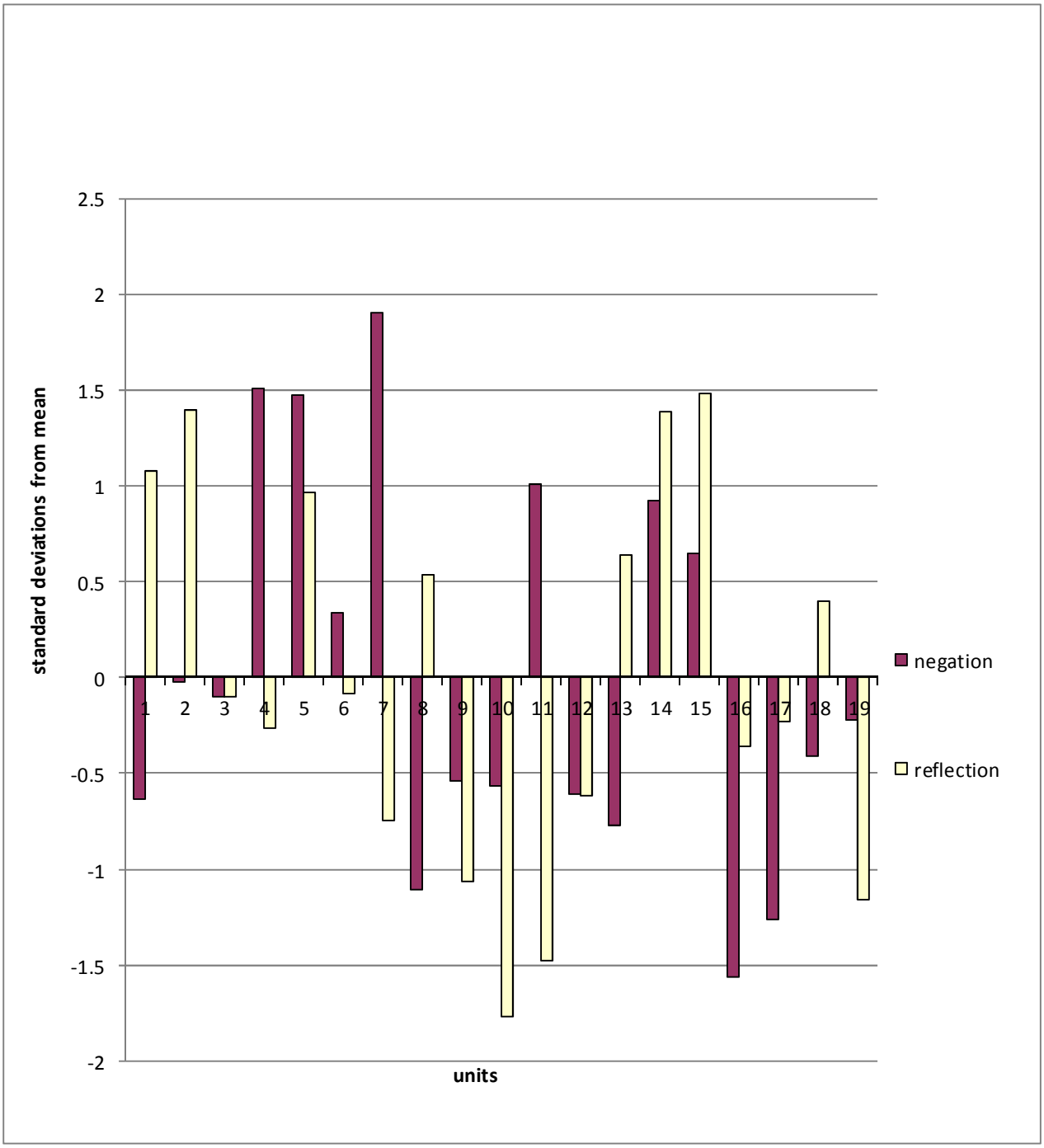


Figure 6a

The Fluctuation of Repetition and RA Measures in Session 432

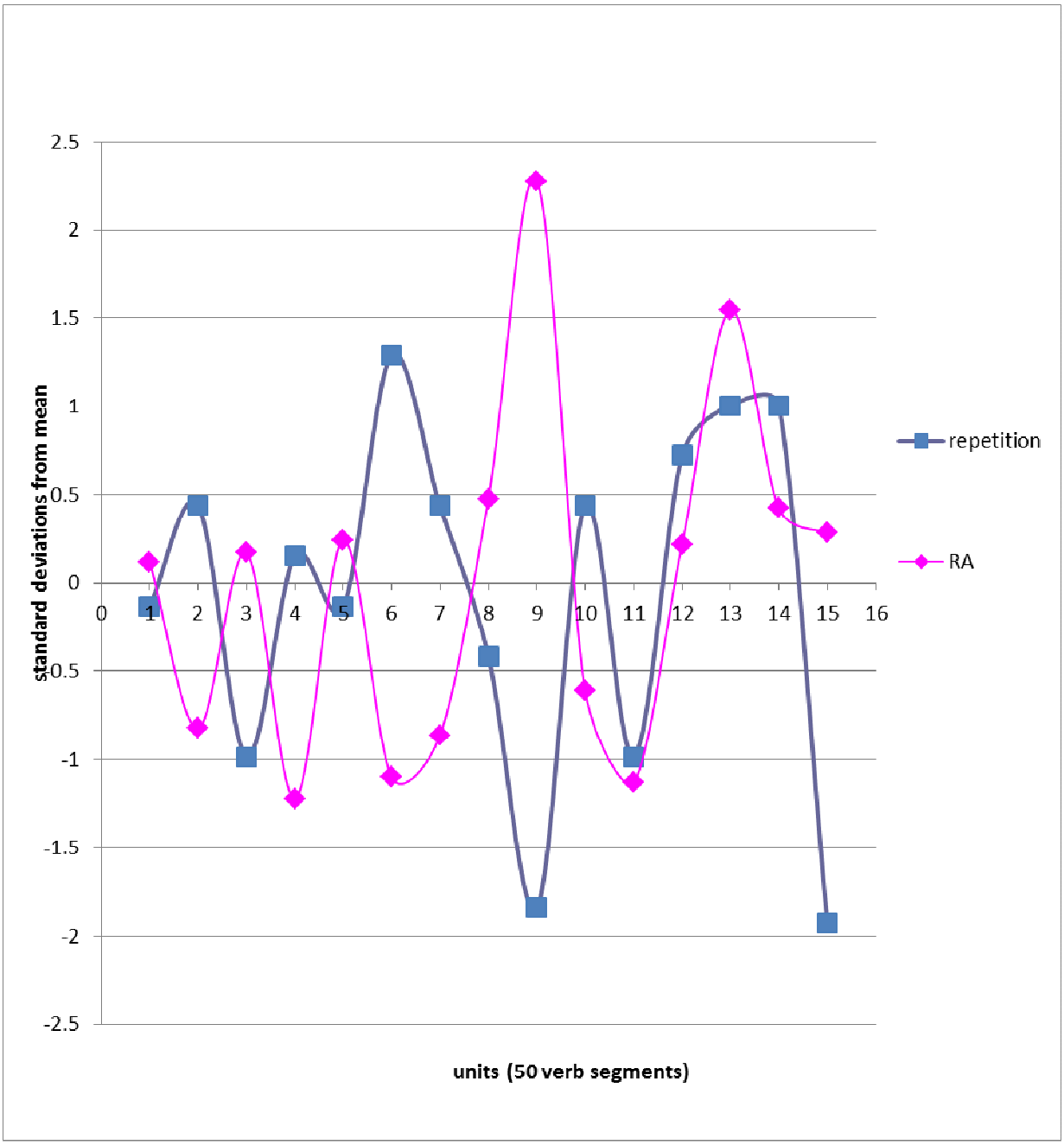


Figure 6b

The Fluctuation of Reflection and Negation Measures in Session 432

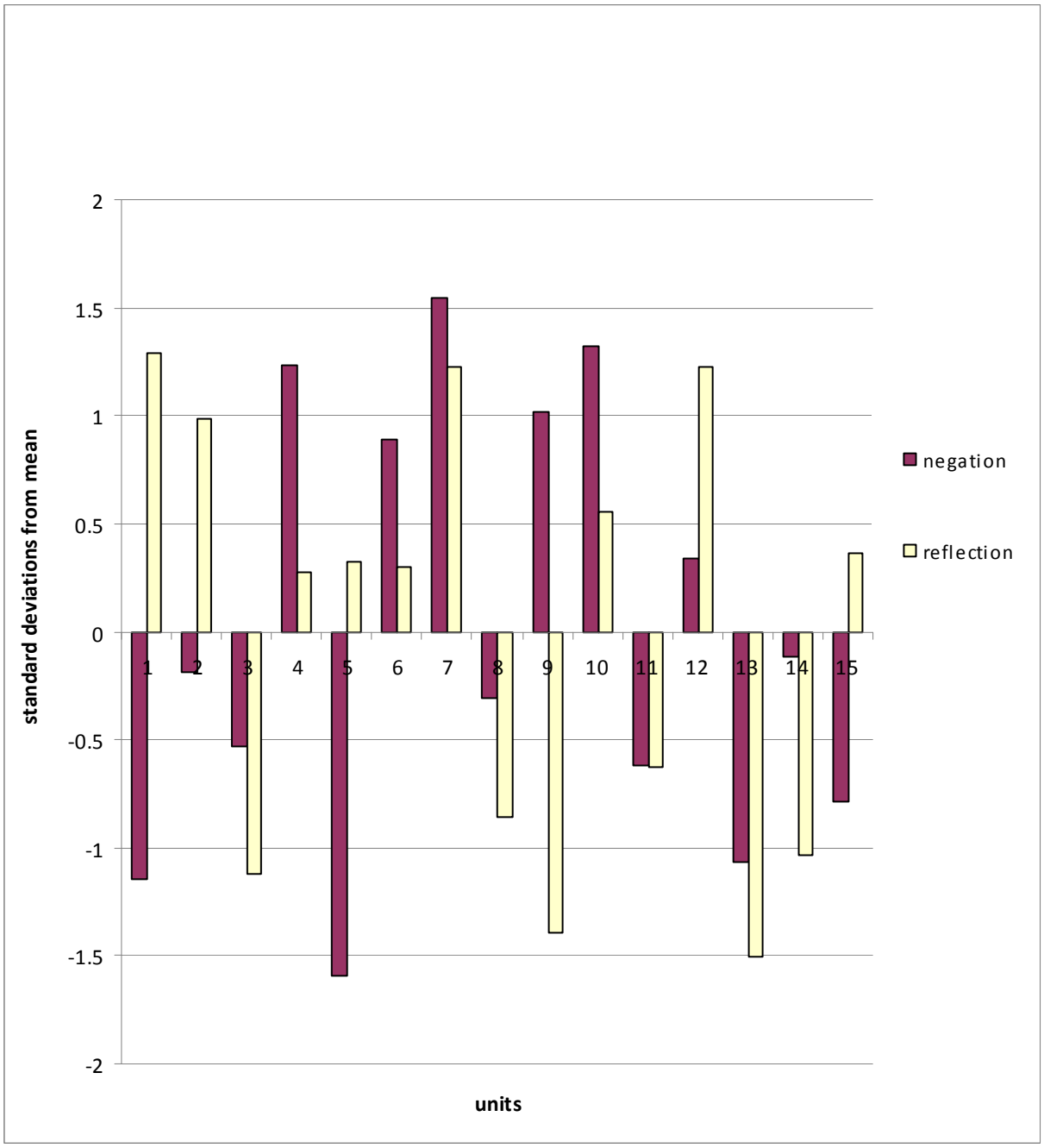


Figure 7a

The Fluctuation of Repetition and RA Measures in Session 627

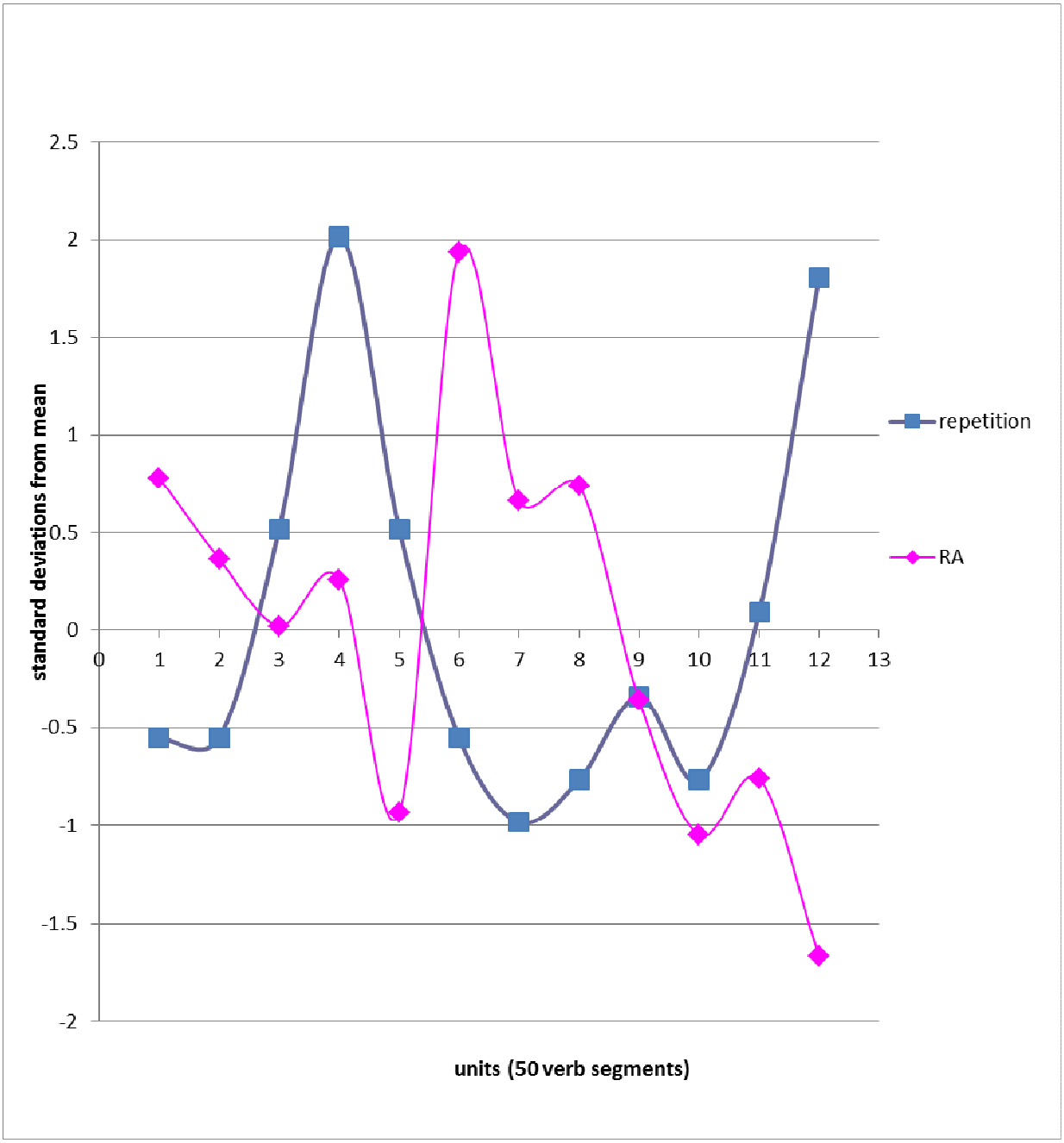


Figure 7b

The Fluctuation of Reflection and Negation Measures in Session 627

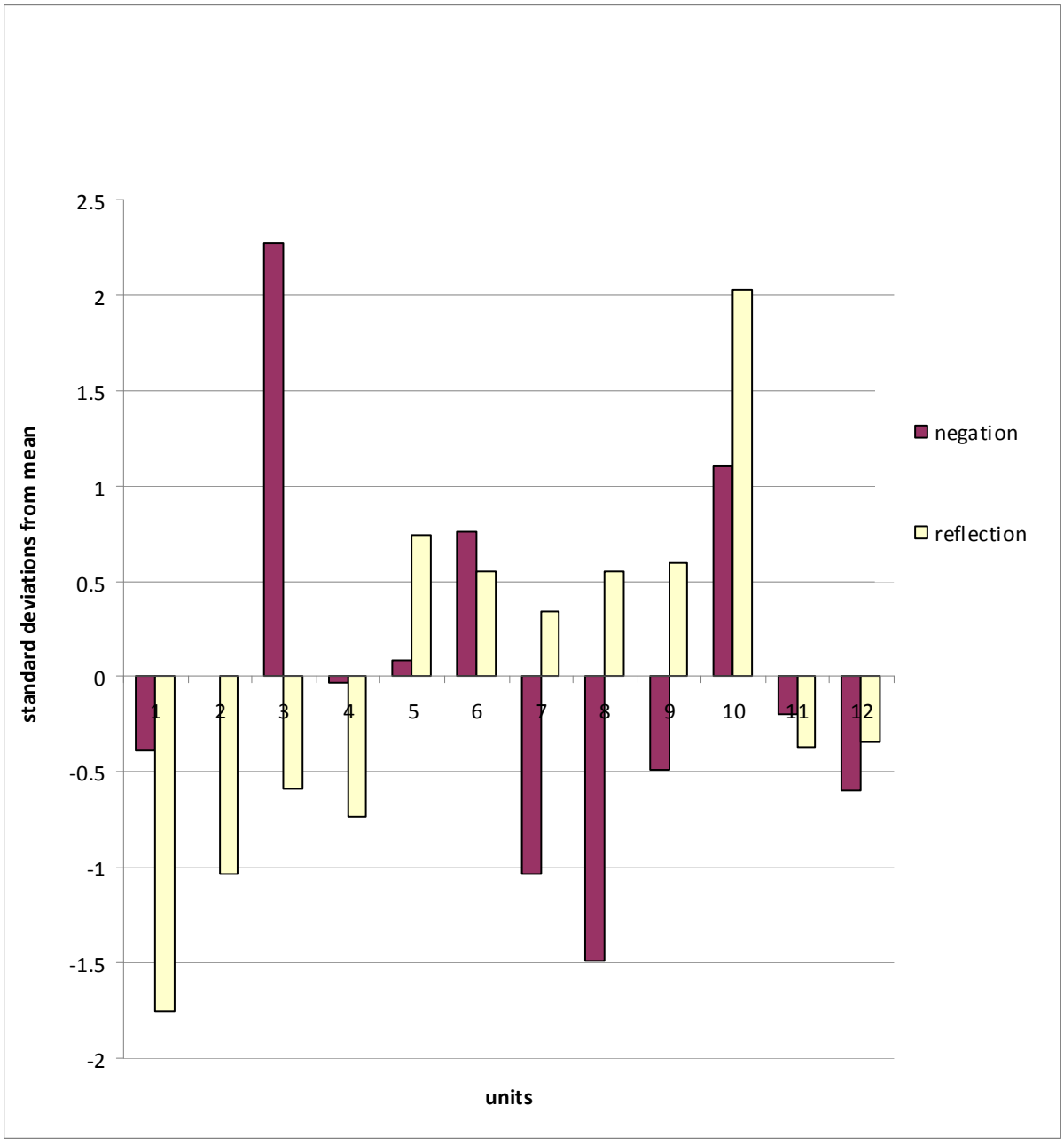


Figure 8a

The Fluctuation of Repetition and RA Measures in Session 628

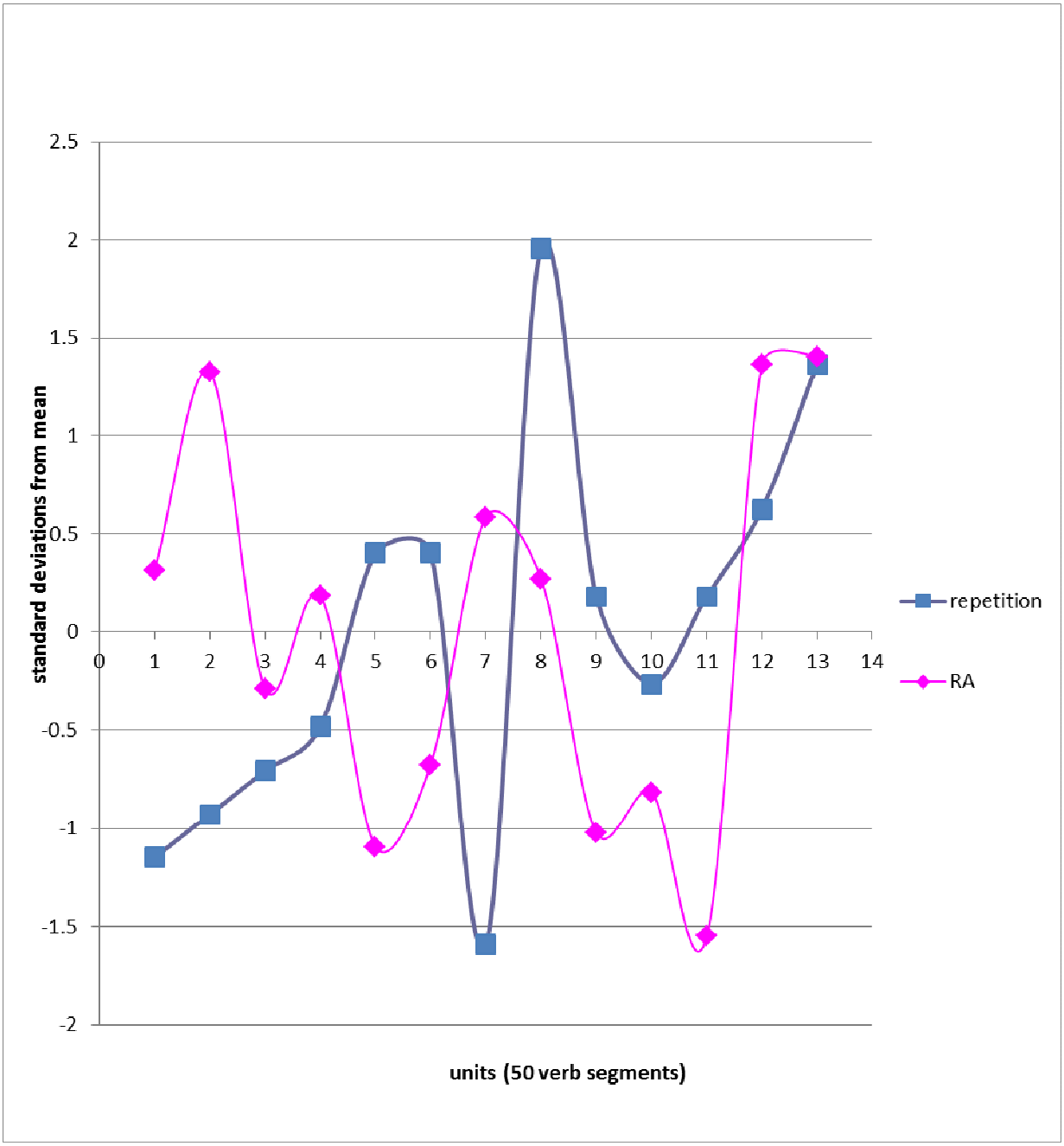


Figure 8b

The Fluctuation of Reflection and Negation Measures in Session 628

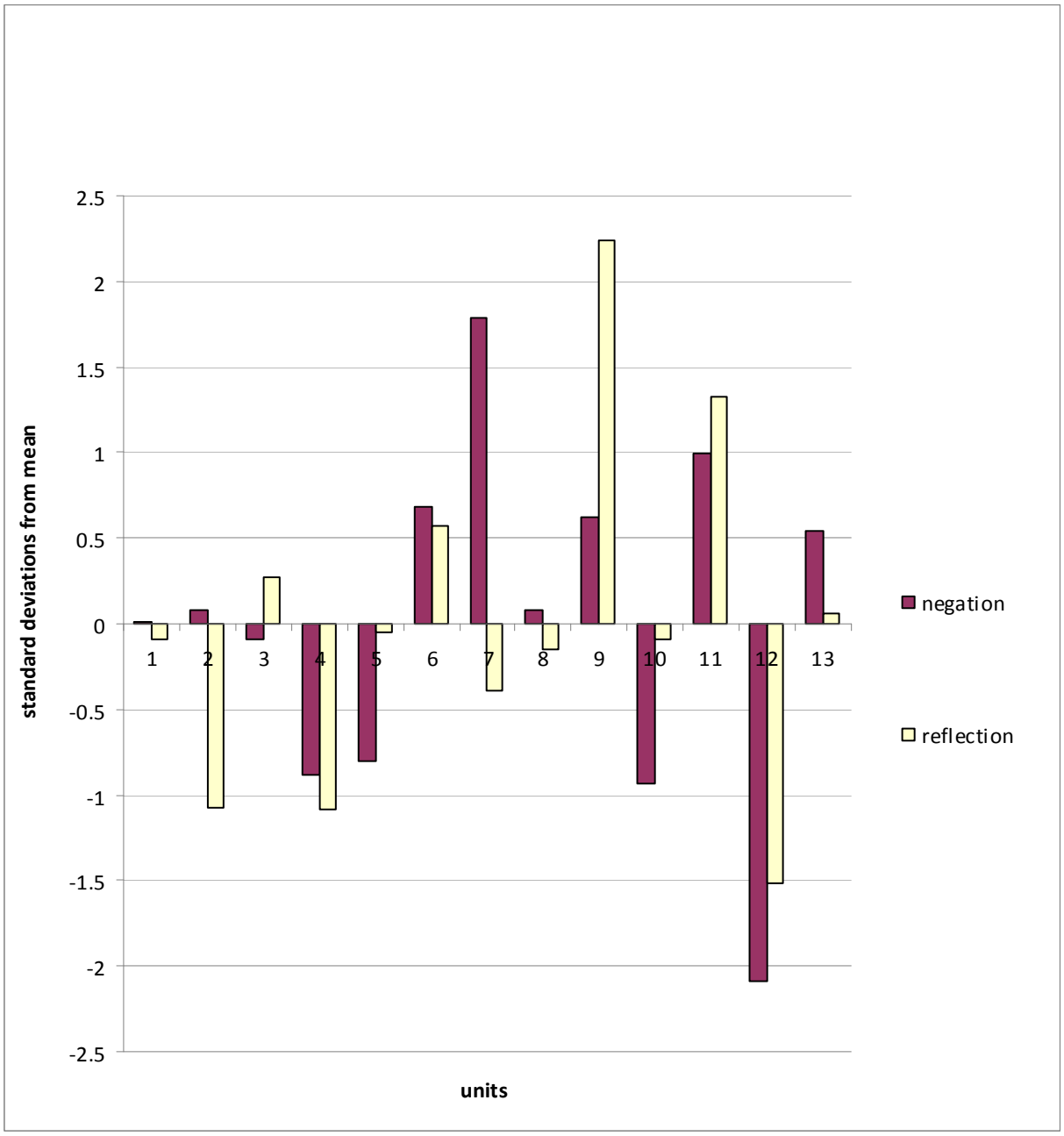


Figure 9a

The Fluctuation of Repetition and RA Measures in Session 1000

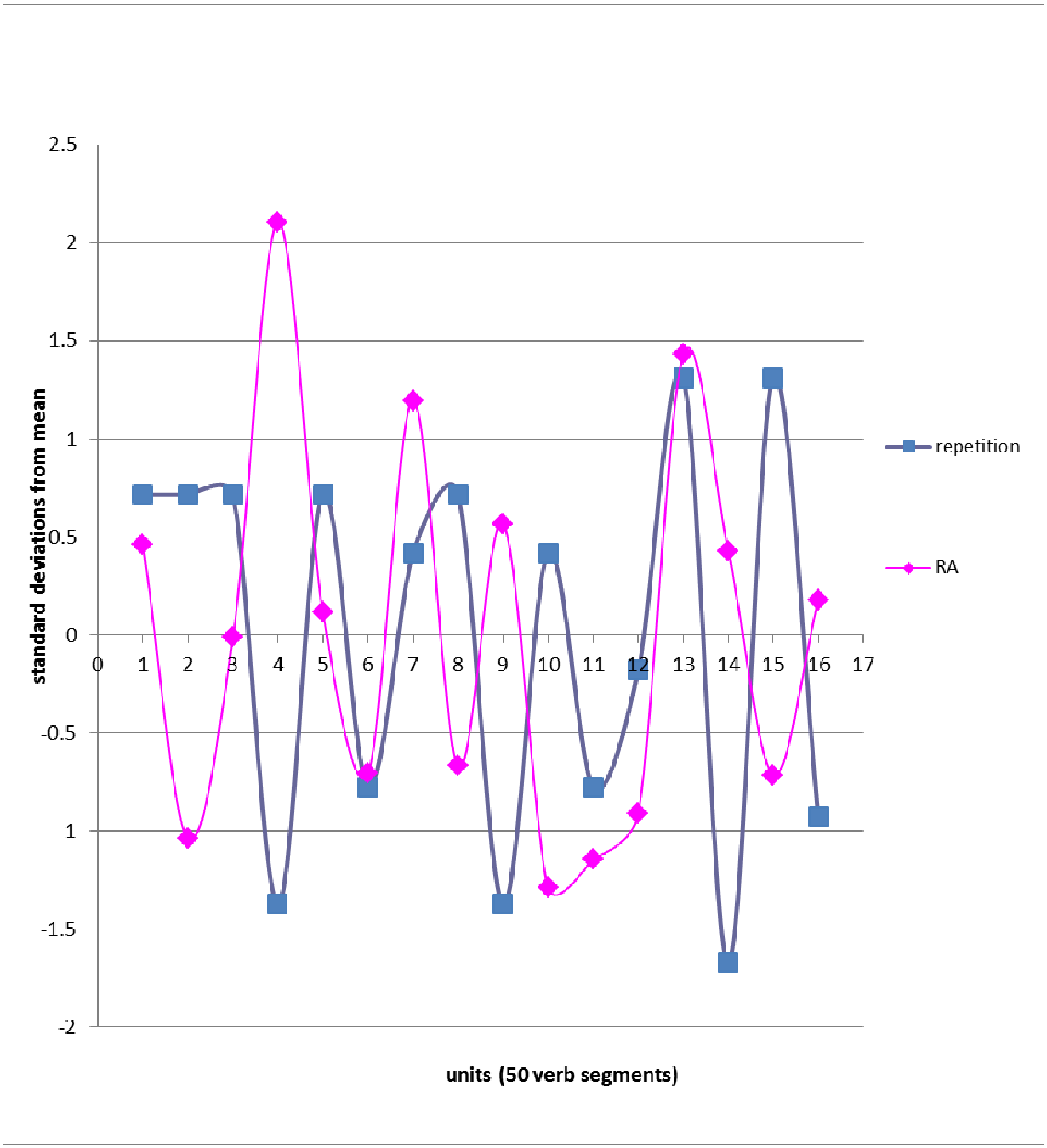


Figure 9b

The Fluctuation of Reflection and Negation in Session 1000

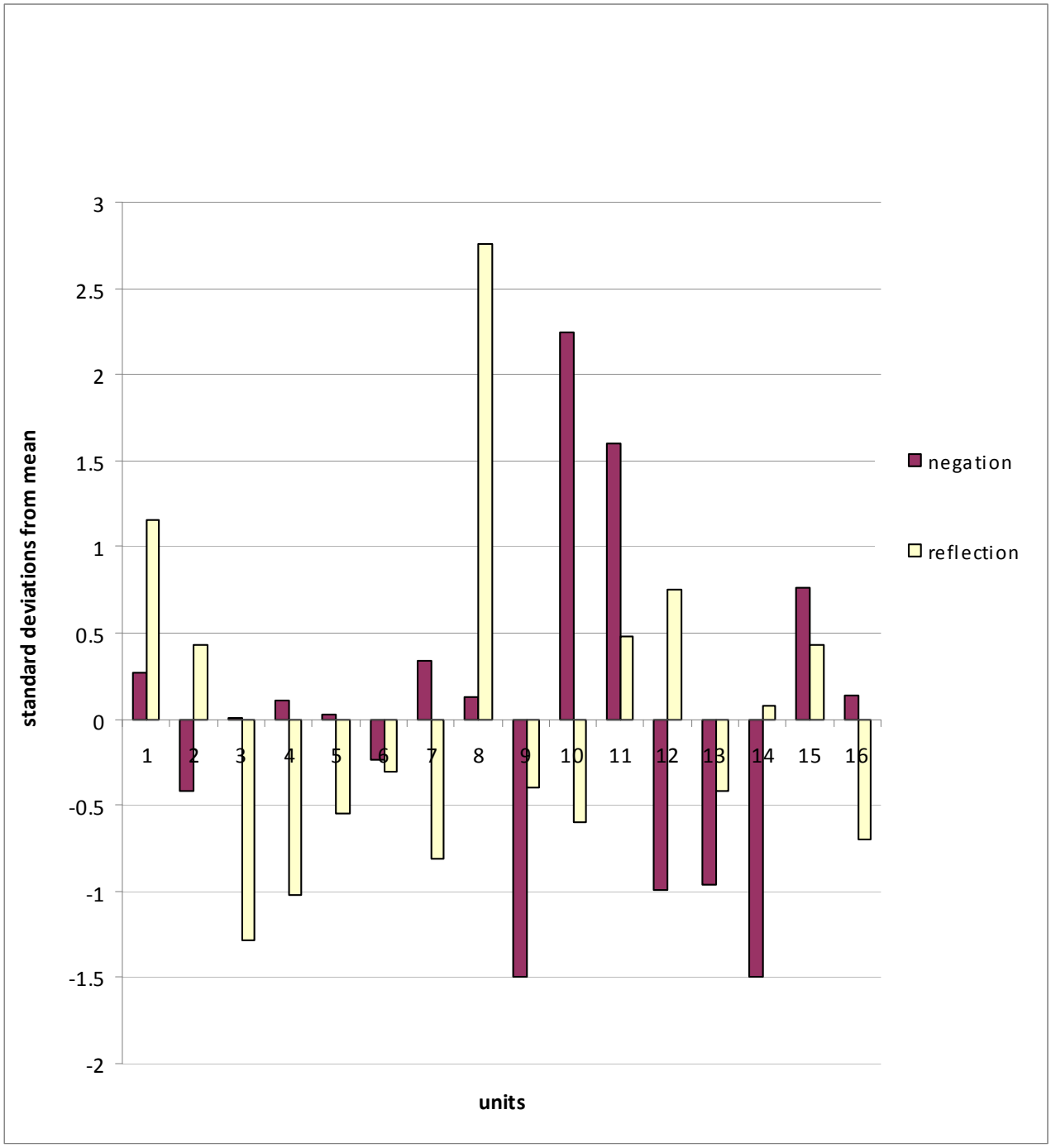


Figure 10a

The Fluctuation of Repetition and RA Measures in Session 1001

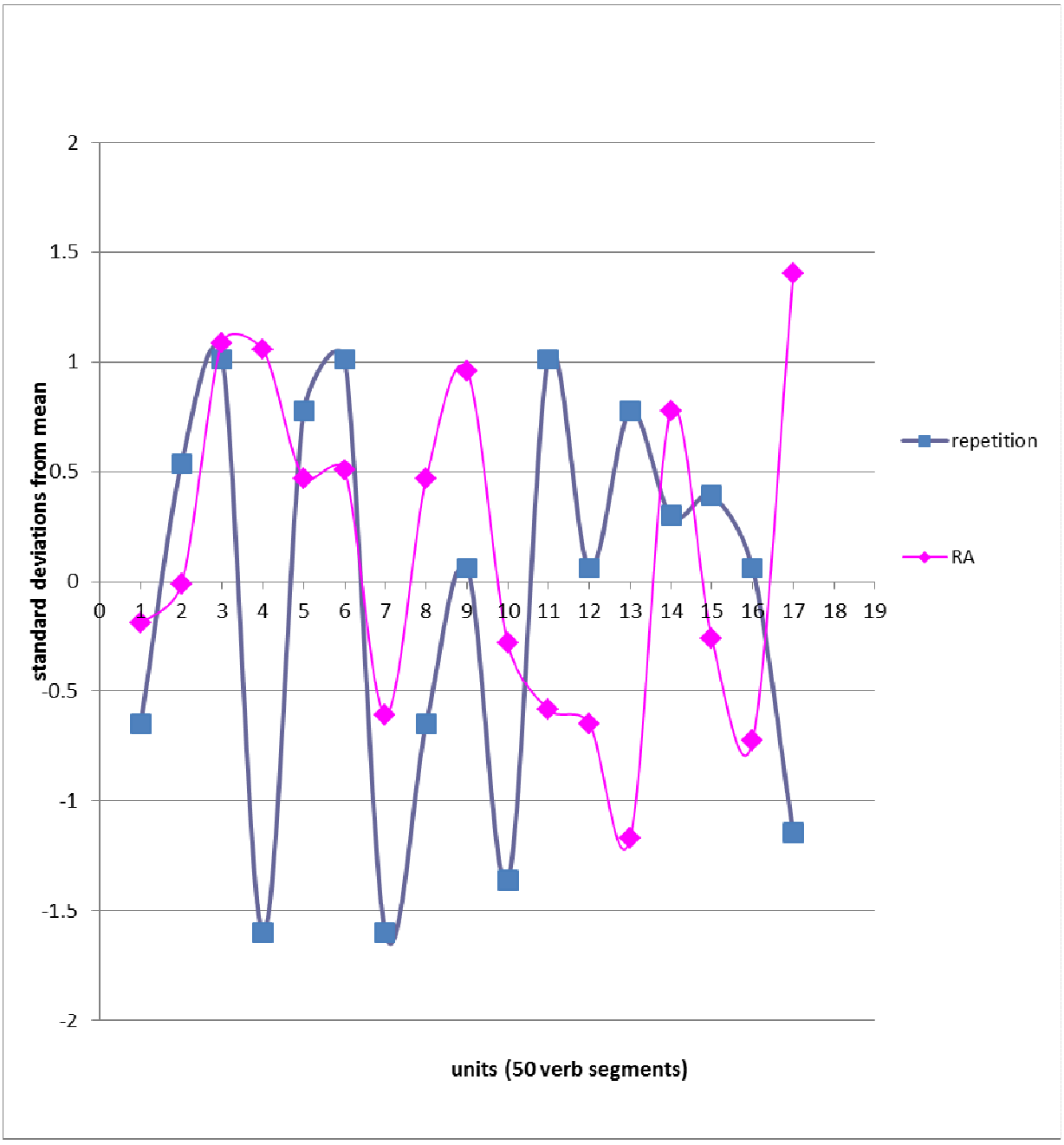
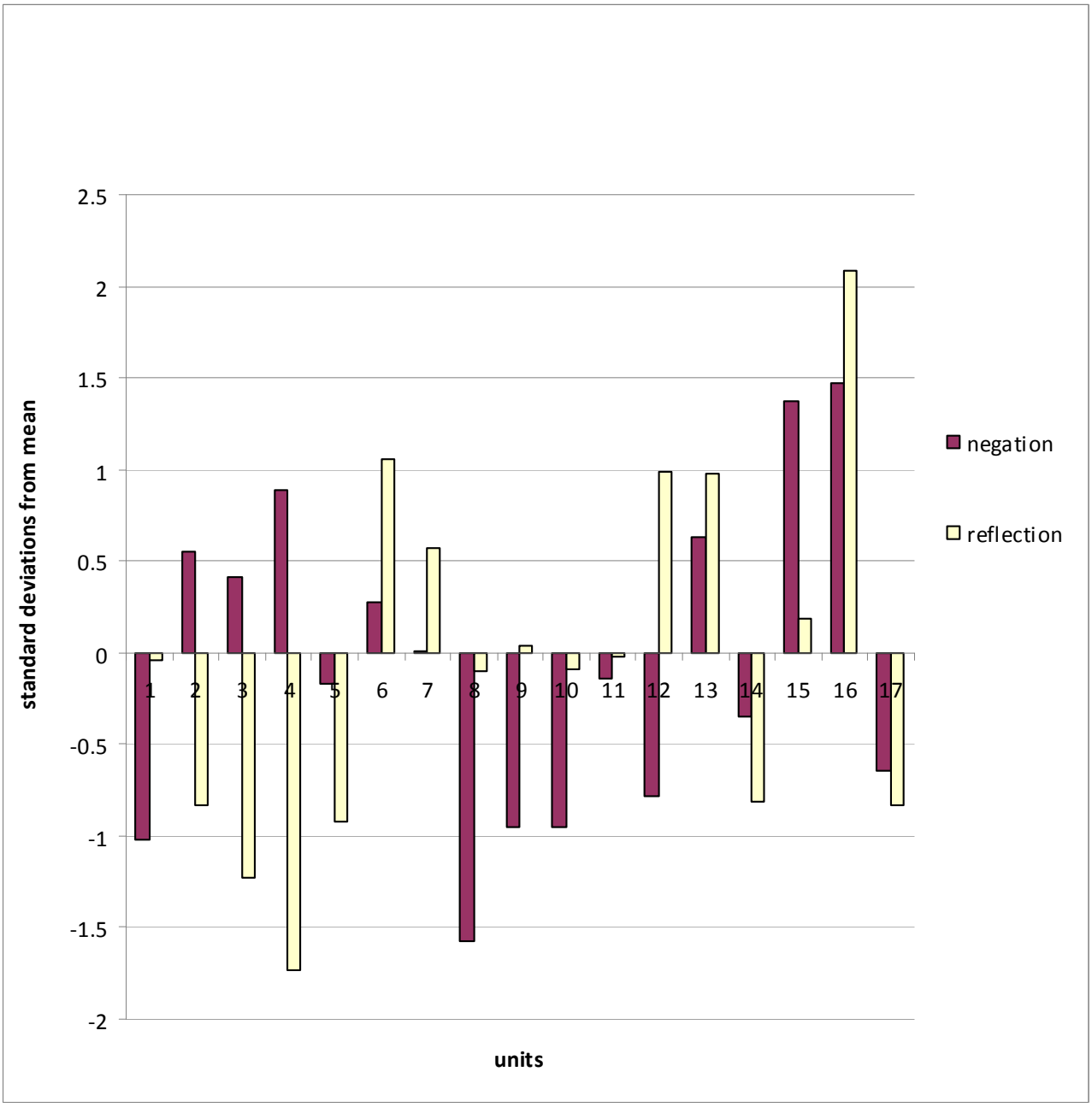


Figure 10b

The Fluctuation of Reflection and Negation in Session 1001



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