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Mental Health is an Abominable Mess: Mind and Nature is a Necessary Unity

Nick Drury, Psychologist

A review of the empirical literature on mental health outcomes, when a strict criteria of ‘recovery’ is taken, shows recovery rates in most ‘real world’ mental health services to be poor. At the same time trials from a large number of ‘laboratories’ are showing that very high recovery rates are achievable. This paper suggests the ‘lab-clinic’ gap may well be bridged by reviewing the philosophical foundations underlying the delivery of mental health services. In the 1930’s the philosopher Ludwig Wittgenstein noted that philosophical confusions by Freud had led him and his disciples into making “an abominable mess” (Wittgenstein, 1993, p.107). A number of Wittgensteinian scholars hold these confusions remain pervasive today throughout the ‘psy’ disciplines (e.g., Cioffi, 1990; Bouveresse, 1995; Winch, 2007; Heaton, 2010). A new paradigm for the ‘psy’ disciplines is emerging from these philosophical elucidations, which now has a body of empirical evidence supporting it. This not only shows much promise for dissolving the ‘lab-clinic’ gap in mental health, but also has strong implications for our ecological health. At the heart of this paradigm is a recognition of the necessary unity Batson (1997) identified between mind and nature.

KEY WORDS. Outcomes, Managerialism, Wittgenstein, Mental health, heteronomy, embodiment, Levinas

Abominable Outcomes

A strong argument can be mounted, on the basis of the available evidence, that besides offering an increasing amount of employment, mental health services are not doing a great deal of good. Lambert (2010) claims that 75% of people entering community mental health centres in the USA are either not responding to treatment, or worse, deteriorating whilst in care. The Centre for Social Justice (2012) in Britain, reviewing the effectiveness data generated by the National Health System, found only 15% of people entering Britain’s mental health are achieving ‘recovery’. In the United States, Hansen and colleagues (who also found a ‘recovery’ rate of only 14%), along with others, found that about 5-10% of clients in adult services appeared to get worse during treatment (Hansen et al 2002; Lambert & Ogles, 2004; Lilienfeld, 2007). Warren and colleagues (2009, 2010) found a staggering deterioration rate of 24% amongst children in public community mental health settings. There have also been worrying comments in Australia, with claims that despite increases in pharmacological, psychological, and population interventions over the past 16 years there seems to have been no improvement in the adult mental health of the population (Jorm & Reavley, 2012). Reflective of this phenomena, mental health services of King County, Seattle sought and were granted a waiver in 2004 to no longer monitor ‘recovery’ outcomes (based on GAF scores), after finding for three years in a row that less than 8% of those with a ‘serious mental illness’ (SMI) ever move out of that category, and of those that did, many regressed back (CCHR Seattle, 2004).

The Hansen study (2002), (65% ‘not improved’ or ‘deteriorated’), often considered the benchmark study of effectiveness in a variety of ‘real world’ treatment centres, did not include many who dropped out after the initial session; hence Lambert’s claim of 75% not responding or deteriorating. Hansen and colleagues cited a number of possible causes for the paucity of results, including limitation of services “..as a result of physician gate-keeping process” (p. 329). Numerous prominent psychiatrists have been more publicly critical in their attribution of ineffectiveness in mental health being due to the dominance of biological psychiatry (Jackson, 2005; Double, 2006; Breggin, 2008; Moncrieff, 2008; Ross, 2008; Healy, 2012)1. Investigative reporter Robert Whitaker (2010) made a blistering attack on mental health services by documenting a tripling of the number of disabled mentally ill over the past two decades as the sales of various psychotropic medications soared. Also, numerous writers following in the footsteps of Foucault (1980), have argued that there is a ‘looping effect’, in that as more psychiatric labels enter the public lexicon more people are self-recruited as patients (e.g. Hacking, 2007; Rose, 2007).

Psychotherapy is Efficacious

Despite such poor results in ‘real world’ clinics, as documented above, psychotherapy has been shown to be highly effective for a variety of mental health problems, including severe mental illness (SMI). Both qualitative and quantitative reviews show that about 75-80% of people benefit from psychotherapy; outcomes
that surpass many medical treatments for a variety of non-mental health problems (Wampold, 2001; Lambert & Ogles, 2004; APA, 2012). Meta-analyses of a number of psychotherapies, such as CBT (Wykes et al., 2008; Sarin et al., 2011), and psychosocial treatment with antipsychotic postponement (Bola et al., 2009), have been shown to have a strong evidence base in the treatment of so-called ‘schizophrenia’ or ‘SMI’. Seikkula and colleagues (Aaltonen et al., 2011; Seikkula et al., 2011) have set the benchmark in the treatment of psychosis with a psychosocial intervention. They have shown themselves, at two- and five-year follow-up, to be the most effective mental health service in the world, in terms of having the most clients (approximately 80%) in full-time work or study, medication-free, and lowest residual psychotic symptoms. As Klingberg and Wittorf (2012) conclude in their review of evidence for psychosocial interventions for SMI, “psychosis psychotherapy does not have an evidence problem but an implementation problem”. As one wit remarked, “the anaesthetists have taken over the theatre of mind preventing the therapeutic ‘surgeons’ from doing their task”.

Resolving the Efficacy-Effectiveness Discrepancies

As much of the evidence for the efficacy of psychotherapy has stemmed from tightly controlled clinical trials and the paucity of effectiveness from ‘real world’ clinics, Weisz and colleagues (1992) have called this a ‘lab-clinic gap’. This ‘lab-clinic gap’ has sparked much research and speculation (e.g., Barlow, 2010; Castonguay et al., 2010; Dimidjian & Hollon, 2010; Duncan et al., 2010; Webb et al., 2010). Although most efficacy trials (‘lab’) are conducted with homogenous highly motivated clients, and effectiveness studies with heterogeneous mixed motivation clients (‘clinic’), the difference cannot be attributed solely to this, as there are variations between clinicians and clinics, with some achieving outcomes as high as those in efficacy trials (Minami et al., 2008; Duncan et al., 2010). Those attracted to the Empirically Supported Treatment (EST) position explored the question of therapist adherence or competence in delivering an EST as the cause of the difference. This has resulted in ambiguous findings (Bumbarger & Perkins, 2008; Coull & Morris, 2011; Weck et al., 2012). Some found high adherence and rigidity in deliverance correlated, thus impeding beneficence (Castonguay et al., 1996; James et al., 2001); whilst others found a positive link (e.g., Huey et al., 2000). Whilst those attracted to the EST position marshalled evidence on the nuances of adherence, those favouring the ‘common factors’ or ‘contextual’ position (Wampold, 2001; Frank & Frank, 1991), marshalled evidence to show that there is no demonstrable differences between ‘bona fide’ treatments (the ‘dodo bird conjecture’): that the specific ingredients of the EST account for only 1% of the effect size of treatment, that resource activation early in treatment (indicated by early change), the therapeutic alliance, and variations in therapists effectiveness, were the factors driving the ‘lab-clinic gap’ (Gassman & Grawe, 2006; Spielmans et al., 2007; Benish et al., 2008; Duncan et al., 2010; Timimi et al., 2013).

In 2005 the American Psychological Association convened a task force of leading researchers from the debate between those attracted to the EST position (specific factors) and proponents of the contextual position (common factors), in order to define Evidence Based Practice in Psychology (EBPP). They concluded EBPP is “the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA, 2006, p.273). They noted that EBPP is broader than EST, in that although the therapist might consider an EST, they should not be limited to the use of them in the intervention. They also noted that “Meta-analytic investigations since the 1970s have shown that most therapeutic practices in widespread clinical use are generally effective for treating a range of problems. It is important not to assume that interventions that have not yet been studied in controlled trials are ineffective” (p.274). Finally they noted that “ongoing monitoring of patient progress and adjustment of treatment as needed are essential to EBPP” (p.280).
number of outcome/progress monitoring feedback tools, no doubt fuelled in part by market forces. There appears to be some convergence on a number of core criteria for such tools, although a number of empirical questions can be raised for further investigation. The first of these is a preference for client self-report measures rather than clinician-completed measures, as the client’s self-report of distress-wellbeing has been found to be the strongest predictor of change, and clinicians are not so good at picking up clients who are deteriorating (Garb, 1998; Minami et al., 2008; Duncan et al., 2010; Lambert & Shimokawa, 2011). This also fits with the ‘recovery’ philosophy of giving “authority” to determine outcome to the client. The second is immediacy of feedback; if feedback is to be effective it needs to be timely (Lambert et al., 2001; Peterson, 2005). A third is frequency of administration, with preference given to every session rather than fixed time intervals or session numbers (e.g. every third session) (Duncan et al., 2010; Lambert & Shimokawa, 2011). A fourth is feasibility; it would seem that any measure that takes more than a minute to administer and score gets lower levels of compliance from therapists (Brodey et al., 2005; Duncan et al., 2010). Finally case mix analysis has to be allowed for, as the “worried well” do not make as much progress as fast as the more distressed; indeed many ‘worried well’ get worse with treatment (Brown et al., 2001; Clarkin & Levy, 2005).

It has recently been suggested that agencies with large databases (e.g. government departments) can develop new outcome measures “on the trot” so to speak (Lambert, Minami, et al., 2013). This allows different agencies to compare outcomes more flexibly even when dealing with specialist populations.

Mental Health Outcomes in Aotearoa-New Zealand

In the U.S.A. the Presidents New Freedom Commission on Mental Health, declared in its interim report that the public mental health system is in “shambles” (2002, p.ii). Here in Aotearoa a similar declaration was made in the Mason Report a few years earlier, describing our mental health services as “fragmented” and “under-resourced” (1996, p.100). This led to numerous reforms, including the creation of the Mental Health Commission, an extensive anti-stigma campaign, a ‘recovery’ focus, and a wider range of services. Funding more than doubled over the ensuing years, and we saw various plans on how we might improve mental health issued by the Ministry of Health and the MH Commissioner. Calls for greater accountability and evaluation of services led to law changes and the development of a managed care environment (MH Commission, 2007). Has it improved? In a co-authored paper with one of our former MH Commissioners, Rosen and colleagues warned: “Accountability or evaluation mechanisms which are internal to or dependent on health departments or ministries, even when quite elaborate, can be used to produce results which are easily gamed or massaged to make even laissez-faire or regressive administrations look good” (Rosen et al., 2010, p.594). The Mason report itself warned against equating service development with quality, as often “improvements” do not affect the wellbeing of the consumer and his/her family (1996, p.178). Further, a couple of years ago, the MH Commission reported that the two key goals of the reforms, decreasing the prevalence of mental illness and increasing the health status of the people affected, have not been met. If anything, mental health issues have increased globally (2007, p.178).

As part of these reforms, MHINC (Mental Health Information National Collection) was established in 2000 to monitor mental health data collection in the public sector, and introduced the Health of the Nation Outcome Scale (HoNOS) (Wing et al., 1998) to NZ mental health services in 2002. In July 2008 the use of this tool became mandatory in NZ District Health Boards (DHBs) with the inception of PRIMHD (Programme for the Integration of Mental Health Data); and Te Pou, an independent trust, began collating the data and training clinicians in its use. Since its inception compliance rates have been poor (but improving), which as Te Pou acknowledges in it’s reports, means making any meaningful analysis of whether people entering NZ mental health services are ‘recovering’ questionable (Te Pou 2013a, 2013b). These reports show that if we were to accept that a 30% compliance rate amongst adult community mental health services at discharge was a representative sample, then a little over 40% are being discharged in a sub-clinical range (i.e. ‘recovered’) (Te Pou, 2013a, graph 8). Child community mental health scores, with a slightly higher compliance rate of approximately 40% at discharge also indicate a recovery rate of approximately 40% (Te Pou, 2013b, graph 8). Although this appears on the face of it to be a marked improvement on the 15% recovery rates found by Hansen and colleagues (2002); as we shall see it ignores another (besides the question of sampling) fundamental flaw in clinician assessed forms; a criticism that does not appear to have been discussed by those implementing the HoNOS suite in NZ (The HoNOS Working Party, 2010).

Gaming and Questionable Statistics

In Johnson’s (2009) review of a multitude of clinician based assessments of clients, there is a consistent finding that although inter-rater reliability between clinicians is often fair (but not good), there is all too frequently a poor correlation with client self-assessment (and, as noted above self-rating is a better guide to improvement and drop-out potential). Further, even if inter-rater reliability can be achieved in the ‘lab’, questions have been raised as to whether that will flow on in the field. Take for example the Problem Severity Summary (scale) developed by Srebnik and colleagues (2002), where they comment: “tying improvements in PSS ratings to fiscal incentives may cause biased ratings, particularly if clinicians are aware of the incentives. Furthermore, implementing incentives for improved outcomes alone may lead to “creaming”, or shifting access to services towards individuals who more easily attain desired outcomes” (p.1016). As talk of fiscal incentives for clinicians (and clinics) achieving better outcomes mounts in the literature (e.g., Centre for Social Justice, 2012; Lambert et al, 2013), clinicians may well come to regard clinician assessed
outcome forms as actually performance ratings of their own skills. As such they will be tempted to score the client as quite dysfunctional on admission, and recovered on discharge. When demand characteristics of quality improvement become service policy, as in the KPI systems currently dominating MoH and the ‘pay-by-results’ (‘social bond’ contracts) planned for many government departments, the results will be ‘gamed’ (Bevan & Hood, 2006; Lowe, 2013; Luchins, 2011). The example provided by Rosen (2010, p.594) of massaging statistics is a paper by the Australian proponents and advisors on HoNOS (Burgess et al, 2006), which claimed that people using Australian mental health services are “getting better”. Most of us would read that claim as saying that most people are recovering; but actually the paper shows that a saying that most people are recovering;

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HoNOS encourages the clinician to focus on symptoms, thus increasing the risk of the clinician focusing on the client as a cluster of symptoms that need eliminating or reducing rather than a ‘person’. Further evidence for treating Te Pou’s HoNOS figures, which suggest a recovery rate of approximately 40%, with some suspicion is the growing number of people in New Zealand on sickness or invalid benefits due to mental health reasons. In the US, The National Council on Disability stated “most people with psychiatric disabilities who are poor are merely being ‘warehoused’ in the community rather than being helped towards recovery and independence” (2002, p.10). Whitaker (2010) has well documented the tripling of the number of Americans on government disability between 1987 and 2007. A similar trend has happened here (Mental Health Commission, 2007, Whitaker, 2011; and this appears to parallel the increases in mental health budgets. It is hard to reconcile an apparent increase in recovery rates if the number of clients being ‘warehoused’ is constantly growing. It is noteworthy in this respect that the Ministry of Health proudly reports an 11% decrease in bednights in DHB mental health services between 2001 and 2010, and go on to suggest this may be due to a shift towards a recovery focus and relapse prevention plans. However the massive increase in bednights in NGOs suggests that overall there has been an 81.4% increase in bednights (MoH, 2013, p.33). This growing population of ‘disabled’ mental health clients are also disadvantaged with regards to affordable housing and the workforce. It is difficult then, not to conclude that on the basis of the evidence, public mental health services are not particularly effective.

Mangled Care

The reforms to mental health following the Mason Report occurred at the time of the neoliberal influences of Thatcher, Reagan and ‘Rogernomics’. Arguing that the authority delegated to humanitarian and benevolent health and welfare leaders (‘knights’) were being swayed by interest groups ( ‘knaves’), leading to uneven or out-of-control expenditure, the neoliberal introduced “market style incentives to root out the pathologies of its bureaucracy” (Kettl, 2000, p.1; Le Grand, 2003). Although there were ‘knaves’ and pathologies in the system (witness the pre-1992 ‘Confidential forum for former in-patients of psychiatric hospitals) (Dept. of Internal Affairs, 2005), the ‘cure’ has generated its own pathologies and ‘knaves’. The supposed cure was a form of governance called “(new) managerialism” (Davis, 1997; Munro, 2004; Burton & van den Broek, 2009; facebook, 2013). This has led to the elaboration of explicit standards and measures of performance in quantitative terms (but no measures of the most important thing of all, the numbers actually recovering), separating funders from providers, thus effectively creating a form of managed care in these countries. Whilst some see efficiencies in such forms of governance, there is a “loss of social intelligence” (Pusey, 1991: p.22), as who decides ‘what counts’ has shifted from the practitioner and others trained in the humanities, to managers trained in economics (which is why some call it ‘mangled care’). Because managerialism sees itself as an antidote to chaos (ignoring the self-organising or manager-less capacities of everything from slime mould colonies and ant nests to some human groups (Parker, 2002; Hazy et al, 2007; Rolling, 2013), there is little space currently for clinicians within public health to reclaim the autonomy over their practice they once enjoyed. Although practitioners and their professional bodies can lobby for ‘what counts’; are they doing so from a philosophical position congruent with, what we might call Bateson’s (1997) (and others) “ecological mindfulness”, or from a position more Cartesian in form, which are the very assumptions generating this ‘abominable mess’? Is it possible that many of the ‘knaves’ moved from clinical positions to managerial positions? Further, as managerialism, in effect, is placing the authors of its mandated practices in the therapy room alongside the clinician (Krause, 1996), is there not a case for broadening the scope of the NZ Health Practitioners Competence Assurance Act 2003, to include these authors in the accountability process? If HoNOS, for example, is a barrier to recovery, as Happell (2008) contends, who is accountable for this harm?

Managing versus dissolving ‘risk’

Although the micromanagement of clinical care may have aimed at eliminating some of the worst clinical practice, it appears to have (unintentionally) prevented the best, as it overrides professional skills and knowledge. One of the most common cited reasons for the form managerialism has taken has been attributed to the rise of
the ‘Risk Society’. Beck (1999) argues that many bureaucrats spend a lot of time devising systems and programmes to protect them, their agencies, and their political masters from being charged with a failure the media sensationalises as their responsibility. There is little in the way of empirical evidence that shows that the risk management policies so generated protects the public any better, but it has led to an immense accumulation of pseudo-accountability (Lees, et al., 2013). Not surprisingly, Smith and colleagues (2003) found that British social workers were far more frightened of being blamed by their managers or professional bodies for not adhering to these procedures, than of bodily harm by their clients.

Managerialism first began tackling risk in the health sector with nurses in Britain, by splitting up the nurse-patient relationship and insisting on ritualised task performance that encouraged them to ignore their professional intuitions in favour of ‘doing it by the book’ (Lees, et al., 2013). High profile inquiries into deaths of children in welfare services has similarly led to management techniques focused on “correct procedures”. Numerous commentators have indicated that one of the major consequences has been clinicians and welfare workers diverting time away from clients to the fulfilment of administrative roles that are primarily defensive. This concern is much wider than health, and is often disparagingly referred to as the “OSH culture” (“Occupational Safety and Health”).

In mental health, the consequences of this risk-averse managerialism is seen in the growing number of ‘high users’. In less than a decade the 10% of ‘high users’ went from 50% of mental health expenditure to over 70% of clinical time (Buck et al., 2003). In the 1980s, Assertive Outreach Teams were developed to keep these high users out of costly in-patient beds; and then, later, ‘early intervention teams’ also. But there have been a growing number of voices contesting the use of coercive services offering ‘treatment’ to reluctant people, especially where the primary emphasis is upon medication compliance (e.g., Williamson, 2002). When coercive means are used, such as involuntary hospitalization, there is a loss of trust lasting years, and trust is a key ingredient in successful therapy (Blanch & Parrish, 1993; Laurance, 2003). McGorry (2006) calls this “the iatrogenic effects of standard care”; and Mullen and colleagues (2008) report the growing increase in defensive medicine in NZ mental health. This is also reflected in the growing numbers of people sectioned under the Mental Health Act over the past decade (Ministry of Health, 2012).

As most practitioners know, in one form or another, the way to deal with fear is not to overpower the object of fear, but to transform fear into a more healthy wariness towards the object of fear. Although particularly challenging in crisis situations, engagement with the client is the key to successful therapy (Laurance, 2003; Drury & Munro, 2008). But as we have seen, managerialism of risk in health began with nurses being encouraged to de-emphasize the nurse-patient relationship in favour of ritualised tasks. Behind the fixation on such managerial rituals as risk assessment and risk management plans, Rose (2007) claims, is not a use of clinical judgement for care, but one of control of those who might pose a threat to the community. Leaders in the field of psychiatric risk, such as Paul Mullen (2000), stand much closer to the consumer movement when they suggest that psychiatric risk is best approached as a therapeutic task; making engagement crucial rather than these managerial rituals where something is done to the client. Intuitions, arising out of an empathic relationship are the key to risk assessment and therapy, and as De Becker says “cookie-cutter approaches are dangerous” (1997, p.88). Flannery and Walker (2003) acknowledge that some clinicians have better developed skills in this area than others. Although police crisis negotiation literature (e.g. Greenstone, 2004) and child welfare literature (e.g. Turnell & Edwards, 1999) have highlighted some communication patterns in developing collaborative relationships, with the notable exception of Andreas (2011), there is generally a paucity of case studies in this area. I would suggest that the fear driving managerialism may be considerably ameliorated, by making more ‘newsworthy’ where our best ‘human horse-whisperers’ have been successful.

Like the claims of consumer representation made by managerialism, there is scant evidence that any of the various ritualised tasks managers developed have an empirical basis despite their repeated lip-service to being an evidence based service. There appears to be no evidence that ‘risk assessments’ or ‘risk management plans’ have any support from the empirical literature. Further, as the ‘recovery’ paradigm sweeps the globe, a rationale has developed in numerous services that since there are varying definitions of ‘recovery’, thus making outcomes difficult to measure, the service will focus on whether ‘recovery plans’ are being completed as evidence that the service is recovery focused. However there is no empirical evidence that recovery plans lead to more recoveries. Indeed as Seikkula and colleagues (1995), who are achieving 80+% recoveries from psychosis in their service, comment: “Earlier, we thought we first had to devise the treatment plan and then implement it; [but] by opening the boundaries of discussion, the joint process itself started to determine the treatment, rather than the team itself or the treatment plan of the team” (p. 64).

The philosophical assuasive base of Seikkula is quite different, a matter of practicing Vyotsky’s ‘tool-and-result’ methodology (where knowledge is not separate from the activity of practice), as opposed to applying the ‘tool-for-result’ approach that engineers, builders and most doctors take with objects (Holzman, 1999). (Lewis Carroll’s croquet with flamingos and hedgebogs is illustrative of the problem using ‘tool-for-result’ methodology with creatures.) Furthermore there is a lack of empirical evidence that even assessments are a necessary precursor to successful psychotherapy. The philosophical assuasive base of managerialism and its Key Performance Indicators are those of the ‘tool-for-result’ methodology, which we commonly call ‘the medical model’.

A little philosophy

The well-known NZ mental health consumer advocate Jim Burdett once commented: “Mental health services
may have enough doctors, nurses, psychologists and social workers; the question is, are there enough philosophers?” (M.H. Commission, 2007, p.127). Currently mental health services appear to be largely guided by Cartesian assumptions as to the nature of mental processes, approaching ‘mind’ as another organ to be known via assessment, and do not appear to have familiarised themselves with recent philosophy of mind literature. Eighty years ago Wittgenstein accused Freud and his disciples as having generated an “abominable mess” due to conceptual errors in their thinking (Bouveresse, 1995); these errors are still apparent.

The confusion of ‘cause’ and ‘reason’ is a central aspect of this. Generally speaking we know the ‘reason’ we did something, but a ‘cause’ is a conjecture. One of the examples Wittgenstein (1958) provided was to consider the situation where I become delighted (or frightened) on seeing a particular face (§ 476). If you were to ask me why I showed delight (or fear), I would say “it was that face”, giving you the reason. But as to the cause, we can only speculate. Perhaps it was an association I made as a child between clown’s faces and being delighted (or frightened), but I don’t remember. This is a speculation, and in our conversations with other psychologists, we might speculate as to the ‘cause(s)’ of various associations. The confusion between cause and reason is often generated by ‘why’ questions, as they can be answered either way (Wittgenstein, 1966, p.15). Now desensitization to that face can occur without the cause ever being known. As some schools of psychotherapy (e.g. Solution Focused Brief Therapy) have noted for some time, we don’t need to know the cause of a problem to be therapeutic.

This criticism by Wittgenstein was part of his attack on a mechanical ‘scientism’, which he saw increasingly dominating the Western intellect (Drury, 2013). He thought Freud had been seduced by this ‘religion’ of the industrial culture (Bouveresse, 1995). Similarly, past president of the American Psychological Association, George Albee, argued that clinical psychology sold its soul to the devil at Boulder, Colorado, in 1948 when it adopted the ‘scientist practitioner’ model, aligning it with the medical model (1998). This cause-reason confusion has led to the proliferation of hundreds of schools of psychotherapy, each claiming to have the ‘true cause’ (Lambert et al., 2013, p.6).

Although medicine, by and large, finds it important to make a diagnosis or discover a cause, and can relegate to a secondary place how the doctor reasons with a patient, in mental health this is reversed. Our task is one of engaging with the reasoning process of the client, and the ‘cause’ is secondary, or perhaps of no importance for the treatment. What did Wittgenstein to take an interest in Freud was that the problems he, as a philosopher, and Freud, as a mental health practitioner, were dealing with were orientational problems; how we might orient to our environment in a more fruitful way (Shotter, 2012). This strongly suggests that mental health services need to make more space for counselling psychologists as they work more within the ‘tool-and-result’ methodology, as the quote from Seikulu (above) attests. A matter of working with the reasoning of the client without the necessity of making causal conjectures; or of privileging ‘withness knowledge’ rather than ‘aboutness knowledge’ (Shotter, 2012).

Bateson (1997) made a similar analysis of the heart of the ‘psy’ confusion when he noted that living things use energy from their own metabolism in their response to various stimuli, which is quite unlike causal processes in the physical world (where energy is transferred from one billiard ball to another). From this observation he defined ‘mind’ or a ‘mental process’ as a circuit where each part, using its own energy, can ‘trigger’ the next to respond. So if we are felling a tree, there is a circuit that includes the gash in the tree, the eye, the brain, the muscles, the axe, and the gash, which ‘information’ is flowing around. ‘Mind’ for Bateson, was immanent to this circuit (and not a transcendent entity watching it); and when we sit down for a break from our labour a different circuit or ‘mind’ comes into play.

He went on to ask where the blind man’s ‘self’ begins? At the handle of his cane? At the tip? Halfway up the cane? Well, ‘self’ or ‘mind’ is not determined by anatomy experientially; our attention is flowing around a circuit that includes the cane and the street. In this way ‘mind’ is extended or ‘distributed’. We find a similar idea in Heidegger’s (1962) notion of ‘Dasein’; most of the time we are so absorbed in our activities that we are not aware of any ‘gap’ between our self and the world. The car or hammer feels like part of me (until something goes wrong). For the Cartesians ‘mind’ was ‘in here’ (anatomically), and the world ‘out there’; but in this newer philosophy of mind, ‘mind’ is both ‘in here’ and ‘out there’. There is some speculation that Heidegger may have been influenced in his development of ‘Dasein’ by Zen Buddhism, for this is known in Zen as the doctrine of ‘no mind’ (Suzuki, 1949; Noê, 2009).

Now Wittgenstein, in his later philosophy (1958), also showed us that we can and often do experience this same sense of unity socially. A conversation can take on ‘a life’ of its own (Shotter, 2012). Our attunement with each other is such, that most of the time we are able to directly ‘mind-read’ each other, without having to infer how it is with each other via some sort of interpretive device or ‘theory of mind’ (Leudar & Costall, 2009). Wittgenstein wrote:

“ ‘We see emotion’ – as opposed to what? – we do not see facial contortions and make the inference that he is feeling joy, grief, boredom. We describe the face immediately as sad, radiant, bored, even when we are unable to give any other description of the features. – Grief, one would like to say, is personified in the face. This is essential to what we call ‘emotion’ ” (1980, §570).

Proponents of ‘theory of mind’, we might say, have viewed the glass as half-empty, stressing the times we have difficulty ‘reading’ the other, or when there is deception; but as Wittgenstein notes deception is a game learnt later in development. If grief didn’t have certain characteristics, one couldn’t learn to feign it. Many see the philosophy of Wittgenstein’s later work as a form of therapy for overcoming our culturally induced sense of separation or alienation from each other and nature (Read &
In this regard consider Wittgenstein’s elucidations on perception, which have been developed further by Gibson (1979) and Noé (2009). The primary function of perception is not to obtain clear representations (pictures) of the world (as so long thought, and which Cartesian science is built upon), but to develop sensorimotor skills for the purpose of keeping track of our relationship with the world; or, more simply, to stay attuned with the world. Noé (2009) calls the Cartesian assumption “the grand illusion”; the idea that we are separate minds interpreting sense data and each other in order to navigate our way through life. Wittgensteinian scholars argue that the only people who need a ‘theory of mind’ to socially navigate (besides some mental health professionals) are those attracting a diagnosis of Aspergers, as they lack ‘the instincts’ the rest of us enjoy (Leudar & Costall, 2009). Further, these considerations have led to the argument that developmentally, the sensorimotor stage is not abandoned or overcome, as Piaget suggested, but is refined as language and perspective taking develop (Thelen, 2000).

As we are able to ‘mind-read’ in most situations, Wittgenstein saw an ethical demand in our intersubjectivity, especially with suffering: a “primitive reaction to tend, to treat, the part that hurts when someone else is in pain; and not merely when oneself is… - a response of concern, sympathy, helping” (1967, §540). This same idea finds expression in the philosophy of Emmanuel Levinas (1998), where the ‘face of Other’ appeals to my goodness or responsibility, it invites my hospitality. This ‘call of Other’ is the basis of our heteronomy, “I” finds more use as a pronoun rather than a noun; and ‘relational mindfulness’ becomes central to psychotherapy and cultural development (Bakhtin, 1981; Searle, 2002; Falb & Pargament, 2012). A pathway opens here to put mental health services out of business (Robbins, 2000).

If we are to realise Bateson’s (1997) dream of the necessary unity of mind and nature we need to dissolve the individualism that drives neoliberal capitalism (Aasland, 2009; Aldred, 2010). Foucault (1980, 1982) indicted the ‘psy’ disciplines for their role in the fabrication of the individual subject by the industrial culture’s technology of power. However, Foucault’s work on governmentality also showed that the ‘psy’ disciplines could play a central role in deconstructing the sociogenesis of the atomistic self-interested homo economicus (Ferro, 2013; Rose, 2007; Hook, 2007). This philosophy of self-interest has led to a situation where wealth accumulates into the hands of fewer, who in turn, attempt to store this wealth in loans to the growing poor, until the bubble bursts (Wikipedia, 2013). Rather than relying on an ‘invisible hand’ to protect public good, or turning to Marxism as a solution, Levinasian scholars argue that selfish homo economicus needs upsurping with at least homo reciprocans, or preferably, Levinas’ “ethics first” that does not even require reciprocity (Aasland, 2009; Aldred, 2010; Ferro, 2013). Greed or selfishness is a mental health issue in need of urgent address; a more ethical way of being centralized (Dean, 1999).

A growing number of psychologists have noted that the ‘McDonaldization’ of clinical psychology carries values of homo economicus that are alien and offensive to many in other cultures (Marsella, 2012; Prilleltensky, 2012). An example of where psychology can be seen to be putting ourselves out of business can be found in Seikkula and colleagues work with psychosis or SMI (Aalten et al., 2011; Seikkula et al., 2011). Utilising Vygotsky’s tool-and-result methodology, Seikkula’s team begin their work in the home of a new client by holding ‘Open Dialogue’ meetings with the client and his/her social network. One can take the view that both the client and the social network have taken refuge in an exaggerated state of isolating monologue (Anderson, 2002), unable to engage each other (i.e. there is a “breakdown” in the network’s “collective mind”). Reports by Seikkula and his colleagues indicate that both the members of the network and the client were initially quite frightened; however they are all soothed when...
the deliberating atmosphere of Open Dialogue is facilitated, by allowing multiple viewpoints to be entertained. Re-engaging the network and client in dialogue is the aim of the therapy; and as the re-engagement occurs the psychosocial abates. They have incredibly low rates of hospitalisation and if medication is needed, the preference is a brief spell of anxiolytics rather than anti-psychotics. Now that they have been doing this for over two decades, they are finding that within the social networks are veterans of previous Open Dialogue meetings. Thus the community is becoming knowledgeable about how to deal with psychosis, and they are in effect, putting themselves out of business.

Another possible avenue lies in Porges’ (2011) polyvagal theory. With the resolution of the mind-body problem he provides us with perhaps the first biomarker of mental-physical health. Vagal tone (the variability in heart rate between in-breath and out-breath) serves as a biomarker for the balance between the sympathetic and parasympathetic nervous. Prolonged imbalance can lead to various health problems; and the social engagement system serves as a gateway to facilitating greater harmony. Therapists utilising Porges’ polyvagal theory are stressing relational mindfulness in their therapy (e.g. Ogden & Fisher, 2014). Relational mindfulness can be contrasted with the individual mindfulness, which has been criticised as little more than another “coping mechanism for dealing with the stresses of modern life” (Cohen, 2010, p. 111), or “a technique for improving individuals’ functioning within late capitalism” (Stanley, 2012, pp.632). That is to say, individual mindfulness can be seen as a tool in Vygotsky’s ‘tool-for-result’ methodology; whereas relational mindfulness is an aspect of the ‘tool-and-result’ methodology that we saw in Seikkula’s work.

Social work literature cites managerialism as the principle obstacle to the development of more ethical practices that may help us realise the unity of mind and nature (e.g. McLaughlin, 2005; Miller, 2008). ‘Withness’ conversations, where the therapist remains open to being changed him- or herself, need to take precedence over ‘aboutness’ conversations, where the client is fitted to pre-existing schema (Shotter, 2012; Drury, 2013). We see this in Israel’s child welfare services which have begun moving away from a pathology and risk focused orientation, to an empowerment focused orientation working around the client’s definition of the problem (Strier & Binyam, 2013). Or in Arizona’s Southwest Behavioral Health Service, which has introduced client self-rating measures to become a client-directed outcome-informed service (Bohanske & Franczak, 2010).

**Conclusion**

This paper has set out to show that due to psychology being largely taken over by a form of ‘scientism’ the discipline has been recruited to provide scientific legitimation for the individualism that drives an eco-destructive neoliberal capitalism. A number of philosophers have shown us numerous deep-seated confusions and problems in this ‘scientism’, such as that between ‘cause’ and ‘reason’. These difficulties in our own reasoning finds expression in the massive amount of evidence now accumulated that our mental health services are an “abominable mess”.

However despite this mess, a subaltern voice finds expression in pockets of clinical excellence where mental health services have outstanding results. When coupled with the insights of the philosophers and sociologists who have resolved the mind-body dilemma, we begin to see that the common factor in these therapies is of therapists attuning to their clients (reasoning) as they attune to the world. In this manner the necessary unity of mind and nature, which Bateson showed, can be realised.

Unfortunately neoliberalism has imposed managerialism upon our education, health, and welfare services, which in many places, making these developments difficult. However, we can find examples of alternate managerial systems that have allowed these more effective approaches to flourish. Such systems have the potential to reverse top-down control systems in favour of forms of governance where bureaucracies support practitioners to empower people to realise their health and potential. There is much onus on psychology as a discipline to further these developments.

**Footnotes**

1 It is noteworthy that many of these authors have had their careers negatively affected by their writings

2 In Bevan & Hood’s (2006) metaphor of performance indicators (or KPIs) as targets, client self-assessment is closer to the bulls-eye of the target and thus less susceptible to ‘gaming’; whereas many current KPIs in use are quite peripheral to whether people are actually recovering. Related to this is the difficulty with totally relying on the MH Commission’s definition of ‘recovery’ as “living well in the presence or absence of symptoms of mental difficulties”; for as Korman (1997) once jestered, it allows us all too easily to emulate the tailor who adjusts the customer to the badly made suit, rather than cutting the suit to fit the man. Although primacy should be given to client self-assessment in therapy, we also need the ‘hard’ measure of ‘symptom free’, ‘without medication’, and ‘in full-time work or study’, such as we see in Seikkula’s work to claim ‘recovery’ has occurred. In this paper I have preferred studies that backed up their claims from ‘soft’ measures with ‘hard’ measures, when discussing ‘recovery’ (or positive outcome). The original intent of the NZ MH Standard Measures and Recovery project was to include a functional measure, a substance abuse measure, and client self-assessment, as well as HoNOS; but presumably due to feasibility reasons these have not been implemented.

3 With procedure taking precedence over outcome ‘knights’ may well be mistaken with ‘knaves’.


5 The TV show ‘In Treatment’ also raises the intriguing question of whether keeping notes may impair therapy. If therapists are more intensely attuned to their clients will they remember better than those therapists who rely on their notes?
This of course does not prevent therapists from speculating with their clients about alternative possible ‘causes’ of their problems, such as Narrative therapists sometimes do, as it can sometimes be therapeutic to discover a ‘less toxic’ possible cause.

Bateson argued that misunderstanding this difference in energy use led to “the myth of power”. Keeney & Keeney (2012) provide recent comment on these muddles and how knowledge can get in the way of acting.

Freud’s pupil Paul Schilder was perhaps the first to use this example, probably as a result of his study of Husserl.

It is noteworthy that Atkinson et al. (2007) claims it was its commitment to multiculturalism, and not it’s base in humanism or phenomenology that saved counselling psychology from being absorbed by clinical psychology.

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Video Self-Modeling as an Intervention for Oral Reading Fluency

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Video Self-Modeling (VSM) is an intervention that allows individuals to observe exemplary instances of their own behaviour on video in order to increase the probability of that behaviour occurring again. VSM has been used to teach and strengthen various behaviours, however, little research has been conducted on VSM as an intervention to increase oral reading fluency (ORF). Therefore, the intent of this study was to examine VSM as an intervention to improve ORF for primary school students. Four Year 3 students from the Hawkes Bay area were videoed reading and mistakes were edited out. Each participant viewed him/herself reading fluently for 2 weeks. ORF was regularly assessed before, during, and after the intervention. Results indicated that three out of four participants made gains in ORF. Practical implications are discussed.

Keywords: Video Self-Modeling, Reading Fluency, Literacy, Observational Learning

Learning to read fluently is a vital part of the reading process. Research shows a link between simple fluency measures and comprehension (e.g., Barth, Tolar, Fletcher, & Francis, 2014; Bolaños et al., 2013; Fuchs, Fuchs, Hosp, & Jenkins, 2001; Kim, Petscher, Schatschneider, & Foorman, 2010), with comprehension being the ultimate goal of any reading instruction. Reading fluency involves efficient effective decoding skills which allow a reader to comprehend text (Pikulski, 2006). There are a number of interventions that have been shown to improve reading fluency to increase accurate and fluent word recognition, assist with comprehension, and promote the use of prosodic features such as stress, pitch, and suitable phrasing. A key aspect of these approaches is that they provide learners with opportunities to read connected text with support through either adult feedback or modeling (Neddenriep, 2014). Therefore, if modeling is a successful component of fluency instruction, would it be more effective if the individual him/herself was the model?

Video-self modeling (VSM) is a cognitive-behavioural technique that enables participants to see themselves performing a target behaviour (in this case reading fluently) that is outside their usual repertoire. Hitchcock, Prater, and Dowrick (2004) used VSM in combination with tutoring to improve the reading fluency rates and comprehension of three students with special needs. Their results indicated that viewing the self-modeling video was associated with reduced variability in the data and maintenance of increased performance. Dowrick, Kim-Rupnow, and Power (2006) used a combination of VSM and tutoring in an attempt to improve reading fluency for 10 students with special needs. Their results indicated significant improvements in reading fluency for all students and in 9 out of 10 cases the rate of improvement was greatest when VSM was used.

The purpose of this study was to examine whether VSM by itself can improve reading fluency in children who are not classified as special needs, but are simply behind their peers in reading. This group of “delayed readers” (Catts & Kamhi, 2005), tend to eventually gain accurate and fluent word recognition skills, but at a considerably slower pace than their peers. By using VSM with delayed readers the intent of the current study was to improve reading fluency by providing them with the opportunity to view themselves reading fluently, thereby increasing their sense of reading self-efficacy.

Reading Fluency

The concept of reading fluency has gained momentum in recent years and has been recognized as a critical component of reading (Samuels, 2006). It is now widely accepted that oral reading fluency in a child’s first years of school is a strong predictor of reading comprehension in later years (Barth et al., 2014; Bolaños et al., 2013; Kim et al., 2010; Reschley, Busch, Betts, Deno, & Long, 2009). There seems to be consensus in the research that there are three main components to reading fluency: accuracy in decoding, automaticity, and prosody (Kuhn & Stahl, 2003; Rayner, Pollatsek, Ashby, & Clifton, 2012; Schaffner, & Schiefele, 2013; Therrien, Kirk, & Woods-Groves, 2012). Accurate decoding means the ability to generate a phonological representation of each printed word on the page (Samuels). There is overwhelming evidence to show that struggling readers make progress if they are given systematic decoding instruction (e.g., Center, Freeman, & Robertson, 2001; Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998; Hattie, 2009; Greaney, Tunmer, & Chapman, 1997; Ryder, Tunmer, & Greaney, 2008).

The oldest and most commonly...
used method for facilitating fluency is the repeated reading technique, based on Samuels (1979) automaticity theory. Readers read a passage of connected text at a level appropriate to their reading level several times until a particular reading rate is attained. The aim is to build a large repertoire of quickly identified words. However, research has shown that although repeated readings can enhance reading speed, comprehension, and expression; these enhancements are not guaranteed and generalization of these effects to new text is not automatic (e.g., Lo, Cooke, & Starling, 2011). This is especially the case where the new text contains few or none of the words practiced (Topping, Samuels, & Paul, 2007).

Other methods to improve fluency typically involve some combination of modeling, practice, prompting, shaping/scaffolding, and feedback.

Interventions that simply address the phonological, orthographic, and semantic deficits appear to be insufficient (e.g., Nicholson, 2003). For example, one of the biggest hurdles facing struggling readers is their motivation to read and their engagement with language (Stanovich, 2000). For many children, negative feelings about reading can begin as early as the first year of school which can inhibit their self-confidence (Nicholson). Logan, Medford, and Hughes (2011) found that motivation may explain a significant portion of the variance in reading skill in groups of low ability readers. It is well established that the best thing for learning to read is reading (Chard, Vaughn, & Tyler, 2002; National Institute of Child Health and Human Development, 2000; O’Keeffe, Slocum, Burlingame, Snyder, & Bundock, 2012; Therrien, 2004). Children need to read large amounts of text to encounter words frequently enough to build word-specific orthographic representations (Troia, 2004). As children get better at reading they are exposed to more print and become better readers. Children who find reading difficult tend to avoid reading and therefore are not exposed to the same amount of print. As time passes they fall further below their peers and the gap between them widens. Their self-efficacy is diminished and their motivation reduced (Spear-Swerling & Sternberg, 1996).

Allington (2006) discusses the importance of “high-success” reading experiences, which are those characterized by accurate, fluent reading, and good understanding of the text that was read. He argues that children fail to develop fluency because they have limited reading practice, particularly in high-success texts. It seems important, then, to develop interventions to address the above (e.g., motivation) before these children fall further behind age appropriate reading levels. Bandura’s (1989) work on self-efficacy indicated that self-beliefs of efficacy can enhance or impair performance through their effects on cognitive, affective, or motivational processes. Video self-modeling is a cognitive-behavioural technique that specifically addresses self-efficacy by having the child him/herself serve as the model.

**Video Self-Modeling**

Video Self-Modeling (VSM) is an intervention that allows individuals to observe exemplary instances of their own behaviour on video in order to increase the probability of that behaviour occurring again. The behaviour is seen from the visual perspective of the person who needs to acquire the behaviour. Much of the research in this area stems from Bandura’s (1977) social learning theory with its emphasis on observational learning (modeling) and self-efficacy. According to Bandura, there are four components in the process of modeling: (1) the observer must attend to events that are modeled, (2) material must be retained, (3) the observer must have the ability to perform the behaviour, and (4) there must be sufficient motivation to perform the behaviour. Bandura argues the potency of the model in changing targeted behaviour is related to similarities between the model and the observer. VSM maximizes this similarity by using the individual him/herself as the model.

Bandura also believed that self-efficacy can be a major factor in behaviour change. According to Bandura, self-efficacy is a belief in a person’s own capabilities to organize and execute the courses of action required to reach certain goals (Bandura, 1986). He described self-modeling as providing the essential elements of self-efficacy. When observing a self-image, the observer pays more attention, and if the demonstrated behaviour is valued, it provides an obvious source of self-belief. By contrast, an image of someone else produces less attention and is a weaker source of self-efficacy (Dowrick, 1999).

VSM has been used in a wide range of contexts and across many ages (Buggey, 2007). The majority of research on VSM has been with individuals diagnosed with Autism Spectrum Disorder (ASD) (e.g., Shukla-Mehra, Miller, & Callahan, 2010; Victor, Little, & Akin-Little, 2011). It has only been since the 1990’s, however, that VSM has gained popularity as an intervention technique within an educational context. Hitchcock, Dowrick, and Prater (2003) conducted a thorough review of the literature on VSM in school-based settings. They identified 18 studies that met their criteria and represent a comprehensive selection of research looking at VSM in an educational context. They found the data in all reviewed studies provided clear evidence of positive outcomes relating to the intervention. Sixteen of the studies assessed maintenance of treatment effects and 15 showed successful short- or long-term maintenance. Thirteen of the studies assessed generalization of treatment effects, and 10 showed clear positive evidence of generalization. These data suggest that VSM can be useful for a variety of skills within an educational context, including increasing desired behaviour and performance of academic skills as well as decreasing inappropriate behaviour. Many studies also reported increased motivation and positive reports from teachers and parents. However it is interesting to note that only four studies to date have focused on using VSM as an intervention for acquiring academic skills. Research in the area of VSM has primarily focused on behaviour change.

**Summary**

Reading fluency, the ability to read efficiently, accurately, and with expression (Neddenriep, 2014) is unlikely to improve in delayed readers...
without some intervention (e.g., Kim et al, 2010). In addition to delayed reading skills, poor readers may also experience deficits in reading self-efficacy which may decrease their motivation to read, reading frequency, and the opportunity to experience success in reading activities. VSM provides an opportunity for poor readers to see him or herself reading and to increase his or her belief that he or she can succeed (Dowrick et al, 2006). While VSM has been used successfully across many settings and behaviours (Bugggey, 2007), it has yet to be fully examined for skill acquisition such as reading. Thus, the purpose of the present study was to determine whether VSM as a stand-alone intervention can be used to improve reading fluency for students who are not reading disabled but who are delayed in reading.

Method

Participants and Setting

Three boys and one girl, all in Year 3, at the same school (two classrooms) in the Hawkes Bay area of New Zealand participated in this study. All participants were monolingual (English). They were identified by their teachers as being behind their peers in reading but were not being singled out for any specialized group or individualized reading intervention beyond the core reading instruction that was provided to all students. The ages of the participants ranged from 7 years, 3 months to 8 years, 1 month at the beginning of the study. Three of the children had previously been in Reading Recovery and had been discontinued from the program at the end of the previous school year due to a lack of treatment efficacy. None had disciplinary records.

Measures and Equipment

Oral reading fluency was regularly assessed with pairs of 1-min probes selected directly from the curriculum of the school. Passages without illustrations were randomly selected from the PM Benchmark series widely used in New Zealand primary schools. Each passage was two levels above the student’s reading level at the beginning of the study. This was done to ensure the students in the study had never before seen the text they were reading. This ensured a close connection between the materials used for instruction and how student progress was measured (Deno & Marston, 2006). Participants were required to read passages that were of the same difficulty level, but each passage was different. Oral reading fluency, as measured by number of correct words read per minute, was assessed multiple times before, during, and after the video self-modeling intervention.

During baseline, intervention, and follow-up phases each participant was asked to read aloud for 1 minute, if he or she hesitated for more than 3 seconds, he/she was given the word and instructed to continue. If the student said a word wrong, he or she was corrected and instructed to continue. At the end of the minute the number of correct words was added up. To reduce variability of performance, each student was given two passages to read per session and the mean of the two was recorded as a single data point (Dowrick et al., 2006).

Participants were videoed using a Sony Handycam DCR-DVD605E digital video camera recorder. A tripod was used to maintain stability. Video footage was downloaded to an Apple Macintosh computer and edited with i-Movie software. To create the videos each participant was video recorded reading a passage that was slightly more difficult than passages presented during the three phases of the study. The video was edited to show the student reading the passage fluently. Each finished video was between 1 minute, 55 seconds and 2 minutes, 15 seconds long. Buggey (2007) stated that self-modeling videos need not be longer than 2 or 3 minutes to get the desired effects provided the student can attend to the video. The images of each student reading fluently were achieved by capturing the child’s reading and editing out parts where the researcher helped the student with a word. Where the student’s reading was slow or halting, pauses were cut from the video copy to show the student reading at a fluent pace. The finished DVD had a menu screen that played music and had images of the student reading with their name on it. From the menu the student could access the actual “movie” of them reading.

Procedure

A multiple-baseline-across-subjects design (Cooper, Heron, & Heward, 2007) was used for the study with four participants. Oral reading fluency, as measured by number of correct words per minute, was the dependent variable. Initially each participant was recorded reading above from five to eight sessions (Baseline) according to the procedures described. After baseline, each student was shown the finished DVD before school for 2 weeks. This was done in a room without distractions. No comments were made about the DVD while the student was watching it, although the first author remained in the room with the student to monitor their attention to the video. At the end of the intervention phase the video was removed and each participant returned to baseline conditions. Following a one week intervention, each participant’s oral reading fluency was again recorded for five consecutive days. The same procedures were maintained throughout baseline, intervention, and follow-up phases.

Data were analyzed using visual analysis and percentage of non-overlapping data points (PND), a common metric used in analyzing single subject research (Jenson, Clark, Krister, & Kristjansson, 2007). Scruggs and Mastropieri (2001) suggest that PND scores above 90 represent very effective interventions, 70 to 90 represent effective interventions, scores from 50 to 70 are questionable, and scores below 50 are ineffective. In addition, inter-observer reliability data were collected. For 21% of the 1-minute fluency probes (4 out of 19 sessions for each participant) a teacher aide at the school also listened to the participants reading to provide inter-observer reliability. She timed the session and recorded the number of correct words per minute just as the researcher did. The percentage of agreement for all sessions was 93.75%.

Results

Figure 1 shows the graphic display of the participants correct words read per minute before, during and after the VSM intervention. Words read per minute and PNDs can be found in Tables 1 and 2.
* Blake was absent on Day 3 and Sienna was absent Days 2-10.

*Fig. 1* Participants number of correct words per minute before, during and after VSM
Ben

As can be seen in Figure 1, during baseline Ben read between 30 and 41 words per minute with a mean of 36.8. He had an ascending baseline which you might expect with reading, as the child is expected to make some improvement with regular classroom instruction. During the implementation of VSM his performance initially decreased but then made some improvements. However the PND was 25% (see Table 2) indicating he did not move far from baseline. His mean score during the intervention was 39.4 (range 33.5–37.5) an increase of 7.45 words per minute (see Table 1). The PND was 100% (see Table 2). After the intervention his scores were initially higher, with the mean of the first four data points post-intervention increasing by eight words to 43.4 words per minute. However over the next few sessions his scores decreased steadily until they were nearly back at baseline levels. The mean of all of Matthew’s post-intervention scores was 38.5 words per minute, which was an increase of nearly nine words per minute. Visual inspection of the data show a general lessening of the effect as time elapsed from the intervention phase, although the PND from baseline to post-intervention was 91%. The intervention appeared to be successful for Matthew at first but the effects diminished over time and the effects were not maintained.

Matthew

Figure 1 shows Matthew’s baseline data were relatively stable with a mean score of 27.8 words per minute (range 25-30.5). During VSM implementation his mean score went up to 35.25 words per minute (range 33.5-37.5) an increase of 7.45 words per minute (see Table 1). The PND was 100% (see Table 2). After the intervention his scores were initially higher, with the mean of the first four data points post-intervention increasing by eight words to 43.4 words per minute. However over the next few sessions his scores decreased steadily until they were nearly back at baseline levels. The mean of all of Matthew’s post-intervention scores was 38.5 words per minute, which was an increase of nearly nine words per minute. Visual inspection of the data show a general lessening of the effect as time elapsed from the intervention phase, although the PND from baseline to post-intervention was 91%. The intervention appeared to be successful for Matthew at first but the effects diminished over time and the effects were not maintained.

Blake

Baseline data for Blake had some variability at the start but became relatively stable over time (see Figure 1). His mean score during baseline was 44.8 words per minute (range 37.5 – 49). During intervention his scores remained at baseline at first but showed a sharp increase halfway through the intervention. The mean score during the VSM implementation was 50.6 (range 42.5 – 58), an increase of almost six words per minute. Post-intervention

### Table 1: Mean Words Read Correctly Per Minute before, during and after VSM

<table>
<thead>
<tr>
<th></th>
<th>Pre-VSM</th>
<th>During VSM</th>
<th>Post-VSM</th>
<th>Total Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben</td>
<td>36.8</td>
<td>39.4</td>
<td>39.5</td>
<td>2.7</td>
</tr>
<tr>
<td>Matthew</td>
<td>27.8</td>
<td>35.3</td>
<td>38.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Blake</td>
<td>44.8</td>
<td>50.6</td>
<td>53.6</td>
<td>8.8</td>
</tr>
<tr>
<td>Sienna</td>
<td>27.7</td>
<td>39.9</td>
<td>37.4</td>
<td>9.7</td>
</tr>
</tbody>
</table>

### Table 2: Percentage of Non-Overlapping Data Points

<table>
<thead>
<tr>
<th></th>
<th>Pre-VSM to VSM</th>
<th>Pre-VSM to Post-VSM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>Matthew</td>
<td>100</td>
<td>91</td>
</tr>
<tr>
<td>Blake</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Sienna</td>
<td>100</td>
<td>75</td>
</tr>
</tbody>
</table>
his scores remained higher than baseline for all except two data points, with the overall mean increasing to 53.5 (range 42-65) words per minute. From baseline to intervention the PND is 50% but 60% from baseline to post-intervention. Over the course of the study his mean scores improved by almost nine words per minute. The intervention did seem to have an effect on Blake’s scores, albeit not a strong one.

**Sienna**

Figure 1 shows Sienna’s baseline data were stable and she showed very little improvement in the 25 days before VSM was implemented. Her mean score during baseline was 27.8 words per minute (range 25-32). During intervention her scores immediately increased to a mean of 39.8 words per minute (range 33.5 – 46). The PND from baseline to intervention was 100%. During the post-intervention phase her scores were a little more variable and her mean decreased to 37.4 words per minute (range 31-46.5). However her mean score still increased by nearly 10 words per minute. The PND from baseline to post-intervention was 75% showing the intervention was successful for Sienna.

**Summary**

Overall, all participants made gains in their reading fluency with the mean scores increasing between 3.5 and 10 words per minute. Three out of four of the participants’ mean scores increased between 8.5 and 10 words per minute. The PND scores were 29%, 91%, 60%, and 75%, showing the VSM intervention was not successful for one participant, questionable for one participant, successful for one participant, and highly successful for the other participant. The effects are particularly noticeable in Matthew and Sienna’s data where baselines were relatively stable. All participants did not appear to maintain their gains over time and there were some inconsistent performances by Blake and Sienna as they moved away from the intervention. For Matthew and Sienna, who had the highest PND scores, the effects of the intervention appeared to diminish gradually over time.

**Discussion**

Despite the evidence that VSM can be useful in the area of skill acquisition it has been under-utilized in schools for literacy development. This is due in part to the technological difficulties that have always been associated with producing the DVDs. As put by Dowrick and colleagues (2006) “school personnel have made it clear they seldom have the time and inclination to pursue additional technology, even when the empirical evidence is clear that it will help their students in leaps and bounds” (p. 205). However technology is constantly improving and much of the technology required to edit video recordings is now available on home computers. Hand held video devices are now commonplace which paves the way for “real-time” recording.

While the effects of the VSM intervention are not dramatic in this study, there is enough of a pattern of improvement across three out of four participants to draw some conclusions about the efficacy of VSM as an intervention for children who are slower to learn to read than their peers. Three of four participants made some improvement immediately or soon after VSM was implemented. For two of these participants, the improvement was immediate and significant with 100% PND from baseline to intervention. With the other participant the effect was apparent after one week of intervention. This is significant bearing in mind the lack of improvement these students had shown prior to the study. All three had relatively stable baselines especially in the case of Sienna, who showed almost no improvement in the weeks prior to the VSM intervention.

Although there were short-term immediate gains for most of the participants, the problem seems to be maintaining these gains over time. In every case as time passed the reading fluency rate gradually decreased. This lack of maintenance is in stark contrast to most of the literature on VSM which shows the gains made by VSM are usually immediate, maintained over time, and often generalized to other settings (Wert & Neisworth, 2003; Bellini & Akullian, 2007; Buggey, 2005, 2007). Both Hitchcock et al. (2004) and Dowrick et al. (2006) used VSM in conjunction with tutoring and found the gains made using VSM and tutoring were greater than the gains made by tutoring alone. In the former, viewing the VSM videos was associated with reduced variability and maintenance of increased gains. Perhaps the reinforcement gained through interaction with the tutor as well as increased learning opportunity contributed to the magnitude and maintenance of their effects.

Despite this evidence, the present study suggests that the gains made by VSM alone may be time-limited. It is possible that the students simply caught up to the level of the recorded passage. However none of the participants had progressed within their class reading groups to PM Benchmark Level 22 (the reading level of the passage) so this is unlikely. It seems that while the participants were actually watching the DVD it had positive effects on their reading fluency and these effects diminished the further away from the intervention they got. Ideally if time permitted, the VSM would have been reinstated to see if this had a further impact on the results.

It is important to remember that these students were in the bottom group in their class and had not made reading gains consistent with their classmates. This suggests that their oral reading fluency scores would be resistant to change with regular classroom instruction. Therefore even though the success in this study was minimal, the fact that there was movement at all indicates that VSM could be an effective intervention for children who are slower learning to read than their peers.

It is interesting to note that the fourth participant, Ben, whose results do not show any improvement as a result of the VSM intervention, was the participant least enthused about watching his DVD. He did not react when first shown the movie and appeared reluctant when called to watch it in the mornings. This was in stark contrast to Sienna, who was visibly excited when she first saw herself reading on the movie. When it was her turn to view the DVD she rushed up to the researcher, wanting to watch the DVD immediately. Her mean scores increased by 12 words per minute during the intervention, which is a startling
change compared to baseline. Matthew was also enthusiastic about his DVD although his reaction was less overt.

Shukla-Mehta et al. (2010) found that video-modeling might be more effective for students with good attending skills. In the present study each participant was functioning in a class environment so presumably the ability to attend was not an issue. However it seems that it is not only the ability but the motivation to attend that is an issue. In Bandura’s (1977) work on observational learning he pointed out that a key element to modeling is that there must be sufficient motivation to actually perform the modeled behaviour. The present study supports this hypothesis, as Ben appeared not to be motivated by seeing himself on DVD but the other participants were. How this motivation translates into increased performance has been explained by Dowrick (1999) in terms of the Bandura’s theory of self-efficacy. That is, an individual watching themselves on video enhances his or her belief that he or she can perform the behaviour and so is more likely to perform it. This model emphasizes the reactive effects of cognitive factors (e.g. awareness) and behavioural factors (e.g.: observable actions, consequences). This is of vital importance when it comes to reading as motivating poor readers to read is difficult as they become trapped in the “swamp” of negativity and reduced motivation surrounding their reading difficulties (Spear-Swerling & Sternberg, 1996). Share and Stanovich (1995) stress the importance of reading volume for poor readers, and note that virtually every study of reading volume indicates that struggling readers engage in far less reading activity than do more successful readers. Therefore VSM could be a vital tool in encouraging these readers to read more, and hopefully catch up to their peers. Allington (2006) emphasized the importance of “high-success” reading experiences characterized by accurate fluent reading with good understanding of the text that was read. He suggested this is in short supply in the reading experiences of struggling readers. If not available in their natural environment, it therefore makes sense to manufacture these experiences on DVDs using VSM. The goal of any reading intervention for struggling readers is to catch up to their peers. An intervention such as VSM that motivates a student to read more and provides opportunity for high-success reading experiences may allow this to happen.

The Role of Prosody

Although the present study did not specifically examine the role of prosody in reading fluency, the results could shed some light on its usefulness in an intervention designed to improve reading fluency. When making the DVDs the participants were recorded reading a passage. Slow, hesitant speech was speeded up and any assistance rendered by the researcher was edited out. What was left was the participant reading out loud at the correct rate and speed. What was not able to be altered was the prosody of the participants’ speech. The speech still sounded monotonous and flat, although it was accurate and at an appropriate speed. Prosody as a component of reading fluency has been largely ignored in the classroom and by many researchers; however, (Rasinski, Rilki, & Johnston, 2009) found substantial links between prosodic fluency and silent reading comprehension, and suggest instructions aimed at improving expressive oral reading may have an even greater impact on comprehension than instruction that is aimed at improving reading rate and automatic word decoding.

Results from a study on repeated reading conducted by Lo et al. (2011) suggest that introducing a prosodic element could enhance results. They found that students’ oral reading fluency improved on transfer passages when an adult modeled expressive reading of a passage of text prior to repeated reading of the same or multiple passages. However the difficulty lies in constructing a DVD that includes prosody. It might be possible to encourage the participants to read with expression after many readings of a passage. Rasinski (2006) stated that through repeated readings, even dysfluent readers are more able to capture the prosodic and syntactic essence of the text. Further research needs to be done to determine what effect introducing some prosodic element to VSM would have on the results.

Limitations

As discussed earlier in the section on prosody, a limitation was the quality of the finished DVDs. Through editing it was possible to eliminate the assistance given by the researcher and to speed up slow and halting speech. Although the finished product showed participants reading accurately at an appropriate rate (but without prosody) the editing process meant the picture quality was at times jerky. This was allowed for by having the participants sit at a comfortable chair at a table in a room with a plain background, but not eliminated altogether. The age of the participants meant they moved around in their seat from time to time and when large pauses were edited out this showed as a jump from one position to the next. This may have interfered with the effectiveness of using the self as a model.

Although variability in the reading probes was controlled for by having the participants read two passages and the mean score of the two counted as one data point, there may still have been some variability in the difficulty of the passages. The passages were chosen randomly from books at the same reading level but there was no explicit measure of the difficulty of the text. Logan and Petscher (2010) discussed this in their study and found evidence that there could be significant differences between passages that were presumed to be equivalent based on readability and difficulty estimates. This could lead to incongruent oral reading fluency scores.

Finally, although we were using oral reading fluency as the dependent variable, some researchers argue that in order to determine whether there were benefits from fluent text reading there needs to be an assessment of reading comprehension (Schwanenflugel et al, 2006). Such an assessment may have yielded useful data especially in light of the lack of maintenance of the oral reading fluency gains. Whether or not there were improvements in comprehension as well as short-term gains in oral reading fluency could be the subject of further research.

Future Research

More research needs to be done to
determine what other ways of improving reading fluency work best in conjunction with VSM, and whether combining VSM with other forms of fluency instruction provides maintenance of gains. It would also be interesting to look at the frequency and duration of VSM, and examining whether repeated showings of the same DVD have an effect, or whether showing a different DVD of similar or increasing difficulty has an effect on the results. It would also be helpful to try VSM on students at different ages and reading abilities to determine whether there is an "ideal" stage or age it would be suited. Future research should also address the question of whether introducing a prosodic element to the DVD will improve and maintain the gains made. This is important in light of the growing importance of prosody to reading fluency research. As has also been pointed out previously, further research might also consider incorporating a measure of reading comprehension in order to ascertain whether gains were also made in comprehension and whether or not they were maintained. An important consideration for any future research on VSM and reading fluency is the quality of the DVD. Although it was possible to hear the participants reading fluently, the finished DVD did jump a bit and appear jerky in places. It remains to be seen whether this can be eliminated totally.

Conclusion

All the participants in the study made overall gains in their mean oral reading fluency scores. In examining PND scores, it is possible to conclude that VSM was an effective intervention for at least two out of four participants. The participants were all students who were behind their peers in reading and had shown little improvement in their oral reading fluency scores prior to this intervention. This would suggest their scores were relatively stable and resistant to change. The fact that their scores improved after watching their DVDs shows how an individual watching themselves read fluently on video may enhance his or her belief that he or she can perform the behaviour. The problem is the gains were not maintained over time and the effectiveness of the intervention seemed to diminish as time passed. This has practical implications for the use of VSM within schools. As part of an instructional package VSM could be a valuable tool in both providing the student with opportunities for high-success reading experiences and motivating the student to read more.

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School Climate and Aggression among New Zealand High School Students

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Sheila Williams, University of Otago

This research examines student perceptions of teacher, peer and parent relationships in New Zealand schools, and how these relate to aggressive behaviours and attitudes. A path analysis was used to see if school climate mediates the association between the quality of within school relationships and aggression. Student perceptions of relationships with their teachers and peers, and parental involvement with school were all significantly interrelated. The quality of teacher-student relationships was the strongest predictor of school climate, which in turn predicted both aggressive behaviour and pro-aggressive attitudes. This research suggests that improving teacher-student relationships may have the greatest impact in reducing physically aggressive behaviours and attitudes in schools.

Keywords: Student; school; climate; aggression; violence, engagement

While the influence of the family on social behaviours continues through adolescence, other contexts become important as children develop their own identity (Currie, Roberts, Morgan, Smith, Settertobulte, Samdel, & Rasmussen, 2004; Research Unit in Health and Behavioural Change, 1998). Adolescents spend much of their lives in activities associated with their school, and the school’s social, psychological and learning climate all have a strong impact on the emotional and social development of young people (Currie et al., 2004). Two aspects of adolescents’ experience of school are especially salient, namely school climate and school engagement. School climate refers to the atmosphere and ethos of a school, and the nature and quality of the interpersonal relationships and communication patterns within the school (Welsh, 2000). School engagement has been used synonymously with terms such as bonding, attachment, connectedness, involvement and commitment (Kodjo, Auinger, & Ryan, 2003; McNeely & Falci, 2004; Waters, Cross & Runions, 2009; Wilson, 2004; Wright & Fitzpatrick, 2006). Despite researchers not always clearly distinguishing among these terms, Fredericks, Blumenfield and Paris (2004) argue that school engagement is a multidimensional construct comprising behavioural, emotional and cognitive components. Engagement has been linked to markers of school success including academic achievement, but it has been increasingly identified as important in reducing health compromising behaviours as well (Fredericks et al., 2004; McNeely & Falci, 2004; West, Sweeting, & Leyland, 2004). For example, New Zealand (NZ) research has found that students reporting high levels of school engagement, also reported fewer health compromising behaviours such as physical fighting, substance use, suicidal ideation and risky sexual behaviours, and more health promoting behaviours including being physically active, healthy eating, and engaging in safer sex (Carter, McGee, Taylor, & Williams, 2007; McGee, Carter, Williams, & Taylor, 2005).

In this paper, we examine student perceptions of school climate and their engagement with school, and aggressive behaviours and attitudes in the school context. The culture of a school clearly plays a role in shaping students’ experience, and research has emphasised the importance of developing a positive school climate in order to reduce school violence (Brookmeyer, Fanti and Henrich, 2006). Students attending schools with a more positive climate and those feeling connected to their schools engage in less violent behaviours (Brookmeyer et al., 2006). Similarly, NZ research has indicated that students reporting a more positive and fair school climate and feeling part of school life, were less likely to report carrying a weapon in the past month (McGee et al., 2005). International studies have similarly found links between school engagement and adolescent involvement in violence (Blum, Ireland, & Blum, 2003; Kodjo et al., 2003; Resnick, Ireland, & Borowsky, 2004).

To achieve positive health outcomes including less violence at school, it is important to identify predictors of both student engagement and school climate. Zimmer-Gembeck, Chipuer, Hansich, Creed and McGregor (2006) found that student engagement which reflected interest in and working hard at school, mediated the relationship between school climate (which they refer to as “school fit”) and individual academic achievement. School climate was predicted by both the perceived quality of teacher-student and especially the quality of student-peer relationships at school. However, this research was based on only two Australian high schools. Waters, Cross and Shaw (2010), with a larger sample of 39 Australian schools, similarly found that higher
levels of school connectedness reflected closer relationships with family and teachers, and higher levels of peer support.

The findings of these two Australian studies support previous overseas research. Parental support contributes to both the child’s mental health and engagement with school. High attachment to parents seems especially important for better adolescent mental health including less depression and protection against suicidal ideation (Carter et al., 2007). Wentzel (1998) found that parent support was a positive predictor of school related interest and goal orientations. More recent research with middle school students has confirmed the significance of parents’ involvement with school on student engagement (Mo & Singh, 2008). Other research indicates that students who have positive perceptions of their relationships with their teachers are more likely to show better motivation and engagement with school (Furrer & Skinner, 2003), and greater adaptation to school in terms of academic coping, self regulation and perceived control (Ryan, Stiller, & Lynch, 1994). Students whose relationship with their teachers is characterised by greater closeness, support, and less conflict, also exhibit lower levels of aggression and other conduct problems (Ochoa, Lopez, & Emler, 2007). Similarly, students with good peer support have higher rates of participation and completion of school, better school attendance, better behaviour in the classroom, and they report liking school (Steinberg, Dornbusch, & Brown, 1992).

Aims and hypotheses

Although many of the issues addressed above are well documented, studies have rarely examined the associations of parental involvement with school, student-peer relationships, and teacher-student relationships, with school engagement and aggression in a single model. Furthermore, few studies have examined school climate and engagement as mediators between relationships at school and risk behaviours such as violence (Fredericks et al., 2004). We could not find any NZ studies which have examined these relationships in a comprehensive model. Our own earlier research examined the associations between teacher, parent and peer attachments and health compromising behaviours in adolescence, including fighting (Carter et al., 2007). Here, we test a path model in which the influence of student, teacher, and parent relationships on aggressive behaviours is hypothesised to act through the two separate constructs of school climate and school engagement. Our aim was to extend the model of academic achievement developed by Zimmer-Gembeck et al. (2006) to aggressive behaviours and attitudes at school. We propose that how adolescents perceive the climate of their school is predicted by their perceptions of teacher-student and student-peer relationships, as well as parental involvement in school. A positive school climate in turn will predict higher engagement with school, and consequently less aggression. Generally studies of school engagement have focussed on primary school children. For our model, we examine the context of aggression in a sample of NZ high school students.

Method

Sample

Participants were Year 11 students (mainly aged 15-16 years) in the Otago region of NZ, who completed an online survey examining bullying and aggression in high schools. Twenty of the 27 secondary schools in the region agreed to participate (74%); 10 of the 12 rural schools and 10 of the 15 urban schools. These included private and public, as well as state integrated and non-integrated schools. Determination of sample size was based on the criteria of making estimates of the prevalence of aggressive behaviours among respondents at the 95% confidence level. Sampling was stratified by geographic location to allow for over-sampling of rural students.

A cluster sample design of classes within schools was used to recruit individual students, with a sampling frame of 1,370. All Year 11 students at rural schools, and 65% of Year 11 students in urban areas were sampled. To ensure a representative sample of urban students, participants were selected on the basis of random whole classes, with all students in selected classes being invited to take part. The sample excluded adult students. Students with difficulty reading had a special needs teacher read the questions to them. Ethical approval was received from the Otago University Human Ethics Committee, and written consent was obtained from each student.

Procedure

Following previous NZ studies (e.g. Carter et al., 2007; Denny, Grant, Utter, Robinson, Fleming, Milfont, Crenge, Clark, Ameratunga, Dixon, Merry, Herd & Watson, 2011) the survey used a computer-aided online interviewing system, ABBEY (LINZ Applied Research Unit, 2005). The survey was pilot tested in schools not taking part in the study, and suggested changes incorporated into the final version. The surveys were administered during class time over the period June to October in 2005. The web-based survey was used wherever possible, but in some instances of computer malfunction a paper-based version was available. The survey was administered by the first author (LM), and a senior member of the teaching staff was also present. To assure confidentiality, rooms were set up to ensure student privacy. Details concerning the survey and procedure have been published elsewhere (Marsh, McGee, & Williams, 2009).

Measures

School characteristics

School data including roll, type of school (single sex or co-ed), area (urban vs rural), and school decile (Ministry of Education, 2004) were linked to each participant’s survey. School decile is a summary index based on National Census and school data, including household income, parental qualifications, and the proportion of students who identify as Māori or Pacific Island people. These deciles range from 1-10, with 1 being the lowest and 10 being the highest decile. The Otago region has no schools in deciles 1 to 3. Students were asked about their age, gender and ethnicity (Statistics New Zealand, 2001).
Aggressive behaviours and attitudes towards aggression

The two outcome variables in the path model were aggressive behaviour at school and attitudes towards aggression in situations that might arise at school. To measure aggressive behaviours, students were asked about physical fighting, weapon carrying, and hurting someone at school. Students were told that ‘at school’ included on school grounds, and on their way to or from school. Many of these questions were based on the US Youth Risk Behaviour Survey (YRBS; Kolbe, Kann, & Collins, 1993). Physical fighting was assessed using the question: *In the past 12 months, how many times were you in a physical fight on school property?* Weapon carrying in the past 30 days at school was assessed using YRBS wording: *During the past 30 days, on how many days did you carry a weapon such as a knife, club or gun on school property?* (Kandakai, Price, Telljohann, & Wilson, 1999). The order of the weapons listed in the question was adjusted to suit the NZ context where it was less likely the type of weapon would be a gun. Finally, hurting someone was assessed by: *In the past 12 months, have you ever used anything as a weapon to hurt someone or defend yourself against someone on school property?* Coefficient alpha, a measure of internal consistency for a set of questions comprising a scale, was 0.58 (Cronbach, 1951).

To measure attitudes towards aggression, students were asked if they thought it was okay to fight another student: a) if they were hit by another student; b) if they had previously been hurt in a fight; c) if they had been bullied; d) if the school did not address a problem the student brought to their attention; and e) and if their belongings were stolen (Kandakai, Price, Telljohann, & Wilson, 1999). Responses were collected using a four-point scale from ‘okay (at least some of the time)’ to ‘not okay’; however, this was collapsed into a three-point scale for this survey, and scored so that a higher score indicated more pro-aggressive attitudes. Coefficient alpha for the attitudinal measure was 0.86.

Relationships in school

The three relationship variables in the model included student perceptions of relationships between teachers and students, relationships among students, and parental involvement with school. These measures were taken from the HBSC study (Research Unit in Health and Behavioural Change, 1998), and Laufer and Harel’s (2003) research. For each scale, the response options were summed to produce a scale score. Teacher-student relations were assessed by 4 questions: *I am encouraged to express my own views in my class(es); Our teachers treat us fairly; When I need extra help, I can get it; and My teachers are interested in me as a person.* Response options ranged from 1 (strongly agree) to 5 (strongly disagree). Coefficient alpha was 0.76. Four questions assessed student-peer relationships: *The students in my class(es) enjoy being together; Most of the students in my class(es) are kind and helpful; Other students accept me as I am; and How often does it happen that other students don’t want to spend time with you at school and you end up being alone?* Item response options ranged from 1 (always) to 5 (never). Coefficient alpha was 0.71. Parental involvement with school was assessed by: *If I have problems at school, my parents are ready to help; My parents are willing to come to school to talk to teachers; and My parents encourage me to do well at school.* Response options ranged from 1 (very often) to 5 (never). Coefficient alpha was 0.75. These relationship measures were reverse scored so that higher scores indicated more positive relationships and higher parental involvement in school.

School climate and school engagement

Adolescent perceptions of school climate were assessed by 7 items: *In our school, the students take part in making rules; Students are treated too severely/strictly in this school; The rules in this school are fair; Our school is a nice place to be; I feel I belong at this school and This school is clean.* Item response options ranged from 1 (strongly agree) to 5 (strongly disagree). As part of the climate measure, student safety was also assessed by: *How often do you feel safe at school?* Response options were from 1 (very often) to 5 (never). Coefficient alpha for these items was 0.74. Finally, school engagement assessed how students generally felt about school, including: *How do you feel about school at present?; How often do you think school is boring?; and How many days did you skip classes or school this term (reverse scored)?* Response options varied for each of these questions. Coefficient alpha for this scale was 0.63. As above, school climate and school engagement were scored so that higher scores indicated a more positive climate and higher engagement.

Statistical analyses

Data analyses used Stata survey procedures to adjust for complex survey sampling designs (Stata Corporation, 2003). Data were weighted to account for clustering of schools and to adjust for the varying sampling procedures between schools. Descriptive results are presented for the characteristics of the participating schools and the student measures of aggressive behaviours and pro-aggressive attitudes. Chi square analyses were undertaken to compare gender differences. Path analysis was carried out using Mplus (Muthén & BO, 2007), with the latent variables based on the items assessing the various constructs. Weighted least squares were used to estimate the parameters. Goodness of fit for the SEM was assessed by the Tucker-Lewis index (TLI), Comparative Fit index (CFI) and the root mean square error of approximation (RMSEA).

Following Zimmer-Gembeck et al. (2006), we had originally proposed to model school climate and school engagement as two separate constructs. However, initial models failed to converge and indicated that those items measuring school climate and those measuring school engagement were essentially measuring the same construct. All 10 items showed high item-total correlations, with coefficient alpha of 0.80 for the combined scales. Consequently, we used a single construct of school climate in our modelling to reflect both the student’s perception of their school and their feelings about the school.
Results

Characteristics of the sample

The characteristics of the 20 participating schools are shown in Table 1. There was a mixture of co-ed and single sex girls’ and boys’ schools, with most students enrolled at co-educational schools. Two thirds of the students were from high (8-10) decile schools, and the remainder from medium (4-7) decile schools, with both urban and rural areas represented.

The sample included 1,169 Year 11 students, representing an overall response rate of 85%. Most students completed the survey online, with approximately a third completing a paper version, mainly due to school preferences. A very small number did a combination of the two methods due to computer malfunction during the assessment. The sample consisted of 378 rural and 791 urban students. Fifty five percent of the participants were female, and the average age was 15 years and 8 months. The majority (87%) identified as being NZ European and 10% identified as Māori (Tangata Whenua or the indigenous people of NZ); 16% were from other ethnicities, mainly Chinese, Samoan and Indian.

Aggressive behaviours and attitudes towards aggression at school

Overall 23% of students (36% of males and 9% of females) reported having been in at least one fight at school in the past 12 months, a significant gender difference ($\chi^2=73.9, df=1, p<0.001$). Some 8% of students (11% of males and 5% of females) reported having carried at least one weapon in the past 30 days at school, a significant gender difference ($\chi^2 = 13.5, df = 1, p < 0.001$), and 6% (9% of boys and 2% of girls) reported they had hurt someone with a weapon at school in the past year, again a significant gender difference ($\chi^2 = 17.2, df = 1, p < 0.001$).

Table 2 shows student attitudes towards aggressive behaviour at school. Nearly 70% of respondents believed it was usually or sometimes okay to fight if they were hit by another student. Boys were significantly more likely to report that it was usually okay to hit another student in all these situations compared with girls.

Path models

Table 3 shows the latent variable loadings and standard errors of these loadings for the variables used in the models. For the most part, these loadings were of a similar order of magnitude for boys and girls. Initial modelling indicated that while the path coefficients between latent variables in the models for boys and girls were similar, the model for girls showed that parental involvement with school had significant paths to both school climate and aggressive behaviours at school. This being so, separate path models for boys and girls are reported, as shown in Figures 1 and 2, respectively. For boys, the final $\chi^2$ value of the model was 486.73; the TLI was 0.94, the CFI was 0.90 and the root mean square error was 0.081. For girls, the final $\chi^2$ was 457.48; the TLI was 0.96, the CFI 0.93 and the root mean square error was 0.072. The goodness-of-fit indices were above accepted cut-offs, although there...
<table>
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<tr>
<th>Model paths</th>
<th>Boys Estimates</th>
<th>Boys SEs</th>
<th>Girls Estimates</th>
<th>Girls SEs</th>
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<td><strong>Teacher student relations</strong></td>
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<td></td>
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<td>encouraged to express views</td>
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<td>0.031</td>
<td>0.576</td>
<td>0.034</td>
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<td>treat us fairly</td>
<td>0.774</td>
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<td>0.762</td>
<td>0.024</td>
</tr>
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<td>I can get extra help</td>
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<td>0.026</td>
<td>0.789</td>
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<td><strong>Student relations</strong></td>
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<td>0.705</td>
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<tr>
<td>never end up alone</td>
<td>0.515</td>
<td>0.051</td>
<td>0.418</td>
<td>0.054</td>
</tr>
<tr>
<td><strong>Parental involvement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>parents help</td>
<td>0.943</td>
<td>0.021</td>
<td>0.933</td>
<td>0.023</td>
</tr>
<tr>
<td>parents talk to teachers</td>
<td>0.835</td>
<td>0.023</td>
<td>0.833</td>
<td>0.026</td>
</tr>
<tr>
<td>encourage me at school</td>
<td>0.803</td>
<td>0.028</td>
<td>0.786</td>
<td>0.033</td>
</tr>
<tr>
<td><strong>School climate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students help make rules</td>
<td>0.284</td>
<td>0.040</td>
<td>0.347</td>
<td>0.035</td>
</tr>
<tr>
<td>students treated too strictly</td>
<td>-0.343</td>
<td>0.039</td>
<td>-0.449</td>
<td>0.033</td>
</tr>
<tr>
<td>rules are fair</td>
<td>0.715</td>
<td>0.025</td>
<td>0.641</td>
<td>0.028</td>
</tr>
<tr>
<td>school a nice place to be</td>
<td>0.792</td>
<td>0.022</td>
<td>0.867</td>
<td>0.014</td>
</tr>
<tr>
<td>feel I belong</td>
<td>0.705</td>
<td>0.027</td>
<td>0.805</td>
<td>0.016</td>
</tr>
<tr>
<td>school is clean</td>
<td>0.469</td>
<td>0.035</td>
<td>0.470</td>
<td>0.032</td>
</tr>
<tr>
<td>like school a lot</td>
<td>0.697</td>
<td>0.032</td>
<td>0.784</td>
<td>0.022</td>
</tr>
<tr>
<td>school is never boring</td>
<td>0.638</td>
<td>0.033</td>
<td>0.769</td>
<td>0.022</td>
</tr>
<tr>
<td>haven’t skip classes this term</td>
<td>0.484</td>
<td>0.042</td>
<td>0.507</td>
<td>0.039</td>
</tr>
<tr>
<td>feel safe</td>
<td>0.565</td>
<td>0.033</td>
<td>0.643</td>
<td>0.029</td>
</tr>
<tr>
<td><strong>Aggressive behaviour at school</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fighting</td>
<td>0.477</td>
<td>0.069</td>
<td>0.800</td>
<td>0.080</td>
</tr>
<tr>
<td>weapon carrying</td>
<td>0.727</td>
<td>0.089</td>
<td>0.675</td>
<td>0.101</td>
</tr>
<tr>
<td>hurt someone</td>
<td>0.563</td>
<td>0.086</td>
<td>0.644</td>
<td>0.118</td>
</tr>
<tr>
<td><strong>Attitudes to aggression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>if hit</td>
<td>0.852</td>
<td>0.020</td>
<td>0.822</td>
<td>0.022</td>
</tr>
<tr>
<td>if hurt</td>
<td>0.834</td>
<td>0.023</td>
<td>0.928</td>
<td>0.018</td>
</tr>
<tr>
<td>if bullied</td>
<td>0.843</td>
<td>0.022</td>
<td>0.830</td>
<td>0.021</td>
</tr>
<tr>
<td>inaction from school</td>
<td>0.634</td>
<td>0.036</td>
<td>0.767</td>
<td>0.028</td>
</tr>
<tr>
<td>something stolen</td>
<td>0.860</td>
<td>0.022</td>
<td>0.837</td>
<td>0.024</td>
</tr>
</tbody>
</table>

Table 3: Path estimates and standard errors for models predicting attitudes to aggression and aggressive behaviours at school
Figure 1. Path model for school engagement among boys. All paths shown are significant, $p < 0.05$, except for parental involvement to school climate ($p > 0.05$).

Figure 2. Path model for school engagement among girls. All paths shown are significant, $p < 0.05$. 
remains debate about the stringency of recommended standards (see Marsh, Hay & Wen, 2004).

Both models had several elements in common. Student reports of aggressive behaviours at school were significantly related to the expression of more pro-aggressive attitudes, more so for girls. Perceptions of teacher-student relationships, student-peer relationships and parental involvement with school were all significantly interrelated, with teacher-student and student-peer relationships showing the strongest associations for both boys and girls. School climate, in turn, most strongly reflected the quality of teacher-student relationships in both models, with student-peer relationships showing a relatively weaker association with school climate. School climate strongly and inversely predicted both aggressive behaviour and pro-aggressive attitudes. As already noted, the path from parental involvement to school climate was significant for girls but not boys, and there was a direct relationship between parental involvement and aggressive behaviours for girls. This path was not statistically significant for boys, suggesting that parental involvement in school may be less important for boys’ aggression.

Discussion

This study examined the associations between three environmental contexts at school (teachers, peers and parental involvement), school climate, and involvement in aggressive behaviours and holding positive attitudes towards aggression in certain circumstances. Using path modelling, we have demonstrated that students’ perceptions of school climate were most strongly predicted by their perceptions of teacher-student relationships. Teacher fairness, helpfulness, encouragement and interest in students were strongly associated with the perception of the school as being fair, not too strict, collaborative, a safe, clean and nice place to be, as well as engendering a sense of emotional attachment to school indicated by liking school, not skipping classes, and finding school interesting. The quality of student-peer relationships, while related to teacher-student interactions and parental involvement with school, assumed less importance for school climate than teacher-student relationships. Parental involvement in the school showed the weakest relationships with school climate, and only appeared to be important for girls. One of the main points of difference from the boy’s model was the direct path from parental involvement with school and aggressive behaviours among girls. Positive school climate in turn predicted lower pro-aggressive attitudes, and less aggressive behaviour at school. Overall, the results support the idea that climate acts as a mediator between the quality of relationships in the school context (primarily teacher-student relationships), and aggressive attitudes and behaviours.

By and large the findings support previous research. Students reporting good relationships with their teachers show lower levels of aggression and other conduct problems (Ochoa et al., 2007). By contrast, aggressors at school are most likely to perceive school rules as unfair and to have low levels of engagement (Graham, Bellmore, & Mize, 2006). Our results are also consistent with the literature that peer support can have a positive influence on students perceptions of school (Steinberg et al., 1992). However, our findings do show some differences from previous studies. While Zimmer-Gembeck et al. (2006) found that school fit was related to both teacher-student and student-peer relationships, they reported that the association was stronger for peer relationships. In our study, school climate most strongly reflected teacher-student relationships for both boys and girls. It should be noted that the Zimmer-Gembeck et al. study only included two schools, while ours had 20 schools. Furthermore, in their study, the quality of peer relationships within these two schools was only weakly correlated ($r = 0.14$) with teacher-student relationships, compared with correlations of close to 0.50 in our study. This may reflect student ratings based on relatively fewer teachers in their study compared with ours. Our findings suggest that a general context of strong relationships among all individuals at school, both teachers and students, is a characteristic of schools with a strong positive climate.

Laufer and Harel (2003) found that lack of parental involvement in the child’s school life was significantly associated with both physical fighting and weapon carrying, over and above the effects of peer and school attachment, for both boys and girls. Other studies have suggested that the association between low parent involvement and aggressive behaviours is weaker for females than males (Hawkins, Herrenkohl, Farrington, Brewer, Catalano, Harachi, & Cothern, 2000). In our study, the reverse was the case with parental involvement at school being related to school climate and aggressive behaviour among girls. Furthermore, parental involvement in school was associated with teacher-student relationships, and it could be hypothesised that such parental involvement strengthens the relationships between teachers and individual students. High levels of parental involvement with school might also be seen as a first step towards strengthening the place of the school in the community (Savage, Lewis & Collis, 2011). The findings might also suggest that in addressing aggression among boys at school, the involvement of the parents of boys with school should be especially encouraged. It may be that currently parental involvement in the case of boys focusses primarily on academic performance, not behaviour.

Our findings also extend previous research to include pro-aggressive attitudes at school, and the expression of attitudes that it is okay to fight another student given certain circumstances was significantly associated with reports of aggression. Such attitudes were surprisingly common in our sample. About half the sample believed it was okay to fight another student if previously hurt, bullied, stolen from or if the school did not address the problem. Seven in every 10 believed it was acceptable if hit by another student. In our study, boys engaged in more aggressive behaviours and held more pro-aggressive attitudes than girls. Previous focus group research on adolescent perceptions of violence in NZ schools also indicated differences in the extent and nature of fighting among boys and girls (Marsh, McGee, Nada-Raja & Currey, 2007). Boys engage...
in more physical fights, although much of this was regarded as “play” fights, while girls engage in more verbal aggression and less physical fighting. Fighting at school also appeared to have different triggers than fights outside of school, for example, less likelihood of alcohol involvement. Consequently, our measures of aggressive behaviours may have been more biased towards male rather than female aggression.

A weakness in studies of this type is that responses were self-reported, and the extent of under- or over-reporting of behaviours cannot be determined as there is no easy way to corroborate aggressive behaviours (Kodjo et al., 2003). The data may also be limited by the retrospective collection of information. While the internal consistency for the measure of aggression at coefficient alpha of 0.58 is on the low side, we used the three items making up this scale to identify the latent variable “aggressive behaviour at school”. As shown in Table 3 the latent variable loadings for these three items are satisfactory for both the models for boys and girls. The findings may not be generalisable to students with different demographic characteristics, and our sample did not include very low decile schools. Finally, the cross sectional nature of the data also makes it difficult to ascertain the causal direction of pathways identified in the models, and longitudinal data would be of great value in estimating the causal paths among variables. Path models are based on an exploration of hypothesised predictive paths, and so we have used the language of prediction in discussing our findings. Nevertheless, our models should be interpreted as exploratory, as other models might equally fit the data, and hypothesis generating to inform further replication and extension. For example, does school climate protect against other types of health compromising behaviours such as substance use, while encouraging other forms of health promoting behaviours?

In terms of study strengths, we achieved a good response rate from both schools and students, with very little difference between responding and non-responding schools. The quality of our data used was likely enhanced through the survey being administered by the researcher rather than by teachers (Cross & Newman-Gonchar, 2004), and by the presence of a senior staff member to increase the likelihood that the students would treat the survey more seriously. Data collection relied on access to the internet and the availability and capability of each school’s computer resources. While there were some instances of computer failure, the web based version worked well with problems. Carter et al. (2007) found no differences between Otago students who completed a similar web based survey and those who completed a paper based version.

What then are the implications of our findings for attempts to reduce aggression in schools? Our research has highlighted the importance of the link between school context and aggression, and how schools can play a vital role in reducing the likelihood of physically aggressive behaviours. While a school has limited ability to change the homelife and personal characteristics of individual students, the school environment is within the school’s ability to change (Sharkey, You, & Schnoebelen, 2008). Focussing on enhancing the quality of student-teacher interactions has the potential to significantly reduce aggressive behaviours and pro-aggressive attitudes in NZ high schools. Previous research has shown that interventions designed to increase school bonding reduce violent behaviour (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). For example, students feel they are being treated fairly when school discipline plans have clear, fair and unbiased rules, (Batsche & Knoff, 1994). By enhancing the quality of teacher-student relationships and interactions, schools encourage the development of a supportive school climate and promote engagement of individual students with school life. Nevertheless, the capability of schools to make such changes will depend on organisational leadership, school policies to promote the health and well-being of both students and staff, and the quality of the built school environment and adequate school resources to fund professional development of staff (Waters et al., 2009). As a final comment, it is worth noting that from 2001 to 2007, NZ secondary school students reported they felt more positive towards their teachers and school, and felt safer at school (Denny et al., 2011).

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References


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