AN INCLUSIVE CLASSROOM-BASED APPROACH TO IMPROVING
STUDENT WELL-BEING

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Abstract
This study researched a classroom based approach to supporting children’s well-being at an Adelaide primary school, with the teacher using specific resources to promote improvements in children’s social and emotional competence. Nineteen families from a combined Year 2/3 class of 27 children, aged from 6 years and 10 months to 8 years and 8 months, consented to data collection about their child. Several children were known to have experienced complex stress and trauma. All children participated in class activities. Data included interviews with the teacher and a supporting community worker, and children’s attendance records, sociograms, recall of feeling words, and spelling and reading scores. After three terms of trauma-informed class practices, the research identified improvements in children’s attendance, emotional vocabularies and friendships within the classroom, and maintenance of literacy progress. The study highlighted that targeted whole-class changes can improve children’s well-being. Identified strengths of this approach include improved relationships, the greatest gains for those most in need, and the avoidance of stigmatisation and isolation of children who struggle to cope with the school environment. The research signals that more attention should be given to working with whole classes to improve well-being.

Introduction
Early childhood is the period of most rapid brain growth, and recent neuro-developmental research has emphasised the significance of young children’s daily environment in shaping biological pathways that set life trajectories for physical and mental health, learning and behaviour (Mustard 2008). Beyond the family context, schools provide the environments where children over five years of age spend most of their time. Children’s ability to cope with the social, emotional and behavioural demands of schooling is thus significantly shaped both by their experiences in the home and in the early years of school.

Salisbury Communities for Children (SC4C) provides services for families in eastern Salisbury, in metropolitan Adelaide. Australian Early Developmental Index results for Salisbury in 2009 indicated that 30.7% of 5 year olds were vulnerable in one or more developmental domains, 7.1% above the state average.

A Year 2-3 class teacher at a local primary school volunteered to participate in a well-being project in partnership with the SC4C outreach worker. As part of the project the teacher learnt about young children’s well-being, with a specific focus on the likely effects of stress and trauma, and implemented classroom pedagogical strategies to assist children’s development and resilience. Two key programmes implemented were Play is the Way and Kimochis.

Play is the Way is ‘a cooperative physical games programme’ in which ‘children are required to work together towards positive collective outcomes’ (Street, Hoppe, Kingsbury & Ma 2004, p. 97). The
structured games and language aim to promote peer support, trust, respect and understanding by engaging children’s emotions, and calling for mastery and control of those emotions for children to participate, be aware of others’ needs and interests, and to co-operate to achieve success (McCaskill 2007). In their evaluation Street et al. (2004) found ‘significantly improved pro-social behaviour in the school environment and general improvements in pro-social behaviour in the home environment’ (p.97).

Kimochis aim to ‘teach children to identify and express feelings in positive ways’ and the contexts which give rise to those feelings (Kimochis 2011). The plush toy characters are used to introduce children to a wide range of words for expressing their feelings, and come with interactive storybooks to relate the characters’ feelings to the events of the storyline.

The classroom’s socio-emotional climate was tracked over the year using Moreno’s (1989) sociometry to provide a graphic representation of the social relations of individuals in a group

The following section briefly reviews the research literature on children’s exposure to stress and trauma, and its impact on their schooling experience.

Chronic Stress and Trauma, Academic and Social Learning

Definitions and sources of chronic stress and trauma in early childhood

The term ‘chronic stress’ refers to the presence of ongoing high levels of stress hormones arising from contexts, including negative family interactions, parental separation, family poverty, child neglect, family violence, parental chronic illness and substance abuse, neighbourhood violence, racism and discrimination threaten children’s healthy emotional development (Seccombe 2002, Stien & Kendall 2004). These stressors are of particular concern when consistent nurturing and comforting responses are not provided by competent adults (National Scientific Council on the Developing Child 2005).

In this context ‘trauma’ refers to a response to an event where survival is threatened. Common contexts of trauma include family violence, rape and sexual abuse, vehicle crashes, serious illness diagnosis, or witnessing violence, injury, death or disaster (Stien & Kendall 2004). Traumatic stressors arising from deliberate violence, betrayal or neglect are likely to have more severe outcomes than accidents or natural disasters (Courtois & Gold 2009). Experiencing or witnessing family violence can cause major post-traumatic symptoms (Courtois & Gold 2009). Around one in four Australian children has witnessed violence against their mother (Indermaur 2001). The traumatic stress experienced by children in these situations is exacerbated by the compromised emotional state of a parent who cannot provide protection (van der Kolk 2005), and the betrayal involved when abuse is perpetrated by a trusted person (Levine & Kline 2007). Exposure to familial violence is usually characterised by repeated traumatic stress events over time. Complex trauma results from severe stressors that are (1) repetitive or prolonged, (2) involve harm or abandonment by caregivers or other ostensibly responsible adults, and (3) occur at developmentally vulnerable times in the victim’s life, such as early childhood…(when critical periods of brain development are rapidly occurring or being consolidated’) (Ford & Courtois 2009, p. 13).

Effects of chronic stress and trauma on brain development and function

Chronic childhood stress and complex trauma impact on brain development and function. Trauma in early childhood can ‘change the structure and function of key neural networks, including those involved with regulating stress and arousal’ (Ludy-Dobson & Perry 2010, p. 29). Trauma ‘interferes (s) with normal patterns of experience-guided neurodevelopment by creating extreme and abnormal patterns of neural and neuro-hormonal activity’ (Perry 2009, p. 241). Continuing exposure to stressors allows high cortisol levels to cause neural injury (Monk & Nelsos 2002), and to threaten the development of cortical receptors (Gerhardt 2004). The hippocampus, which supports the integration of memories, and the amygdala, associated with amplified fear responses, are particularly affected (Bremmer 2008).
Chronically stressed children become highly sensitive to alarm stimuli (Gerhardt 2004; Monk & Nelson 2002). When these children do not feel safe, their capacity to learn is diminished (Goswami 2008, p.44). Children ‘develop an emotion-based coping style aimed at managing overwhelming feelings rather than thoughtfully tackling the challenges at hand’ (Van der Kolk 1997 cited in Stien & Kendall 2004, p.75). The alarm response has priority over language, thinking and problem-solving areas of brain anatomy that normally regulate emotional expression (Stien & Kendall 2004, p.75). For children who have survived complex trauma, even minor stressors can be experienced as extremely stressful (Margolin & Vickerman 2007).

**Effects of chronic stress and trauma on learning**

The neuroscience of learning has established that school children who experience chronic stress or trauma have difficulties learning and integrating new information (Australian Childhood Foundation 2010). The hyper-arousal or dissociative states experienced by chronically traumatized children impede access to the brain pathways for cognition, language, reflection and abstraction (Streeck-Fischer & Van der Kolk 2000). Complex trauma is statistically significantly related to problems with paying attention and maintaining focus (van der Kolk 2005) and with memory loss (Abercrombie, Kalin, Thurow, Rosenkranz & Davidson 2003).

**Social-emotional effects of chronic stress and trauma**

Social-emotional outcomes of chronic stress and trauma include risky behaviours and relationship difficulties (Ko, Ford, Kassam-Adams, Berkowitz, Wilson, Wong, Brymer & Layne 2008), poor emotional self-regulation, feelings of shame and guilt, aggression , mistrust of others (van der Kolk 2005), and depression (Lueken & Lemery 2004). Behaviours include social withdrawal, anxiety, pessimism , irritability, avoidance of stimuli associated with the trauma, and explosive outbursts (Stien & Kendall 2004). Self-management of emotions and impulses is a key component of successful social interaction (Cillessen & Bellmore 2004). Trauma-affected children can alter “the experience of the whole class group and change the shape of the school day” (Australian Childhood Foundation 2010, p.64). Because traumatized children find it hard to tolerate uncertainty and tend to avoid novel experiences and social contact, their exposure to new social expectations and cultural contexts is inhibited (Streeck-Fisher & Van der Kolk 2000, p.912), leaving gaps in their socialization.

Primary school children who are identified as socially and emotionally vulnerable are at risk of being rejected by their peers (Laird, Jordan, Dodge, Pettit & Bates 2001). Peer acceptance in the primary-school years is related to later healthy psychological adjustment (Pederson, Vitaro, Barker & Anne 2007), and to successful learning (Laird et al. 2001).

**The potential of school-based interventions to support chronically stressed and traumatised children**

Chronically stressed and traumatised children require environments tailored to meet their needs to enable them to become socially and academically competent. Teachers are instrumental in creating classroom environments to support children’s learning and development. Assisting children to become aware of their emotional and physical states and to learn strategies to self-regulate when they are feeling stressed or reacting to past traumas, provides pathways to improved social and emotional well-being, and enables effective learning (McCaskill 2007).

Children who succeed despite adversity are considered “resilient” (Naglieri & LeBuffe 2005). Resilience in childhood stems from warm, supportive, trusting relationships with competent adults such as parents, grandparents, or teachers (Masten & Reed 2002), siblings or competent peers (Werner 2006). Positive interactions with safe and familiar others help to regulate and repair stress response systems and trauma-associated difficulties (Ludy-Dobson & Perry 2010).

Plan (Commonwealth of Australia, 2009) identifies as a key action, working “with schools…to deliver programmes to improve mental health literacy and enhance resilience”.

The Review of Funding for Schooling in Australia argued that “Australian schooling needs to lift the performance of students at all levels of achievement, particularly the lowest performers” (Gonski, Boston, Greiner, Lawrence, Scales & Tannock 2011, p. xxix). It recommended that “school leaders should … make local arrangements to respond to particular needs related to student welfare, mental health and school readiness, and work directly with local public or not-for-profit providers of human services more broadly” (p. 219).

This paper reports on a project, implemented by the Salisbury Communities for Children outreach worker and the Year 2-3 teacher, to support the well-being of children in that class. The strategy was co-developed and evaluated by University of South Australia researchers to determine whether this approach improved children’s social and emotional well-being in their school environment.

**Research Design and Methodology**

The case study class was a combined Year 2/3 class of 27 children, aged from 6 years and 10 months to 8 years and 8 months. Nine children (33%) were from families with English as a second language and one child was Aboriginal. Nine children (33%) had a chronic medical condition or disability. Eleven children (41%) were from low income families. All children participated in class activities.

Ethics approval for the project was obtained from the University of South Australia and the Department of Education and Child Development (DECD). Consent to collect data was obtained from the school principal, the teacher and parents of 19 children– nine from Year 2 and ten from Year 3.

The project activities involved classroom-based intervention by the teacher aimed at supporting children’s well-being at school. Six strategies were implemented during the 2012 school year. These were:

- Teacher professional development for the use of Kimochi (n.d.) and Play is the Way (McCaskill 2007) resources,
- Implementation of Play is the Way and Kimochi resources to structure daily classroom activities,
- Informing parents about Play is the Way and Kimochi resources, and the ways they can support children’s social and emotional learning at home,
- Teacher modelling emotional self-regulation using Play is the Way and Kimochi resources,
- Teacher engagement in three reflective interviews focussed on the project’s implementation, across the school year,
- Ongoing support for the teacher and children from the SC4C outreach worker, a person skilled in fostering social and emotional development in school contexts.

The project was implemented in stages across the four term school year. In the first term there were no active interventions, however an initial interview was conducted with the teacher. Early in Term 2, to commence the sociometric data collection, the teacher asked children, ‘Name three people in the class who are important to you’. The same process was repeated in Terms 3 and 4 to provide data on the children’s social relationships in the class over time.

In Term 2, the structured games and language of Play is the Way was introduced in the selected class and across the school, with the support of the SC4C outreach worker and a pre-service early childhood educator. Parents of children in the target class were invited to an evening information night and barbecue and to engage in Play is the Way games with their children.

Before commencing implementation of the Kimochis resource, at the end of Term 2 the teacher asked children to write as many words naming feelings that they could think of. Then in Term 3 Kimochi resources were introduced to the class by the teacher with the support of the school counsellor and the
SC4C outreach worker. Parents were invited with their children to another evening barbecue to engage with the Kimochis puppets and stories. In Term 4 the teacher again asked children to name as many feelings words that they could think of, providing data on the impact of the Kimochis resource on children’s feelings vocabulary.

In Term 4 the outreach worker asked children to identify what was ‘important to them at school’ to gain insights into what the children valued in their school experience. Teacher-collected data on student attendance, and reading and spelling levels were also provided to the researchers.

Data about the teacher’s professional knowledge and reflections about implementation of classroom strategies were collected in four one hour interviews with one researcher, conducted at the end of each of the four terms. The SC4C outreach worker provided a reflective journal documenting his activities in the project process and was interviewed at the end of Term 4. A pre-service teaching student who assisted in implementing Play is the Way also provided a reflection on her involvement.

Data also included children’s school attendance records, and results for Waddington’s reading and spelling tests in Terms 1 and 4.

Data were analysed using qualitative and quantitative approaches. The following section presents results from the analysis of data from project staff and participating children.

**Results**

Adult perspectives from the teacher, a university student who assisted in the class and the outreach worker are presented first followed by data from the children.

**Adult data**

**Teacher Interviews**

Seven key themes emerged from the teacher interviews regarding creating a classroom environment that supports children’s well being.

1. The importance of relationships between teachers and children:

   If you don’t have a …relationship at the start where they trust, they’re not going to say it… I often sit with the kids like when they’re eating their lunch and …talk to a few of them. When I do have to discipline I’m really mindful of repairing the relationship as well afterwards.

2. The teacher interpreting behaviour as communication about the child's state and not a personally directed offence:

   Instead of … handing out consequences for poor behaviour, I ask them a lot more now about their choices and making good and bad choices, and understanding that a child who has or is experiencing trauma doesn’t have the ability to … always line up the consequences about behaviour.

3. The teacher coaching children regarding their approach to life, taking into account the challenges they face:

   I’m a strong believer in your positive thinking will affect your ability to learn … ‘If it is hard, well what can you do to get through it… Be brave, give it a go, don’t be scared if it’s too hard.’… If you confront it, be brave and … talk about it, try and work through the solution, like I can’t promise it won’t stop but you at least know what’s causing it
and how to maybe deal with it, rather than just running away and having it build up’.

4. The teacher modelling and supporting a trusting classroom community:

   This group is good at … tolerance and understanding. They’re very empathetic towards others if you explain to them what the problem is, and I guess that’s … the teaching side of it…
   I’ve had to become more of a role model of the behaviour…being able to be honest enough with this stuff, to acknowledge your mistakes. I guess it comes down to being brave yourself, putting yourself out there.

5. Employing a whole school approach to create consistency, including a shared language, as the children progress through the school:

   I’ve noticed out in the yard, particularly with a lot of the younger students, I can ask them ‘Do you know the golden rule?’ … and if they don’t know it, somebody else does. So it helps with that language to solve problems out in the yard… That is a pretty big bonus to having a whole-school approach to it.

6. Teacher recognition that learning about empathy and tolerance requires active teaching:

   I guess as I’ve matured as a teacher as well. I do understand that it is something that needs to be taught. I remember when I first started I just expected that kids would know that…But … you do have to teach it and model it.

7. The teacher being knowledgeable about the effects of stress and trauma:

   I did a Minds and Matters [course] where they did talk a lot about trauma and how that affects people’s ability to concentrate and function, and therefore learn… we did a whole professional development day particularly on trauma… I do believe I’ve got a pretty good basic understanding of what [trauma] is and how it affects people, which then does help me … day to day’.

The interviews affirmed the value of the selected resources, however the teacher’s commitment was essential to sustained, thorough implementation. Creating a community in the classroom required participants to become mindful of their own and others’ feelings.

University Student’s Reflection

A 4th year pre-service early childhood educator assisted with initial implementation of Play is the Way games, attending on two mornings for five weeks. The student reflected on the children’s behaviour:

Children’s behaviour became easier to control and they seemed to be connecting my instructions with the effectiveness of the game and the choices they were making. By the end of Week 5, I was able to see a dramatic change in the children. Some children that would not participate in the beginning at all went from being involved for 10 minutes, to participating in the whole session. It was quite a feeling of accomplishment as this is something the teacher and counsellor thought would not be possible for some of the children in the class.

Outreach Worker Interview
The interview with the Outreach Worker identified 4 key themes regarding the building of a classroom climate that supported children’s wellbeing

1. Parents were willing to engage in positive activities with their child:

   The teacher thought we won’t get parents, we might get two or three, and then we had over 70 people… In the optional teacher interviews at the end of Term 3, the rest of the school getting one or two parents and the teacher is getting over 15… The teacher said one of the things this has done for him is re-ignited his faith in parents wanting to be involved with their child’s learning and he was starting to see that if we provide a learning environment the kids enjoy, where the kids flourish, then they’ll share it with their parents and the kids acted as peer educators for their parents.

2. Supporting change takes time:

   ..generally I would spend a good four to five hours a week with that class, so actually, sometimes it would be just sitting in on the class and just being there, and letting the teacher try new things, and therefore he had the confidence to do that. Sometimes it was actually being there at the start of the day or the end of the day and just talking to parents and building those relationships, which we found were pivotal when we came to the family nights.

3. Good relationships are the key to better outcomes:

   T started(at another) school, he was constantly suspended, constantly excluded, and when you look through his file one of the biggest things he’s never been able to do is form a relationship with someone at school, so he’s had no one to contact and want to go back to. What I highlighted to the teacher only last week was, you know, T has now been in the school three terms and this is the first time in his whole schooling life he’s not even been suspended, so something is happening right for him, and one of the things I did very early on, probably about Term 2 with the teacher, was I initiated the idea of him spending some of his NIT time with T one-on-one, doing some models up in the Tech Room, and the profound effect that had on building a relationship between the teacher and T. T has Oppositional Defiance Disorder, his issues are not going to go away, but certainly we saw a great reduction in his defiance in the classroom, purely because he had that relationship with the teacher.

4. Structured resources enabled children to build better relationship skills:

   S for example, … high on the autism spectrum, she came at the start of this year, she’s in Year 3, had not been able to engage more than five minutes in her schooling life since she started, constantly leaving the classroom, constantly not wanting to be involved, would always say nobody wants to spend time to play with her, and we did the Play is the Way Program. For the first week S was really confronted by the idea that she had to become uncomfortable and try to solve a situation with her class, but by the third week S was choosing to engage, and we weren’t having to sit on top of her, she was actually freely engaging. By the fifth week she’d chosen some people she could now play with and she was reporting that she was having friends play at recess and lunch, and then we looked at her sociogram. You’ll see that she went from Term 1 where she couldn’t identify anybody at all, to Term 4 where she was writing extra numbers to add extra kids on the list.

The outreach worker highlighted continuity, consistency and the development of trust in relationships over time as fundamental to improving children’s school experience. The outreach worker’s role combined elements of being a coach, supporter, networker and resource for the class community.

The next section focuses on data from participating children.
Children’s Data

Classroom Sociometric Data

The sociometric measure, which was employed during the second, third and fourth term, identified one way and mutual choices between children. Mutual choices are a good indicator of reciprocal friendship, and across a class of a socially integrated class. Being chosen by a peer, even if the selection is not mutual, indicates that a child is preferred by another. Isolates are those who are not chosen by others, or perhaps just one other. In Term 2, 18 participants were chosen 35 times by other classmates, rising to 50 times for 19 participants by Term 4. Across the whole class, the number of mutual relationships increased threefold from 8 to 25.

Emotional literacy and Kimochis

Before Kimochis, the children recalled between 4 and 11 feeling words (M = 6.75, SD = 2.22). After the intervention they recalled between 5 - 22 feeling words (M = 11.33, SD = 4.94). A paired samples t-test identified significant increase t(11) = -3.298, p = .004 (one tailed), in feeling words. The teacher noted in interviews that over the same period children became more able than previously to discuss their feelings and to resolve conflict.

Children’s Attendance

Children’s school attendance was logged, with principal-approved exemptions included as attendances. The percentages of days each child attended school in Term 1 and in Term 4 were calculated. A paired samples t-test was conducted to test the hypothesis that the percentage of days children attend school would be greater in Term 4 than in Term 1. As expected, the percentage of days children attended school was greater in Term 4 (M = 92.25, SD = 9.21) than in Term 1 (M= 86.3, SD = 14.62), t(25)= -1.711, p= .0495 (one tailed). Without the average attendance rates for all Year 3/4 classes the study cannot establish whether this result is an outcome of the intervention.

Academic Achievements - Reading and Spelling

Using Waddington’s Reading Test, children’s reading ages in Term 1 ranged from 81 months to 117 months, and in Term 4 ranged from 82 months to 120 months. A paired samples t-test was conducted to test the hypothesis that children’s reading ages increased on average across the school year. As expected, children’s reading ages were significantly higher in Term 4 (M=110.36, SD=10.57) than in Term 1 (M=102.43, SD=9.91), t (13) = -4.723, p<.001 (one tailed).

A Pearson Correlation was conducted to test the hypothesis that there was a positive relationship between individual children’s reading ages in Term 1 and in Term 4. As predicted, individuals’ reading ages in Term 1 were found to be significantly positively related to reading ages in Term 4, r(12) = .81, p<.001 (one tailed).

Discrepancy scores for the reading age data were computed by calculating the number of months each child’s score differed from the expected reading age for that child’s chronological age, as provided in Waddington’s standardised conversion table. Discrepancy reading age scores ranged from -18 months to +22 months in Term 1, and from -27 months to +24 months in Term 4.

A paired samples t-test explored whether children’s discrepancy scores for the Waddington’s Reading Test changed across the school year. Children’s discrepancy scores were neither significantly higher nor lower in Term 4 (M=7.29, SD=13.9) than in Term 1 (M=9.36, SD=11.69), t (13) =1.234, p=.239.

Using Waddington’s Spelling Test, children’s spelling ages in Term 1 ranged from 84 months to 120 months, and in Term 4 ranged from 86 months to 122 months. A paired samples t-test was conducted to test the hypothesis that children’s spelling ages increased on average across the school year. As expected, children’s spelling ages were significantly higher in Term 4 (M=108.21, SD=10.42) than in Term 1 (M=98.64, SD=13.92, t (13) = -6.132, p<.001 (one tailed).
A Pearson Correlation was conducted to test the hypothesis that there is a positive relationship between individual children’s spelling ages in Term 1 and in Term 4. As predicted, individuals’ spelling ages in Term 1 were found to be significantly positively related to spelling ages in Term 4, \( r(12) = .93, p<.001 \) (one tailed).

Discrepancy scores for the spelling age data were computed by calculating the number of months each child’s score differed from the expected spelling age for that child’s chronological age, as provided in Waddington’s standardised conversion table. Discrepancy spelling age scores ranged from -22 months to +21 months in Term 1, and from -23 months to +20 months in Term 4.

A paired samples t-test was conducted to explore whether children’s discrepancy scores for the Waddington’s Spelling Test changed across the school year. As expected, children’s discrepancy scores were neither significantly higher nor lower in Term 4 (M=5.36, SD=12.11) than in Term 1 (M=5.07, SD=12.53), \( t(13) = -.162, p=.874 \).

These results indicate that whilst individual children’s progress varied, all children made some reading and spelling progress. It can be concluded that the interventions did not adversely impact on reading and spelling outcomes of the class as a whole, and may have had a positive effect, but that has not been established.

What was important to the children at school?

In Term 4 children were asked ‘What is important to you at school?’ Eight nominated class activities, seven named sport and play. Six children said ‘friends’. Two children said school made them ‘feel brave’. This last comment reflects a word prominent in Play is the Way and Kimochis activities, indicating that children were adopting the language of the structured programmes.

Conclusion

The findings provided promising indicators of positive change in participating children’s social relationships at school and their ability to identify their own and other’s feelings. Given that social withdrawal, lack of trust and inability to identify feelings are some common consequences of chronic stress and trauma (Streecck-Fischer & Van der Kolk 2000), these positive changes can be recognised as indicators of increasing well-being for children in this class.

The selected resources, Play is the Way and Kimochis, provided effective tools to promote improved social relationships and a wider vocabulary of feelings words which children used to relate to their own and other’s experiences. A whole of school approach and assistance with implementation of the resources proved important to successfully embedding the programmes in class activities.

The teacher’s strategies of forming and sustaining individual relationships with children in the class, of leading and modelling a sense of community, of modelling talking about feelings, and revealing his own feelings, enabled children to develop a sense of trust, of being valued and able to contribute to their classroom community. Again these strategies addressed some of the negative consequences of chronic stress and trauma which include difficulty trusting others, low self-esteem and a sense of loss of control.

Given the complexity of contemporary classrooms and the widespread incidence of chronic stress and trauma in children’s lives, inclusive classroom-based interventions involving daily routines and activities offer an effective avenue for supporting children’s social and emotional development and recovery. The potential benefits flow to individual children and their families, teachers, school staff and the wider community as children change from being isolated, unhappy and ‘in trouble’ to becoming valued members of the communities which they help to create.
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