HOME TEAM
JOURNAL

**BY PRACTITIONERS,
FOR PRACTITIONERS**

LEADERSHIP IN THE HOME TEAM

THE LEADERSHIP INTERVIEW WITH PERMANENT SECRETARY PANG KIN KEONG

LEADING IN A FAT TAIL WORLD

DEFINING THE LEADER IN BORDER SECURITY

DOWN THE RABBIT HOLE
HOW ISIS RADICALISED SINGAPORE YOUTH

STEALING HEARTS ONLINE
HOW SCAMMERS WORK

CONTENTS

CONTENTS

Foreword

Since its inaugural issue 10 years ago, the *Home Team Journal* has been about conversations, serving as a platform to stimulate discussions among the Home Team community, our stakeholders, and the global community of practitioners in homefront safety and security. I am honoured and committed to carry on this open and inclusive tradition on an issue close to our hearts – leadership.

Conversations are also the cornerstone of the Home Team Academy's signature leadership development programmes. Our Home Team Centre for Leadership prepares Home Team leaders to drive organisational transformations that are needed to better serve the changing needs of the nation. Our programmes feature candid discussions with local senior civil servants and political office holders, as well as international thought leaders in the area of homefront security.

In a sense, the *Journal* has come a full circle with this issue's conversation on leadership. The first issue of the *Journal* featured a compelling story drawn from the oral history interviews that HTA had conducted with the late President SR Nathan and former Police Commissioner Tee Tua Bah, two legendary leaders in Singapore's security services who helped bring the 1974 Laju hostage crisis to a close without any loss of lives.

For this issue, we interviewed our Permanent Secretary (PS) Pang Kin Keong, who shares with *Journal* editor Susan Sim the "new basics" the Home Team must put in place to prepare for the future, and the hard choices he has faced as a public service leader.

Our interview with PS Pang kicks off a new conversation on contemporary leadership issues, which we call **The Leadership Interview**. Starting from this issue, the *Journal* will feature discussions with Home Team leaders, on effective management styles and philosophies, organisational challenges faced, as well as concerns and aspirations for the future. In *Leading Minds: An Anatomy of Leadership*, Howard Gardner notes that a leader must have a central story or message to be effective. This is what The Leadership Interview seeks to do – get at the personal stories that make our leaders who they are.

Two articles by our Home Team psychologists round up the focus on leadership. In "Leading in a Fat Tail World", Sheryl Chua and her colleagues from the Home Team Behavioural Sciences Centre (HTBSC) tell us that the world we are living in, with both sudden shocks and slow-burning crises, require crisis leaders to anticipate and prepare for increasingly unforeseeable and unpredictable events. In "Defining the Leader in Border Security", a team from the Immigration & Checkpoints Authority (ICA) led by Leong Sok Yee discusses how they identified core leadership competencies with the specific requirements of ICA in mind.

The other 10 articles in this issue deal with topics at the heart of the Home Team's mission to keep Singapore safe and secure – how our departments do battle with **terrorism, drugs and crime**, and **leverage technology** to enhance performance – while a special contribution by a public service veteran with four decades of experience in crisis communications, and a primer on fake news by HTBSC offer some **homefront insights** that readers might find timely as they reflect on and participate in the current national conversation on hate speech and online falsehoods.

No summary can do justice to the hard work put in by the authors, and so I invite you to read each article for yourself.

With the publication of this issue, the *Home Team Journal* is moving further along in its promise to provide a special place for all of us to continue our conversation of discovery, sharing and experimentation.

Clarence Yeo
Chief Executive, Home Team Academy

The Leadership Interview
with Pang Kin Keong
Permanent Secretary (Home Affairs)

"We have to put in place some new basics, including learning to live with messiness and untidiness even as we move…. and to adjust expeditiously along the way."

The hard choices, the decisions that tear at **Pang Kin Keong**, are to do with people, not policy decisions. If he had a personal mantra for leadership, it would be: Take care of your people, "because they're that very fundamental layer that makes the entire organisation tick."

Pang experienced this himself early in his career when Prime Minister Goh Chok Tong called his then fairly new, 34-year-old principal private secretary into his office and asked: "Why are you still here? I know you've got young kids. Are you waiting for me to go home? You shouldn't. ... Go home and have dinner with your family." Good leaders, Pang noted, have a "personal touch that inspires not fear but loyalty … [t]hat inspires in the person a lot more than just the job, inspires commitment and wanting to give of your most to him."

Pang's first key appointment with the Home Team was as Director of the Internal Security Department (ISD), after which he became Permanent Secretary at the Ministry of Law in 2010. He next moved to the Ministry of Transport (MOT) in 2012, when it was facing intense public pressure to stop the train breakdowns. Seeing the stress the MOT officers were under, Pang charged the Human Resources (HR) Division to change the work culture and values of the ministry and moved HR directly under his purview to send a strong signal that it is the "first among equals", a practice he continued when he returned to the Home Team in September 2017.

Sitting down for *The Leadership Interview* with the *Home Team Journal* 15 months later, Pang was in a good mood, having just seen the results of the 2018 Employee Engagement Survey. His "constant nagging" of the Home Team departments to get right "the basics that inspire and motivate, that make officers happier in their workplace, more motivated, more committed" seemed to be having some effect, he noted. The survey showed significant improvements in employee engagement and commitment within the Home Team over the last two years, and Ministry Headquarters and Prisons were ranked among the high engagement organisations. "That can only augur well for our mission and Home Team Transformation 2025," he said.

There are more lessons for the 21st century that Home Team members must learn, more basics to put in place. Meanwhile, however, he is not losing any sleep. Asked what keeps him up awake at night, he said: "The clichéd answer to that clichéd question is that I actually sleep very well at night."

But he is not about to let complacency rule, ending the interview with this last thought: "Adversaries will always find new ways to poke your system."

Following is the transcript[1] of the *Home Team Journal's* interview with PS Pang Kin Keong conducted by Journal editor, **Susan Sim**:

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[1] The interview was transcribed by Susan Goh. This transcript has been edited for space and clarity.

The Home Team embarked on Transformation 2025 almost 4 years ago. When you became PS (Home Affairs) in 2017, you described Home Team Transformation 2025 as "a critical exercise ... to enable us to achieve a quantum leap in preparation and capability building for a more complex, more unpredictable and faster-paced future". At the same time, you said the Home Team should see transformation as "just an extension of what we are already doing every day". What is your vision for the Home Team? What changes would you like to see the Home Team make to prepare for the future?

I think by and large, the plans that we have put in place for Home Team Transformation 2025 – I'm comfortable with them. We've made good progress; we've made some tweaks. We've introduced new plans along the way when we identified other gaps and other opportunities. So I think I'm pretty comfortable but I believe that if we want to be that high performing organisation, high engagement organisation that we aspire to be, we've also got to spend quite a fair bit of time going back to basics. Basics about leadership, basics such as supervisory practices, basics such as teamwork, a conducive working environment, a conducive culture – I think all that is equally critical.

You don't get these basics right, I'm not sure that we'll be able to sustain the efforts to achieve the kind of transformation that we are aiming for, for 2025. And then come 2025, we're going to look and say, oh my gosh, we're now going to need Home Team Transformation 2030 or 2035, another quantum leap required, rather than transforming ourselves each and every day as part of our daily work. And that indeed must be what we strive for and aim for, not to always have to look back and say, big gap, we need another huge plan. That can't be the hallmark

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of a good organisation. A good organisation ought to be transforming and changing and improving and looking to the future every day.

What sort of gaps? Coming into MHA, I notice you now have posters in lifts and on the lift doors that list several qualities in terms of the MHA culture. How did that list come about?

I didn't curate that list. I don't think I asked for the list to be put up but I think it's my Divisions … their own way of helping me transform the culture, the working environment here. They know and understand the change in culture we want. It's then about getting it into the consciousness of the people. It's about making statements at leadership level. It's also about percolating those ideas and principles down to my next levels of leadership, which I do when I discuss and meet with them, but it's also about getting it through to the officers, and therefore these posters, I suppose, are a reminder.

MHQ'S DESIRED CULTURE

1 We are proud of our work and give our best	2 We dare to do and we dare to change	3 We continuously learn and help our team grow
4 We show care and appreciation to each other	5 We work together as ONE MHQ team	6 We enable the success of our HTOs; we succeed only when they do

What are you unhappy about?

I'm not unhappy. I don't like looking at things from the perspective of what I am unhappy about. I like to look at things from the perspective of what I think can be improved in order to make this an even more high performing and happy workplace, and it's very simple things. I go back to what I mentioned earlier – good leadership, good supervisory practices, teamwork, people helping each other, an environment where the management understands that, hey look, work is not the be all and end all for all of us, that all of us have personal lives and family lives. And so you've got to be able to give flexibility for people to be able to manage all these conflicts and constraints between work, family and personal lives, in order for them to be able to give of their best in all three.

I feel if you are able to improve these basics that inspire and motivate, that make officers happier in their workplace, more motivated, more committed, I think that sets an incredible platform for us to do well in the substantive part of our mission. So that's what I've been trying to encourage the whole of HQ as well as the whole of Home Team to work towards.

I'm personally delighted with the progress. First of all, with the efforts that MHQ, my officers, my divisions and my HTDs [Home Team Departments] have made over the last few years and after constant nagging from me. They've put in an incredible amount of effort and I think the results from the Employment Engagement Survey, which I've had a glimpse of – it has just come out – I think they bear testimony to their efforts and to how officers are responding to the efforts. All the HTDs have improved, some very significantly, from the last survey done more than two years ago. And I think MHQ and Prisons are among what the public sector deems to be the high engagement organisations. Officers feel more engaged, more motivated, they feel more inspired. That can only augur well for our mission and for Home Team Transformation 2025.

What do you think accounts for this greater sense of engagement and inspiration?

I think it's everything. I think it's a consensus amongst all of us, about some of the key things that we need to improve. I think it's the fact that my DSs [Deputy Secretaries], my Senior Directors, share a common vision about what we think are some of the key basics that we need to work on that would help bring significant improvements to the organisational culture. I think it's about the fact that they've done a really good job about communicating that to the staff and I think it's about the staff themselves buying it and being willing to participate in it. So it's communication. It's sharing a vision. It's about all of us believing in it and all of us believing that we ought to do something and that we can make a difference and all of us willing to take conviction to it.

And what is this vision? Can you articulate it?

It's about good leadership, it's about effective leadership. It's about leadership that communicates clearly. It's about the leadership understanding that, look, I may have my own mission, my own division, but at the end of the day I'm working for MHA. I'm

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part of MHA, and at the MHA level, that I'm part of the whole of government. And therefore each of us being willing to help each other out even if we are in different divisions. Each of us being willing not just to see things from the perspective of our division, but willing to step one level above our division and say, look, perhaps I have to sub-optimise or compromise some of what I do for my division in order that other divisions are helped and so that overall, MHA benefits.

How ready is the Home Team for 2025? Does it even make sense to put a date on it?

I don't believe in putting dates. I don't believe that there ought to have been a transformation effort required in the first place, because transformation to me means that we fell way behind and we need to catch up and that should never be the case for a good organisation. But 2025 I suppose is more a rallying call so I see it from that perspective. I'm not fixated on it. It's not going to be the case that come 2025, I'm going to ask all of us to measure against targets set in 2016 or 2015, and ask, where are we now? It's a rallying call. It's about using that rallying call to lay out some of the plans that we want to develop and implement.

You asked how ready we are. Well, I'm happy. I'm not at all unhappy about the progress. I think we've been pushing well ahead. I've seen results. I've seen many of the milestones achieved along the way. Do I think that there are some shortfalls here and there that we ought to address? Yes, possibly. But that's par for the course for any organisational plan. I don't believe there exists any organisation where you lay out the plan from Day One and that plan is executed in perfection with no hiccups, no obstacles and exactly as how it was laid out from Day One. So are there, would there be things that need to be tweaked? Absolutely, but as I said, it's par for the course.

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What are some of the things that you think need to be tweaked?

I think there are a few things. I think that some balance is needed on some of the thrusts. A key pillar of what we want to achieve for Home Team Transformation 2025 is getting the whole Home Team to work closer together, aggregating requirements across the whole Home Team, working more coherently in a more consolidated fashion across all the Home Team Departments. But there is a cost to that. When Police have a particular initiative that they want to run with but we tell them, "Hey, hold on!" – we tell them hold on because other Home Team Departments might be interested too – "Let's consolidate and aggregate the demands." It does mean that you are sub-optimising Police and you are holding them back and taking that extra one year in order to let the other Home Team Departments figure out what they want to do, whether they want to go with it, then aggregating the demand before putting up a tender for it.

So there are some trade-offs. And I don't think that it ought to be the case, that in every one of these capabilities that we want to develop, it must be aggregated across the whole Home Team. It does depend on that particular capability. It does depend on how ready the rest of the Home Team is. And if the initiating Home Team Department is way ahead and the rest are far behind, then it could be that better we tell them to run ahead first.

It's about tweaking the processes. After 50 years of development as a bureaucracy, from year to year, from audit to audit, from incident to incident, I think the whole system has put in place more and more requirements, checks and balances. For good reasons I believe, but what's happened is that they've started piling up one on top of another such that whether as a

ministry or as a government, we're becoming slower to get off the starting block.

And more risk averse?

I'll come to risk aversion later. But we are taking much longer to get to the starting block than when we were a start-up, and that worries me. The world is moving faster. Things are happening at a much greater speed than when we were shuffling physical files and papers from one department to another. And yet the kinds of hoops and hurdles that we now have to run through in order to get a project going worries me. We're not as fast and nimble to react to developments in the world as we should be and as we can be. I know it's a problem but I don't have an answer.

We're trying to do some of it here within the Home Team, what's within our realm here, by doing things concurrently rather than sequentially. By taking decisions at the senior leadership level rather than letting the divisions argue the trade-offs interminably. That these are the downsides, these are the risks, I accept that there's a risk, let's move. And I think we're shaving off a little bit. I saw some of the projects that I asked my DSs to help me run through. They shaved off a few months from the typical development cycle. I think it's a good start but I think we can do better.

You asked about risk aversion. … [Pause] … In some senses, yes. … [Pause] … Again, it's part of the system unfortunately and I'm not saying that it's wrong to have audits. I'm not saying it's wrong to have COIs [Commissions of Inquiry]. I'm not saying that it's wrong to have After Action Reviews, retrospections about incidents, projects, to see where we went wrong so that we can do better.

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I think it's perfectly right to have such things. But the way it's done sometimes and the emphasis that we give it and what comes out of it, I think invariably changes the mindset of subsequent generations of officers. About how they approach a case. About how they approach a project, how they approach issues. And in many cases I think it does lead to some amount of risk aversion. When you set up a COI, and audits, to be honest, you know what's going to come out of it. How many COIs and how many audits come up with no findings? And when there's a finding, invariably there will be implications about the officers who were involved, who didn't perform as well. And that sets the tone, doesn't it, going ahead? Everybody for the next audit, will try to make sure that there'll be no findings.

And how do you do that except to be even more careful, to have even more checks and balances, to be even tighter in what you do? And so the system is one of those vicious cycles where you cannot do without the COI, you cannot do without the audit, and yet the outcome of it is that it leads the whole organisation and society gradually to one where to avoid adverse findings, yeah, we add more layers of checks and balances, more requirements.

Can that be mitigated by the sort of culture change you were talking about earlier where you have a greater sense of teamwork and supportive leadership?

It can be mitigated but I don't think you'll get away from it completely. If the audit comes up with findings and the consequences of the finding is that you need to put in more processes, no amount of culture change can get over that new requirement, right? If it is a step in the IM [Instruction Manual] that you have to comply with, you have no choice but to do it. Where the culture change can help is when things have not been cast in stone, in legislation, in the IM, and you are trying to make an assessment about whether you ought to go ahead with a project despite the risks.

In every project that we do, whether it's facial recognition or other projects, there's an amount of risk. There is possible pushback from the public. There's a possibility that I could spend all that money and nothing comes out of it. It's a gamble on the future. How much am I willing to gamble on the future? There're all these kinds of considerations which go into the pot before we actually decide to push ahead or not with the project. Sometimes you stir the pot,

you re-tweak the pot, you look at the pot for a long time before you move, and sometimes you don't move ahead.

So yes, culture change can help with that and it's about encouraging the officers to be more risk-taking but that doesn't come about unless the top leadership themselves are prepared to take ownership and accountability. I don't believe it works to simply tell the officers that, hey, take risk. It doesn't happen that way because the officer will say, why should I take the risk? If I take the risk and something goes wrong, then I take accountability and I take the fall. You want it to work, then the top leadership must take ownership and accountability. And when you do that, then slowly I think, the lower levels are more willing to adjust their risk thresholds.

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I also want to talk about some new basics that I think we have to put in place and it's about learning to live with messiness and untidiness.

Yeah. The reality is … when the world moves faster, when you've got more information at your fingertips, the world has become … the whole operating environment becomes messier and untidier. And learning to live with messiness and untidiness, I think, is a new basic quality that all of us have to have. In the good old days when we were shuffling papers, there was a lot of time to put everything neat and tidy in perfect boxes and think every step of the way, every scenario that could happen, before we moved. And so a lot of us grew up in the system, we grew up with that craving for neatness, perfection before we moved. We can't afford that now, not with the world moving at this pace. When we only had ten data items, it was easy enough to analyse them. When we've got a million data items, there is no way that we can analyse all of

them. And so learning to live with messiness, a bit of messiness, a little bit of untidiness even as we move, it's a quality that I think a lot of us don't have yet.

Related to that is being able to adjust expeditiously as we go along. Because we started off messy and untidy, we must be prepared even more to adjust regularly rather than review only after ten years or at the end of the project. When things don't seem right, we must have the ability and the courage to adjust, to drop certain things, and just move on to something else. That again… it's not, unfortunately, in sync with how many civil servants, especially for us from the old school, think and operate. It's always, I've got a plan, I execute the plan faithfully. It can't be like this anymore. We've got to learn to move quickly, and adjust and tweak along the way, taking into account new inputs that come along.

And again because of the change in the operating context – this one is not really a new skill but I think it's becoming more important – learning to prioritise. It's always been important but I think it's become even more important. World moving faster, more things keep on cropping up on our plate, nothing gets thrown off. We're expected to move at lightning speed but unfortunately when we look at the clock, it's still got only 24 hours. Nobody has given us two or three extra hours to cope. And so we will never have the bandwidth to do everything and we'll never have the bandwidth to do everything perfectly. And so the ability, the skill that officers need, is to prioritise.

In terms of prioritisation, what advice do you give your officers? What are the things they should think about, what are the driving forces that they need to focus on, the factors they need to consider?

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What I do look at is criticality to the mission. That's quite clear. I mean that's a no-brainer, right? Criticality to the mission…. But it's at the tip of my tongue to also say it's about where your bosses put the priority, which should be too, because your bosses might have different considerations why a certain project is critical even if, from a lower vantage point, I may not think it's so.

So a bit of political attunement?

I wouldn't call it political attunement. I would say being attuned to where the boss himself thinks some priorities ought to be placed. I think that's important too. But I tell you why I said it was only on the tip of my tongue. Because I don't want it to be a culture where the folks start second guessing. That's not what I want to develop here. I don't want the officers to subjugate their own judgement to what they think the boss wants.

The value to an organisation from officers comes when all of us are able to bring all the skills we have, innate to ourselves, to the job. The value is not that I'm simply an implementer, a good implementer of what my boss wants. I don't believe such an organisation can be a high performing one. I don't want people to be second guessing their bosses.

By bosses do you mean the next level up or the political leadership?

It's every layer. The way I tell it to my officers is this: Whenever I think something is worth doing, I will put it on the table. I leave them to prioritise, unless I tell them that a particular issue is of priority, their assumption should be that they are free to prioritise the rest according to what they think is critical and depending on their bandwidth available. But others will do it differently. Others may go through systematically with their officers to say, you've got a hundred on the table at the moment, and I want you to prioritise all the even numbers. Bottom-line is to give clarity to the officers – I think that's an extremely important part of leadership.

I guess this is a good point to ask about your management philosophy. I've asked some of your middle management and a couple of things have jumped up to them. One is you've taken direct oversight of human resources. As well as audit. But they've also noticed that you're very caring about the

staff, very concerned about work life balance. But you come down very hard on your senior managers. So what is the message you are sending here? At the immediate level are you're saying that people and the integrity of service are key priorities to you, they must always come first?

It is. That Audit [division] accounts or reports to the CE or PS – that's nothing new. It needs to sit above all the levels, all the divisions that they are auditing, and report to the chief, so that's normal, but yeah, here and at MOT I've put HR directly under me too. For two reasons. One is signalling and I make no bones that amongst all my divisions, HR is first amongst equals. Because they and what they do lay that critical foundation for the entire Ministry or organisation to do well.

First among equals? That you will send your best people to HR?

The criticality is in what they do – first amongst equals. I have to get HR right in order for all my other divisions to be able to perform well. So that's the signalling part. As for the substantive part, there are two parts very broadly, very simplistically, to HR functions. One is transactional – process my leave, process my claim, process my promotions and all that.

The other part is culture change. That's what I believe is the other key role of HR. So if I want to change the culture, then yes, then the division that is supposed to help me in implementing this change in culture should report to me. I don't want my directions on such to be filtered through another layer, because filtering always changes the texture, doesn't it? And the tone, we all know that.

I suppose one of the most important levers is rewards. Is that one you exercise a lot?

Rewards, no, if you are talking about rewards in terms of compensation…

Promotions, postings…

To be honest, how much flexibility do even Perm Secs have over compensation? The whole compensation system is guided by what the public sector puts in place. So I have no control over that. I have control in terms of assessing officers. That's about it. I just have to make sure it is objective, that I get the inputs

of the supervisors, that we assess an officer fairly and I make the final call. So no, you ask if the Perm Sec actually has a lot of influence over rewards per se? Actually no. But I don't think that reward is the only…. Is it important? Yes, it is important. But is it the only critical factor that motivates an organisation, that makes an organisation attractive, so that people want to join it, that its officers want to stay and give their heart and soul? I don't think so. I think it's more than that, isn't it?

In terms of career development too – I think it's important?

It is. Compensation, career development that's the hard, the concrete, the nuts and bolts of rewards. But the softer part is important too. It's about appreciation. It's about just that simple thank you. It's about feeling recognised. It's about being personal, about the fact that my boss takes the effort to congratulate me or commiserate with me. About feeling that the organisation cares about you, tries to help you out when you are facing issues, not just on the work front, but on the family front or the personal front…. It's all those things, being personal and not just cold and hard and transactional. It's about the fact that when I come to work, it's not about just earning that dollar. It's a social activity in itself. It's about having good colleagues. It's about having a laugh with colleagues even as we are working hard together. It's about enjoying coming to work. It's about wanting to come to work because it's a happy place.

And even if the compensation may not be at the levels that the banks and the technology firms now offer, I think if we get the other parts right, we will be able to attract a good share of talent, and a committed and loyal team.

You mentioned something that I wasn't really aware of – wow, that I'm very hard on my leadership team? Is that right, really?

You could be right. I think I am hard on them because as leaders I expect more of them than I do of my other officers. At the very senior level, they have a lot more influence over what goes on in the organisation. If I were to be crude about it, they are paid much more than the other officers. They have been given positions of responsibility. And so do I expect more of them than I do of my young executive? I should. But yeah maybe that's an area where I need to change too. I need to be

as empathetic for them. I hope I am.

I hope and I should be … as empathetic for them, when it comes to their own personal lives, their own family lives, their health, their career, helping them develop and move on to even more meaningful postings if they deserve it. I should take care of them, equally for them, in those aspects as I would for all my other officers. If I'm not, then I think that's an area I must change.

But I would expect more of them. Just as I would expect the Minister to expect more of me than he would of my SDs [Senior Directors].

If you have a personal mantra for leadership, for management, what would it be?

I don't have a personal mantra. But if I did, I suppose it goes back to people: Take care of your people. The other way of answering it – how much of my time ought to be spent on people? And clearly the answer is… it cannot be 0%. It's got to be closer to 50%. The higher up you go, the more and more of our time should be spent on our people. Because as I said, it's that very fundamental layer that makes the entire organisation tick. The way you want it to tick.

The Home Team takes the question of nurturing leadership very seriously; I guess most organisations have to. What are the leadership qualities you look out for in identifying future Home Team leaders?

I use this very simplistic way of letting my HR know what I look for in officers. If I had two candidates to recruit for one position. One candidate is brilliant intellectually but poor in terms of behaviour, attitude, poor in terms of ability to work with other people. And I have in the other chair, somebody who is of average capability but fantastic in terms of character, attitude and ability to work with other people. No hesitation. Quite clearly every time I would never take the first one. Always the second one. So I want to start answering your question on the basis of that. That's where I put my focus. You bring in the prima donna, can't work with others. He may execute his job real well. The paper that he is supposed to write – it could be that I will have to edit it less and give less guidance than to the second officer. But I will have to spend much more time managing egos, managing relationship problems that crop up along the way, managing office politics. And that, I believe, that is time badly spent.

What is more important – being an effective leader or a moral leader?

I don't think you can be an effective leader if you are not a moral leader. Right? If you have got no moral authority…

You could be Machiavelli…

Perhaps … but the way I look at it is, how do leaders…. How do leaders lead? You could lead by fiat. You could lead by sheer authority. You could lead by the sheer fact that I've got two crabs or three crabs on my epaulettes and you've only got a few bars. You could do that.

Or lead by charisma?

Lead by charisma, by moral authority, by example and by people being inspired by who you are. I've always believed that the more effective and sustainable kind of leadership is the latter. I can tell my Director, do A and B and C. Well, he may do A, B and C, but does doing A and B and C lead the organisation to the heights that you want it to go? The answer is no. Because it's probably D and E and F which never crossed the leader's mind that needs to be done. But if the officer is inspired and motivated and loyal and committed enough, he will do D and E and F without me telling him. If he does only what I tell him to do, the organisation will never be high performing. I want officers who are inspired and motivated enough to run on their own. Well beyond what the leader can conceivably think about telling him to do.

None of us have all the answers. None of us have the ability to know exactly all that needs to be done, that should be done. So when you lead by moral authority,

"None of us have all the answers. None of us have the ability to know exactly all that needs to be done, that should be done. So when you lead by moral authority, by inspiration, by inspiring, I think you get much more out of an organisation. And that's an organisation that will follow you through thick and thin."

by inspiration, by inspiring, I think you get much more out of an organisation. And that's an organisation that will follow you through thick and thin.

So I don't think you can divorce the two [effective versus moral leader] and simplistically answer what is more important. I think you need both. You've got to be effective but you've got to lead by moral authority as well.

Who is the leader you most admire? And why?

I've had the good luck to work under many good leaders, from whom I've learnt a lot both in terms of work but also in leadership. But I think amongst them all, [Lim] Siong Guan stands out for me. The reason simply is this – that every discussion with him, over policy issues or any other issues, it was always a lesson. He didn't just tell us, this is what I want you to do. He debates with us, teases out how we think about an issue, and explains why he made a certain decision, and it's that clarity of explanation, not the clarity of what he wants us to do, but clarity of explanation of why – you learn so much just hearing him, just being in a meeting with him. Because it wasn't transactional. It was a lesson. He was always teaching. There are many other fantastic people I've worked for but he stands out in my mind.

You've worked for the Prime Minister...

Yes, I'd been thinking more about the Perm Secs whom I have worked with. Prime Minister [Goh Chok Tong], yes I've learnt a lot from him. About caring for people, about his empathy for the people. That personal touch that inspires, not fear but loyalty. I think I've told this before. First two or three months as PPS [Principal Private Secretary to the PM], my understanding of course was the PPS can't leave the office until the big boss has stepped away. Because, how can you? He might still need your services. So I never thought about this. I dutifully continued doing my work late into the evenings even though I had a very young family at that point in time. I think it was in the early two or three months. At about 7pm or 7:30pm one day, he called me in and said, "Why are you still here? I know you've got young kids. Are you waiting for me to go home? You shouldn't. There's no need. If I need you to stay back, I'll tell you. If I don't tell you, it means you ought to go home at 6pm. Go home and have dinner with your family." It's just a very simple

"In a crisis, you never have full and complete information. And you have to make decisions. You can freeze because you don't have enough information to make a decision. Poor leaders freeze. Or you can make do based on whatever you have within the few seconds or minutes you have, and for better or worse, move. And to me, moving and getting it wrong is a lesser evil than not moving at all."

example of how I think he has led the government and the country and how he dealt with me as his PPS. That personal touch, that inspires in the person a lot more than just the job, the commitment and wanting to give of your most to him.

The Home Team, perhaps more than any other government service, is about managing crises. You've run a Home Team Department. Can you share three lessons of crisis leadership from personal experience?

I think first and foremost, and this is nothing new – all my Police colleagues, all the operational departments know this – that in a crisis, you never have full and complete information. You're lucky if you have half of the information that you need. So you are leading on the basis of incomplete, imperfect and even wrong information. And you have to make decisions. You can freeze because you don't have enough information to make a decision. Poor leaders freeze. Or you can make do based on whatever you have within the few seconds or minutes you have, and for better or worse, move. And to me, moving and getting it wrong is a lesser evil than not moving at all. When you freeze, your officers don't know what to do. And when they don't know what to do, people could be running helter skelter. And that surely is a worse outcome. You get it wrong sometimes. If you adjust fast enough you may still have time to make good your error. But if you freeze and you do nothing or delay too much, then I think the whole crisis could blow even more out of control.

Second most important lesson, particularly now, much more so now than in the past – communications. And

this applies whether it is a crisis or you're doing policy papers or you're trying to roll out initiatives. In the past, comms was always an afterthought. Comms always came after the one year you have spent working on the policy and in the last ten minutes you give it to the comms people and they summarise it and put up a press release. It can't work that way anymore. You've got to sell it and to be able to sell it effectively in this day and age, you've got to make sure that the comms people are seated with you right from Day One so that they understand the policy and the intent almost as well as the policy maker does. And so along the way they can point out to you: "Hey look, friend, if you go down this particular policy direction you're going to have problems comms-ing [communicating] it." And then the policy maker can at least decide whether he adjusts it in order to be able to sell it better or decide, come help me out, I'll take the risk and I'll try to comms it a different way. Then the value-add that the comms people bring to the table is so much more.

Same thing in a crisis – a large part of your time in a crisis of course will have to be in managing the operation itself, but you can't ignore the comms. The comms is an integral part of how the public will judge whether you succeeded or not. The comms in some instances is also critical to your managing the crisis, when you are able to shape the reactions and the conduct and the behaviour of people outside your direct realm of control, to respond in a way that is helpful to you. Such as the public, such as the grassroots leaders.

What are the hard choices you've had to make in your career?

I think the hard choices will always be related to people. It's not so much in policy making. In policy making so long as I have put in my best, I have been honest and upfront in where my own views and recommendations are, when I have to make that trade-off across different divisions and different considerations, it's not hard on the soul per se. It's just that, well, I have to do it, it is a challenge, it is not easy, I wish it were black and white, but it's not, it's grey, I'm given the burden of deciding what shade of grey it should be, so be it, I make the call to the best of my abilities.

Even if it is not my call and it goes up to the Minister and the decision is different from my view, it's not painful. I accept the fact that the way our government,

our country is structured to be governed, to be run, he has the mandate. I accept the fact that I do not know everything, may not have thought of all the considerations, that my judgement may not always be the best call. So long as I have kept my conscience clear in putting up to him what my own views are, even if he takes a decision contrary to my view, as I said, I go to sleep extremely easy. I respect it. And I will implement it to the best of my ability. So I don't think it's hard per se on the policy front.

I think the hard decisions that tears me, are related to people. It's about… you know… you will sometimes have situations where you've got to fill certain posts. Or you've got certain posts which are critical, being occupied by incumbents and you've got to ask yourself – is that incumbent the best for that position? Or the anointed successor who is expecting to fill the post, because he's been told that he's the front-runner. But sometimes he may not be the best fit and I have to make a decision either to remove the incumbent or fill the post with somebody other than the person who is expecting it. And therefore causing a lot of disappointment, a lot of unhappiness. I think that's the part that I find most difficult to deal with because I'm not just dealing with a policy anymore. I'm dealing with actual people, people's lives, people's careers. I find that that's the toughest part of being a leader.

One final question, and this is about the wicked problems, which management specialists tell us, that wicked problems often crop up in organisations having to face constant change or unprecedented challenges because you have incomplete information and stakeholders may disagree on causes and solutions, and even conventional processes to tackle wicked problems can cause undesirable consequences. So what are the wicked problems that keep you up awake at night?

The clichéd answer to that clichéd question is that I actually sleep very well at night. But if I had to, if I had to highlight one particular area which I feel rather concerned about, it would be the threat to Singapore that comes not from physical means like terrorism and blowing up our houses. That one we know. I mean it's a big risk but we know how to deal with it. We've got frameworks in place to deal with it. And when we are able to say, we've got a risk and we know how to deal with it, actually it's not a wicked problem anymore.

"The threat to society that is increasingly coming from informational means to undermine the basis upon which we govern and make decisions – that to me is a worry…. So when foreigners who have absolutely no stake in the long term interest of our country, foreign actors, be it the State or individuals, try to undermine the democratic process this way, it's one of the greatest concerns at the moment. And I think I would categorise it as a wicked problem primarily because I don't think any country, including Singapore, has yet to work out how to deal with it."

The threat to society that is increasingly coming from informational means to undermine the basis upon which we govern and make decisions – that to me is a worry. In a democracy, the people decide on who they want to lead the country, on the basis of information they get. Now when you subvert that process through falsehoods, and what's worse, not by the people who are voting, but foreigners, then that undermines the very basis of how democracies ought to work. So when foreigners who have absolutely no stake in the long term interest of our country, foreign actors, be it the State or individuals, try to undermine the democratic process this way, it's one of the greatest concerns at the moment. And I think I would categorise it as a wicked problem primarily because I don't think any country, including Singapore, has yet to work out how to deal with it. We've got some ideas in mind. We're doing a little bit of ad hoc patchwork here and there. But I don't think we have a systematic framework and tools in place yet, to be able to deal with it the way that over the last 18 to 20 years, we've been able to deal with the threat of JI, ISIS and the lot. So that worries me.

The government is coming out with legislation to deal with fake news …

We are. It's one step we're taking... but legislation is one thing. After that we also have to see how the legislation works out in practice. How does the whole society respond? Legislation is not enough. Legislation says: Take down this website. Legislation allows me to go for the person who spread the falsehood.

But that I take down one website does not mean that the issue has gone away. It doesn't mean the problem has been solved. It might have already sunk into the consciousness of the public. The damage might already have been done or the damage is still out there in other websites that are not taken down and how many websites do I have to take out? So legislation is just one piece of that framework that we have to put in place but we still have to figure out exactly how to deal with it if something were to happen.

Whereas terrorism – bomb, use a car to ram into people, use a knife, you know, you can almost sort of figure out what are the key ways that they will try to carry out an attack. But in this [information war], anything goes. There are a million and one ways to undermine using informational means, the functioning of a democracy. And do we have all the answers to all of them? No. So I think that's going to be the biggest challenge for security over the next few years. Until the problem becomes mature, until we've worked out a reasonable, systematic framework to deal with it and respond to it.

Then a new challenge will come along, for sure. Adversaries will always find new ways to poke your system.

Leading in a Fat Tail World: Modern Crises and Recommendations for Leaders

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Abstract. The fat tail world we are living in is characterised by disruptions and catastrophic shocks; the crises that have occurred over the last decade reveal the rapidly changing array of threats that the world is facing. Besides dealing with these acute crises, the world is also faced with slow-burning or creeping crises, such as antibiotic resistance and greying populations; these crises take time to develop but have damaging, irreversible effects if action is not promptly taken. The changing dynamics of modern crises raise new challenges for crisis leaders. Although modern crises are increasingly unforeseeable and unpredictable, leaders are expected to have anticipated their occurrence and to mitigate the risks and damages. The ability of organisations to plan for shocks (i.e., anticipation) and be able to rebound after disruptions (i.e., resilience) forms the core of strategies to manage modern crises. This article describes the characteristics of modern crises and their implications, and offers recommendations for crisis leaders to anticipate and prepare for these extreme events.

Introduction

The increased occurrence of novel crises over the last decade reflects a new characteristic of the world we are living in – a fat tail world. A fat tail distribution indicates that the probability of extreme events occurring is higher than expected (Bremmer & Keat, 2009). Some of the extreme events we have seen over the last decade include natural disasters and pandemics of massive risk to human lives. For example, the 2011 Great East Japan earthquake and tsunami caused a meltdown of the three nuclear reactors at Fukushima and subsequent radioactive leakage. The 2009 H1N1 influenza pandemic was considered unusual with the emergence of a new strain resulting from the re-assortment of four different viruses; its transmissibility among humans was unexpected (Centers for Disease Control and Prevention, 2009). Political instability and violent conflicts have become more rampant over the last decade (von Einsiedel et al., 2014). For instance, political upheaval in the Middle East has intensified

in recent years. Consequently, the world is also facing the worst refugee crisis since World War II, with close to 60 million refugees from Afghanistan, Iraq, Libya, Syria and Yemen fleeing violence and conflicts in their countries (UN Refugee Agency, 2015). The global power transition from West to East is also likely to create new international challenges (Boin, 2009; Hoge Jr, 2004).

Whether we are talking about natural disasters, pandemics, terrorism, armed conflicts or financial crises, the world is today facing crises that possess characteristics distinct from conventional crises. The trends and occurrences we have been witnessing across the globe – what we call modern crises – are more complex and dynamic, and pose new challenges for today's world (Ansell, Boin, & Keller, 2010; OECD, 2015). The purpose of this paper is to highlight the characteristics of modern crises and discuss approaches to anticipate and mitigate such crises.

Characteristics of Modern Crises

Crises are considered to be transboundary when they transcend (i) geographical boundaries, (ii) functional boundaries, and/or (iii) temporal boundaries. Some crises are not confined within a nation's boundaries; they have repercussions on multiple cities, regions, countries or continents (Ansell et al., 2010). When a crisis has a rapid onset and has disruptive consequences in at least two continents, it is a "global shock" (OECD, 2011). For instance, pandemics such as 2009 H1N1 outbreak started with a few sporadic cases in the United States. Less than three months from the first emergence of H1N1, 30,000 cases were being reported across 74 countries and the World Health Organisation (WHO) was raising a pandemic alert (Chan, 2009).

Modern crises can originate from a specific system and snowball to affect other systems, functions or infrastructure (Ansell et al., 2010). For instance, the Great East Japan earthquake was not just a natural disaster that required immediate emergency response, but it also induced fear of radiation that resulted in a drastic drop in the number of tourists visiting Japan (Wu & Hayashi, 2013) and disrupted international trade and global supply chains (Carvalho, Nirei, & Saito, 2014). The aftermath of this crisis required collaboration with stakeholders from different functions and systems.

Lastly, modern crises are not one-off single episodes that can be demarcated by a clear starting and ending point (Ansell et al., 2010; Boin et al., 2008). The impact of a crisis can unfold over time and has long-lasting effects. For example, many countries took a long time to recover from the global financial crisis of 2008, which led to high unemployment rates, growth slowdown and deficits in government budgets.

The transboundary nature of modern crises make resolution more challenging and complex (Ansell et al., 2010; OECD, 2015). These modern crises often attract worldwide attention and create transitory shocks that have strong impact on the economy, politics and social functioning (OECD, 2015).

Factors Contributing to Transboundary Nature of Modern Crises

According to *Future Global Shocks* (OECD, 2011), three key characteristics of today's world contribute to the transboundary nature of modern crises: *globalisation, heightened mobility*, and *centralised systems*. First, the international economy is more interdependent and closely linked due to globalisation and international trading. Hence, a financial crisis can impact the global economy through commodity prices and financial assets. Similarly, as the world becomes denser and more urbanised, it also creates crisis hotspots for the transmission of diseases.

Heightened mobility of people due to ease of travel also allows terrorists to cross borders and facilitates proliferation of terrorist groups. Additionally, in today's age of high-speed mass communication, online radicalisation is increasingly common. Rapid flow of data elevates the risk for cyber-attacks and compromises national security (Lagadec & Topper, 2012). The rise of new technologies, or what some have called the arrival of the "Fourth Industrial Revolution", also transforms the management and governance of both the physical world and the cyber realm (Schwab, 2016). For instance, the connectivity among everyday devices, systems and services through data, cloud, analytics and technology (i.e., Internet of Things [IoT] ecosystem) introduces new cyber security threats (U.S. Department of Homeland Security, 2016). IoT not only allows commercial companies to track users' behaviours covertly without their consent, but it has also allowed novel forms of stalking; Internet-enabled baby monitors have reportedly been cyber-hacked to remotely spy on victims (Berkley & Everett-Haynes, 2017; Wagstaff, 2014). The emergence of new cyber weapons that attack critical infrastructures poses serious security implications. In August 2010, it was reported that the centrifuges used to enrich uranium gas at Iran's Natanz nuclear facility were failing. Months later, it was found that the SCADA control systems were infected with *Stuxnet*, a malicious computer worm designed to sabotage the Iranian nuclear programme (Collins & McCombie, 2012).

Finally, systems have become more centralised and hubs have been established to improve efficiency. Systems that are tightly coupled, i.e., highly interdependent, increase the likelihood that any disruption will ripple through the systems, resulting in multiple failures (OECD, 2011). Hence, a trivial incident can cascade and spiral out of control. As we saw in the North American power failures of 2003, a failure in the electric power grid can affect other critical infrastructures such as water supply, transportation and

communication. Likewise, the adoption of IoT creates risks, which we need to identify and mitigate before such vulnerabilities are exploited by cybercriminals (Network World, 2017).

Implications of Modern Crises for Leaders

The transboundary nature of modern crises poses new challenges for crisis leaders. It is hard to identify where a crisis originates, how it propagates, and the types of knock-on effects it produces (OECD, 2011). Even though some modern crises may be unforeseeable and unimaginable, leaders are still held accountable for their failure to anticipate them as leaders are expected "to have seen it coming" by thinking about the "unthinkable" and to develop contingency plans to minimise catastrophic losses (Gowing & Langdon, 2015).

Crisis leaders also need to develop new capabilities to collaborate with different groups of stakeholders to manage their interests, priorities, agendas and values (OECD, 2015). The transboundary nature may also contribute to fragmentation of responses (Ansell et al., 2010). Hence, crisis leaders need to formulate strategies to orchestrate the response efforts carried out by multiple agencies. The involvement of multiple agencies also increases the chances of contradictory messages that may increase uncertainty and hamper cooperation by the public. A crisis that crosses temporal boundaries can create enduring uncertainty and fear, which tests a society's resilience (Ansell et al., 2010). Thus, modern crises require a change in the way crises are managed.

Types of Modern Crises

Existing typologies of crises may not be applicable for modern crises. For instance, some crises may have more than one origin. Additionally, modern crises may have multiple effects over extended periods. Modern crises are transboundary; they may cross geographical, functional, or temporal boundaries. For example, Hurricane Katrina in New Orleans in 2005 was undoubtedly a natural disaster, but the high fatalities were also due to poor crisis response (a man-made disaster), which resulted in reputational damage to the Federal Emergency Management Agency (FEMA).

Addressing the limitations of existing typologies, Gundel (2005) proposed a crisis matrix that consists of two criteria: predictability and possibility of interference. Predictability refers to whether the

occurrence of the crisis (time, place, manner) can be anticipated. Interference refers to whether there is available knowledge to mitigate the risks or damages. We adopt Gundel's proposed crisis matrix (see Table 1) to classify conventional crises and to introduce three modern crises (creeping crises, Black Swans/ Wild Cards, looming crises).

Table 1. Typology of Conventional Crises and Modern Crises

		Predictability	
		Low	**High**
Interference	High	Looming Crises (4)	Conventional Crises (1)
	Low	Black Swans/ Wild Cards (3)	Creeping Crises (2)

Conventional Crises

The first quadrant represents conventional crises that are easy to predict and easy to manage. Most of the categories developed by Mitroff (2004) are considered conventional crises; for instance, loss of key personnel, reputational damage to organisation and market crash. Conventional crises are predictable as their occurrence should not come as a surprise due to the known risks associated with the nature of the organisation. Similar past disasters also allow leaders to prepare for the crisis and countermeasures can be tested and implemented. For instance, organisations operating in a high-risk environment should have crisis management plans such as risk assessment and monitoring systems in place. Conventional crises usually result from the use of ill-structured technological systems (Gundel, 2005). Some examples of conventional crises include oil spills, plant accidents, rail accidents and plane crashes.

Creeping Crises

Creeping crises, as the name suggests, creep up and may take years to be resolved. Creeping crises can be predicted sufficiently; it is easy to identify the sources and the implications are well-known. However, this form of crisis is often shrouded by emerging acute crises ('t Hart & Boin, 2001). Existing research on crisis management have also focused largely on acute or fast-burning crises (Porfiriev, 2000). One example of a creeping crisis would be the on-going climate crisis. Despite scientific consensus that the global temperature has increased over the past decades,

there is still debate over the authenticity of climate change (Volcovici, 2017). The controversies and the uncertainty over which countries should be involved in signing a climate agreement has led to deferment of coordinated efforts to tackle and implement effective mitigation strategies (Bosetti, Carraro, Sgobbi, & Tavoni, 2008).

Although creeping crises may be intractable or take years to be resolved, it is important for leaders to identify these crises and call for action before they snowball and result in irreversible damage. However, the involvement of multiple organisations and nations may make interference almost impossible (Gundel, 2005). Often, conflicts of interest and polarised opinions impede countermeasures against creeping crises. Take Singapore's ageing crisis as an example. If the crisis is not dealt with, it can have multiple repercussions. First, public spending will have to be increased, straining the national budget as more public monies are directed to provide support for older people. Second, economic growth could slow down as the working-age population ceases to grow or even decreases; as other countries face the same crisis, the prospect of global financial instability increases (Jackson et al., 2008).

Black Swans / Wild Cards

Nassim Nicholas Taleb, a financial analyst and author, introduced the idea of black swan events in his 2007 best-selling book, *The Black Swan: The Impact of the Highly Improbable*. Before the sighting of a single black swan in Australia, many believed that all swans were white. Taleb uses the black swan as a metaphor to describe an unexpected outlier event that has low probability of occurrence, has catastrophic ramifications, and is perceived to be explainable and predictable in retrospect. A concept used in many futures studies, wild card refers to incidents that are improbable but stakes are high if they occur (Mendonça, Pina e Cunha, Kaivo-oja & Ruff, 2003; Rockfellow, 1994). Wild cards are unexpected surprises that manifest so rapidly that the system is unable to adjust to the shock (Hiltunen, 2006). Black swans and wild cards are increasingly becoming the norm and it is essential for crisis leaders to develop new knowledge to detect and deal with these black swans / wild cards (Lagadec & Topper, 2012).

There are different types of black swan / wild card events. First, there are the "unknown unknowns". This phrase was used by then US Secretary of State for Defense Donald Rumsfeld in 2002 during a Defense Department briefing, in response to a question on whether he had evidence of Iraq supplying terrorists with weapons of mass destruction. Since then, "unknown unknowns" type of black swan / wild card events are used to refer to crises that are completely unknown to the scientific community (Aven, 2015).

And then there are the "unknown knowns" (unknown events to some, known to others). The September 11, 2001 attacks by al-Qaeda is an example. Firstly, it was not the first time that terrorist organisations have utilised commercial jets for suicide attacks. For instance, in 1994, a group of Algerian hijackers seized a Paris-bound Air France flight and plotted to crash it into the Eiffel Tower (Shenon, 2002). It was also reported that two months before the 2001 attack, an FBI agent in Phoenix was alerted that there were several Middle Easterners enrolled in a U.S. aviation school for pilot training (Collins, 2002).

Unlike creeping crises where there are observable gradual changes and sufficient time given to react to the event, black swan / wild card events are abrupt and the time to react to changes before the crisis ruptures is brief (Hiltunen, 2006). Early warning signals of black swan / wild card events may be weak, random and incomprehensible.

Looming Crises

The fourth quadrant involves crises that are considered to be manageable given the wealth of knowledge on the threat and the know-how on responding to such crises. However, these crises have low predictability in terms of spatial and/or temporal context. For example, since the September 11 attacks, we have learned a great deal more about terrorism and the world has called for a "war on terror". Countries have also stepped up their counter-terrorism strategies, such as strengthening border security, improving surveillance in public areas and transport systems, and enhancing intelligence-sharing. Emergency response teams are also trained and equipped with skills relevant to counter-terrorism. While preventive and mitigating measures are now in place, it is difficult to predict where and when a

terrorist attack will happen. We have also observed a shift in the modus operandi of terrorist groups since the September 11 attacks; elaborate acts of terrorism have given way to high-profile, lone-wolf attacks executed by local, self-radicalised individuals (e.g., 2011 Norway attacks, 2016 Orlando nightclub shooting). This poses new challenges for national security.

Another example of looming crises are public health outbreaks or pandemics. While healthcare providers are equipped with the resources to monitor and manage outbreaks, the pattern of entry of the virus to the country is unpredictable. For example, the first case of SARS was reported in Guangdong province in China in November 2002 and within months, it had spread rapidly to 37 other countries such as Singapore, Hong Kong, Taiwan and Canada. Pandemics not only are a major public health concern, but can also cause ripple effects on social and economic functioning.

While knowledge about the threats and know-how of managing these looming crises are useful in crisis preparation, we cannot ignore its unpredictable nature. Looming crises can still come as a surprise and we may be caught off-guard, especially if we are overconfident in our crisis response plans.

Recommendations for Crisis Leaders

While prevention and preparation are effective strategies for crisis management, these strategies are mainly useful for known threats (Comfort et al., 2010). With increased volatility and uncertainty, modern crises pose new challenges for crisis leaders and the circumstances dictate new directions in managing them. Anticipation and resilience are key strategies to manage modern crises – the ability of organisations to plan for shocks and be able to rebound after disruptions (Fink, 1986).

There is an increasing need to develop resilience to cope with the uncertain, unimaginable and unforeseeable threats (Comfort et al., 2010). Stephen Flynn, a leading security expert, advocates building resilience as a strategic response to the "unthinkables" (Flynn, 2007, 2011). Resilience is a form of adaptive capacity (Woods, 2009) and the core of resilience is the capacity to proactively adapt and "bounce back" from disturbances such as sudden shocks (Comfort et al., 2010).

In view of the importance of resilience in a disruptive environment, we make eight recommendations that aim to develop resilience in people and also in systems. These recommendations also espouse the traits of high-reliability organisations (HROs): *preoccupation with failures, reluctance to simplify, sensitivity to operations, commitment to resilience, and deference to expertise.* HROs are organisations that are successful in avoiding accidents despite operating in a high risk and complex environment (Weick & Sutcliffe, 2007). Examples of HROs include air traffic control and aircraft carrier operations, nuclear power plants, firefighting crews and accident investigation teams.

Recommendation 1: Develop Programmes to Assess and Foster Resilience

Resilience is an important adaptive capacity that provides an individual or organisation with a buffer against the negative impact of stressful or traumatic events. It also enhances post-trauma growth (Chen, 2014). Existing training programmes usually focus on strategic, tactical and leadership skills. Have we considered understanding the psychological fitness of our officers and training them to be resilient? Resilience programmes can be developed to foster long-term resilience by enhancing resilience competencies such as self-awareness, self-regulation, mental agility, character strengths, connections and optimism (Griffith & West, 2013). Fostering resilience is exceptionally important given that it not only affects employee performance but also overall operational readiness over time (Institute of Medicine, 2013).

Recommendation 2: Be Mindful of Cognitive Traps

Cognitive biases can affect rational thinking and good judgment. Crisis leaders not only need to understand these cognitive biases but also be mindful of and learn to minimise these biases during crisis planning and management (Gowing & Langdon, 2015). While cognitive biases are innate and natural, crisis leaders should identify and challenge the assumptions underpinning their analyses and decisions (Leigh, 2015). Table 2 summarises the different types of cognitive biases and their implications for crisis management.

Table 2. Summary of Cognitive Biases in Crisis Management

Cognitive Biases	Definitions and implications
Black Elephant	**Definition:** The tendency to ignore, discount or bypass a visible problem (elephant in the room), yet react in surprise as though it is a Black Swan event when it occurs (Ho, 2017). **Implication for crisis management:** Failure to recognise the threat and mobilise resources to mitigate the crisis (Ho, 2017).
False Sense of Inevitability	**Definition:** The assumption that the organisation will be able to safeguard against all forms of crises (Boin, 2008). **Implication for crisis management:** Undermines effective crisis response as it increases vulnerability to surprises (Boin, 2008).
Positive Illusion	**Definition:** Unrealistic optimism that leads individuals to perceive the world and future to be more positive than the facts show them to be (Catino, 2013). **Implication for crisis management:** Diminishes the ability to identify or even to deny unfavourable signs such as early warning signals and affects evaluation and judgment to mobilise resources to address the issue (Catino, 2013).
Confirmation Bias	**Definition:** Tendency to prioritise information that confirms existing beliefs and to ignore or underestimate those that contradict (Catino, 2013). **Implication for crisis management:** Possibility of gathering selective information that may not provide the big picture (Catino, 2013).
Self-Serving Bias	**Definition:** Tendency to attribute success to internal factors while attributing failures to external factors (Catino, 2013). **Implication for crisis management:** Impedes effective learning from past crises or near-misses (Catino, 2013).
Discounting the Future	**Definition:** Tendency to prefer short-term options to medium-to-long-term options (Catino, 2013). **Implication for crisis management:** Signals from creeping crisis may be ignored or discounted and the crisis may snowball (Catino, 2013).

Recommendation 3: Develop a Crisis-Ready Mindset

A crisis-ready mindset refers to "psychological preparedness regarding how to process and react to a crisis" (Wang et al., 2015, p. 6). Ang, Chua, & Khader (2017) have proposed six dimensions that make up the crisis-ready mindset: (i) recognition of potential crises, (ii) adequate crisis preparation, (iii) capacity to act swiftly, (iv) adaptive emotional reactions, (v) systematic thought processes, and (vi) effective coping resources.

There are several ways to develop a crisis-ready mindset. For instance, developing foresight capacities has become increasingly crucial for dealing with novel crises (OECD, 2015). This means organisations need to proactively identify threats that are beginning to emerge and act before the crisis escalates. Leaders have to "think of the unthinkable" instead of shoving the issue under the rug (Gowing & Langdon, 2015).

Scenario planning, a technique to envision future events (Petty, 2011), can be an enabler for growing foresight capacities (Masys, 2012). Through scenario planning, leaders can generate all possible risk scenarios, identify the threats, assess the probability of occurrence, and analyse the vulnerabilities in existing crisis management strategies (Petty, 2011). Worst-case scenarios may also be considered to ensure preparedness during pre-crisis and to develop resilience (Lagadec, 1993). The goal of scenario planning is to strengthen the organisation's ability to identify potential Black Swan events and to minimise the uncertainty and surprises. Back casting is another method used in scenario planning where participants start with a future imagined event (e.g., a cyber-attack on our telecommunication networks after a terrorist attack), and stakeholders then work together to examine whether existing policies, contingency plans and systems are robust enough to manage the crisis. Anticipatory backwards scenarios can help to identify the precursors that may cause a future crisis or allow a failed system to unravel (Aven, 2015). The information gathered in such exercises can help to identify weaknesses where failures may follow.

Recommendation 4: Avoid a Silo Mentality

Having a silo mentality can make it harder to see system-wide failures and is a barrier to effective crisis management (Weick & Sutcliffe, 2007). A silo mentality not only disperses information but also undermines an organisation's resilience (Fenwick,

Seville & Brunsdon, 2009). For instance, in the aftermath of the September 11 terrorist attacks, the Central Intelligence Agency and other US intelligence bodies were criticised for not sharing information among themselves, resulting in the failure to prevent the attacks (Kean & Lee, 2004).

One of the ways to prepare for novel and complex crises is to engage with multi-disciplinary stakeholders to ensure accessibility of information (OECD, 2015) and to also ensure seamless coordination and cooperation during a crisis (Fenwick et al., 2009). This is consistent with David Snowden's recommendation to deal with complicated contexts in the Cynefin framework (see Snowden & Boone, 2007). Snowden's conceptual tool to help leaders understand that every situation is different and requires a unique approach to decision making suggests that leaders avoid relying too heavily on experts in complicated situations by assembling a team of people from a wide variety of backgrounds. Similarly, crisis leaders should consider engaging international agencies, academics, public-private partnerships, NGOs, religious leaders, and even the whole community during the pre-crisis stage and to mobilise these stakeholders during crisis response and recovery. During the pre-crisis stage, these stakeholders must be trained regularly to work together to resolve various simulated crises. Additionally, an actor map, indicating the inter-relations between the stakeholders (e.g., Ministries, public, NGOs, communities), can be utilised to create an awareness of who should be involved in and consulted on handling a crisis (Tveiten, Albrechtsen, Wærø & Wahl, 2012).

Engaging with multi-disciplinary stakeholders during the pre-crisis stage helps to build trust and rapport, ensure common understanding of the technical or scientific languages, train experts to simplify professional jargon and technical data that can be easily understood by laymen, develop a shared mental model, identify integrated, specialised solutions, and strengthen crisis responses through sharing of good practices across agencies (OECD, 2015). Additionally, rapid pooling of ad hoc networks should be swift to provide knowledge and expertise during unforeseen crises (Weick & Sutcliffe, 2007).

Recommendation 5: Adopt the Resilience-by-Design Approach

Instead of reviewing why the existing structures and crisis response plans are unable to withstand major disruptions in times of crises, crisis leaders should adopt the resilience-by-design approach that proactively builds and engineers resilience directly in infrastructures, critical systems, crisis response plans, and even in the organisational culture.

We propose that leaders work closely with experts and system designers to improve and expand crisis management systems. Some characteristics of resilient systems include redundancy and loose coupling. Redundancy, or buffering, is a state where reserves and alternative options are available when an individual unit fails (Fink, 1986; Longstaff, Armstrong, Perrin, Parker & Hidek, 2010). Systems with no redundancy are vulnerable to system failures, which can impede crisis response (Streeter, 1992). The most cost-effective form of redundancy is reserve backup. Reserve backup redundancies are designed such that if a core system fails, a replacement is called into action as a substitute (Streeter, 1992). Redundant channels of communication systems can also ensure that communication is not blocked or overloaded in times of crisis (Streeter, 1992). Redundancies may also be designed in jobs and functions; employees can be trained in more than one job and to develop multiple skills so that in the event of a crisis where a member is unable to perform his/her job, these functional redundancies ensure effective crisis response.

Next, loosely coupled systems are more resilient than tightly coupled systems (Longstaff et al., 2010). In tightly coupled systems, a single failure can result in large-scale catastrophic consequences (Hovden, Albrechtsen & Herrera, 2010). Modular designs can be adopted in systems such that the individual components are less connected and more independent; the loose coupling between the components reduces the risk that if an individual component fails, the effect ripples through the whole system. Modularity also increases the flexibility of adding new components or replacing individual components of a system.

Recommendation 6: Appoint a Near-Miss Supervisor and Set Up a Review Team

Effective management of near-misses can improve an organisation's crisis prevention capability (Gnoni, Andriulo, Maggio & Nardone, 2013). Our expectations and cognitive biases can produce blind spots and conceal small errors that can escalate into a disabling crisis (Weick & Sutcliffe, 2007). Crisis leaders should be aware of near-misses as they also reflect the health

of the system; near-misses should be treated as failures rather than successes (Weick & Sutcliffe, 2007). Near-misses need to be anticipated, perceived and resolved. Assigning a near-miss supervisor and review team ensures a central point for collecting information and compilation of statistics related to near-misses for decision-making (Cambraia, Saurin & Formoso, 2010; Mitroff & Pearson, 1993).

By adopting the approach used by HROs to deal with near-misses, organisations can encourage and empower their employees to report errors and near-misses (Weick & Sutcliffe, 2007). Employees need to feel safe to carry out candid reporting of errors. Four components are required to create a climate for safe reporting of errors and near-misses: a reporting culture, a just culture, a flexible culture, and a learning culture (Costella, Saurin & de Macedo Guimarães, 2009; Weick & Sutcliffe, 2007). A culture of blame discourages people from reporting errors and near-misses (Grabowski, Ayyalasomayajula, Merrick, Herrald & Roberts, 2007; Weick & Sutcliffe, 2007). Additionally, there is a need to transform our rewards system; we tend to reward and applaud those who are able to manage a crisis successfully. Organisations should also recognise and reward employees who report errors and near-misses even if there are no solutions. Besides having an open reporting system, a confidential reporting system could also be set up for employees who prefer to remain anonymous.

Recommendation 7: Set Up Mobile Information Gathering Units

Crisis leaders not only need to consider the immediate operational responses but also broader strategic plans to analyse the crisis, such as framing of the crisis, post-crisis dynamics and accountability (Lagadec, 2009). However, time pressure often forces crisis leaders to respond in purely technical ways. When faced with the unknowns, systematic information gathering is crucial (Lagadec, 1993). To avoid the "bunker mentality", mobile information-gathering units trained in gathering information, producing situation reports and communicating the information should be set up (Comfort et al., 2010). The ideal composition of the mobile information-gathering unit are people of diverse backgrounds, skills, experiences and cultures. It should not only provide the tactical response team with more accurate information but also needs to adopt a creative approach to the crisis. Additional information that should be gathered about the crisis

includes: the presence of other hazards arising from the crisis, the trajectory of the crisis, reactions of the public, rumours circulated, vital pieces of information for decision-making, and answers to queries from the media (Lagadec, 1993).

Recommendation 8: Use of Data Analytics for Sense-Making

Taleb (2007) argues that not all extreme events are black swans. There are also rare events that are somewhat predictable. Detecting and analysing early warning signals is the key to anticipating changes and avoiding surprises (Hiltunen, 2006). Predictable surprises are known threats where prior information or early warning signals are ignored, discounted or bypassed (Gowing & Langdon, 2015), and leaders fail to respond with necessary preventive actions (Watkins & Bazerman, 2003).

While new technologies may challenge current practices, it also creates new opportunities. For instance, information and communication technology (ICT) such as crowdsourcing and Big Data analytics can be used as early warning systems. Crowdsourcing utilises the general public as eyes and ears on the ground to identify and monitor potential risks (OECD, 2015) while Big Data analytics is the gathering of large-scale data from social media, sensors, geo-tagging and other databases. Sensors are used to detect physical quantities such as sounds, chemicals and vibrations; these data are then converted to digital signals. Web crawlers are common tools used to gather data from web search engines and web caches (Emmanouil & Nikolaos, 2015). LITMUS is a landslide detection system developed by a group of researchers that integrates data from various social media platforms (e.g., Twitter, Instagram, YouTube) with physical sensors that detect rainfall and seismic activity (Musaev, Wang & Pu, 2015).

Although crowdsourcing and Big Data analytics are valuable for crisis management, crisis leaders need to be aware that they are dealing with large amounts of data from multiple sources and some of these data may be irrelevant, inaccurate or lack credibility. For instance, Google Flu Tracker failed to identify the first wave of 2009 H1N1 pandemic and miscalculated the severity of the 2013 flu epidemic (Olson, Konty, Paladini, Viboud & Simonsen, 2013). The rapid flow of unstructured data in Big Data analytics can also derail effective crisis management, especially if there is no robust ICT infrastructure to organise and make sense of the data.

One possible solution is to have a central information hub to consolidate, verify and disseminate all information on an emerging threat or near-crisis from different agencies and sources (Mitroff & Pearson, 1993).

Conclusion

Public service leaders are accountable for the actions taken prior to and following a crisis (Boin et al., 2008). Whether a crisis is managed successfully depends on the decisions made by the leaders. The unprecedented and transboundary nature of modern crises brings new challenges. Crisis leaders not only need to be prepared for conventional crises, but they also need to acquire new skills and the capacity to improve crisis sense-making and to anticipate novel crises. With increasing complexity in modern crises, systems need to be resilient against disruptions and new systems need to be mobilised to detect weak signals as well as to identify and assess emerging issues ahead of time. These systems can be utilised to complement prevailing systems and build on existing capacities (OECD, 2015). Although it is not possible to prepare for all surprises, crisis leaders should engage in futures thinking and develop contingency plans for different possible futures to mitigate and minimise damages.

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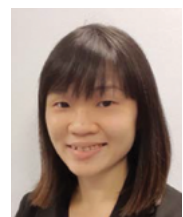
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Defining the Leader in Border Security: A Leadership Competency Framework

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Abstract. Leadership is key in any modern organisation, and especially for one that has to keep Singapore safe at all times. Being a country's first line of defence, the Singapore Immigration & Checkpoints Authority (ICA) is responsible for maintaining Singapore's border security. With the ever-changing security climate, it is crucial for border security officers to be rigorously selected, assessed, trained and developed into effective border security leaders, based on a common definition. This requires a clear ICA Leadership Competency Framework (ILCF) to define the competencies for effective border security leadership. This article describes how the leadership competencies in the context of Singapore's border security were identifed. The development process used a multi-step approach to integrate the information objectively, generating the inaugural ILCF with five core competency domains. Application of the results and future directions are also discussed.

Introduction

Singapore's Border Security Landscape

Every day, thousands of people and goods pass through the borders that demarcate the 721.5 square kilometre area of the city-state of Singapore. With a net conveyance of 212.9 million travellers and goods recorded in 2017, Singapore has one of the most bustling borders in the world (ICA Annual, 2017). Host to many large scale sports, cultural and economic meetings as well as significant political meetings like the 2015 Ma-Xi summit between China and Taiwan, and the historic 2018 Trump-Kim summit between the United States and North Korea, she makes an appealing target for a variety of security threats. Singapore's strategic location in Southeast Asia also places her in a delicate position of having to grapple with evolving terrorist threats in the region. Border security in Singapore is thus a continuous effort to enhance security measures in an evolving climate.

Understanding Border Security Work Roles and Challenges

Established in 2003 with the merger of the Singapore Immigration & Registration, and the Customs and Excise departments, the Singapore Immigration & Checkpoints Authority (ICA) is the leading security agency responsible for securing the borders of Singapore. In the last decade, rapidly evolving economic, social and political landscapes have created unprecedented challenges for border security management, resulting in border security officers having to take on more robust roles extending beyond people clearance, to ensuring the safety and security of Singapore borders.

Multi-varied operation approach. The primary function of border security work in Singapore is securing against the entry of undesirable people and cargo through the land, air and sea checkpoints. In 2017, ICA detected 90,327 cases of contraband smuggling alone (ICA Annual, 2017). This indicates that stringent checks and allocation of resources remain paramount to prevent attempts to smuggle undesirable drugs, weapons, explosives, persons, or other contraband items through the borders. Beyond that, border security work encompasses a vast range of immigration and registration services. This includes issuing passports and National Registration Identity Cards to citizens, and immigration passes and permits to foreigners.

Collaboration with multi-agencies. To obtain a balanced approach to safeguarding national security interests, border security officers often collaborate with other enforcement agencies on several fronts. For instance, in the areas of investigation and administration of immigration-related offences, ICA officers work closely with other governmental bodies to crack down on violations. They conduct joint operations with, among others, the Singapore Police Force (SPF) and Ministry of Manpower (MOM) and exchange information relevant to countering domestic and international security threats.

Counter-terrorism and non-traditional security challenges. Exacerbated by the forces of globalization, traffic and traveller volumes have surged while the varieties of transnational threats have increased. Apart from traditional border policing, ICA officers now face non-traditional security challenges such as transnational haze and cyber security threats. With enhanced policing powers granted in 2018, ICA officers are required to respond swiftly to mitigate security incidents at the checkpoints.

With these diverse roles in mind, ICA officers are expected to remain vigilant in peacetime, and ready to respond during times of crisis. The general tenor of border security work is that it no longer adheres to traditional passive roles, but has since transformed to adopting a more proactive attitude. Strengthening the leadership capabilities of border security officers is thus crucial.

Leadership Within Organisations

Leadership can be defined as the ability of an individual to influence, motivate and enable others to contribute towards the effectiveness and success of the organisation (House et. al., 2004; Andreescu & Vito, 2010; Sims, Faraj & Yun, 2009). As Vaculik and colleagues (2014) aptly put it, a leader's knowledge and capabilities will influence the effectiveness of the entire team. It is thus commonly recognized that effective leadership is vital to a successful organisation.

Importance of Border Security Leaders and How to Develop Them

To address the growing demands for effective border security leadership, it is imperative to put in place a structure to better assess, select, train and develop leadership practices. The most common method is to have a Leadership Competency Framework (LCF) that synchronizes with the organisation. A LCF comprises leadership competencies that denote the skills, abilities and behaviours that are necessary for leaders to lead a team effectively (Hogan & Kaiser, 2005).

In a recent review of studies on LCFs, Banu & Leong (2017) found that LCFs have largely similar leadership themes. For example, Vaculik et al. (2014) proposes three main categories of leadership competencies based on Analoui's (1993) Integrated Model of Managerial Skills, which resonate with findings from other studies (Analoui, 2000; Andreescu & Vito, 2010; Baker, 2011; Bolden & Gosling, 2006; Dobby, 2004; Kirkpatrick & Locke, 1991; Mumford et al., 2007; Storey, 2004; Sorrentino & Field, 1986; Vaculik et al., 2014). The categories are 1) "task-related", 2) "person-related", and 3) "self-related" leadership competencies. Additionally, LCFs of enforcement agencies like the United States Army and the Singapore Police Force have identified five common leadership themes: 1) "personal mastery", 2) "having compelling vision", 3) "operational knowledge", 4) "cognitive abilities", and 5) "relationship building" (Banu & Leong, 2017).

The Need to Develop an In-House Leadership Competency Framework

Although thematically, leadership competencies may be largely similar, the types of specific competencies vary for different leadership appointments, depending on their context and job scope. Specifically, border security work at checkpoint and service counters are mostly independent, sedentary and routine, whilst the police and military take on more dynamic dyadic- or team-based operational approach. Border security officers are tasked daily to screen through large amounts of information which require them to make a sound judgement call for clearance, all within a short stipulated span of time. This results in officers having to perform long periods of sedentary duties while having to maintain the alertness to respond quickly to contingencies (Chia et al., 2017).

Entrusted with the safekeeping of the nation's borders, officers are also more vulnerable to incidents that are distinctive to border security work, from facing vehicular dash-throughs and knock-downs at passport clearance counters, to dealing with technical and systems faults arising from automation. These are

pertinent elements that make border security work unique from other policing work.

Border security officers also pride themselves on service excellence. They influence the first impression a traveller has of the country as they are among the first authority figures visitors interact with. This leads to a new set of challenges for border security work. Faced with an assortment of demands from members of the public, officers have to deliver in a tactical manner that embodies the nation's image without compromising national security. Yet, as Singapore's first line of defence against external threats, any lapses could have detrimental repercussions.

There is thus a need to identify leadership competencies critical for border security work. Only by possessing leadership competencies that are essential to their job can leaders lead their teams effectively to achieve organisational goals (Özçelik & Ferman, 2006).

While there is extensive research on leadership competencies required for law enforcement and corporate agencies, little has been published on the leadership needs of border security organisations. This article explains how ICA identified the leadership competencies it wants to inculcate in its officers to carry out the job of securing the nation's borders more effectively.

Methodology

To develop a robust LCF for ICA, several different methods were employed to draw out the knowledge, skills, abilities and behaviours deemed necessary for effective border security leaders. Taking reference from local law enforcement agencies who developed their own contextualised LCFs distinctive to the nature of their jobs (Khader et al., 2013; Chan, 2006), the current study employed similar methods: interviews, Focus Group Discussions, and a Leadership Opinion Survey.

In this exploratory study, data collection was conducted through two phases. Phase One used qualitative methods such as Key Stakeholder Interviews and Critical Incident interviews. These interviews were used to obtain comprehensive information on leadership competencies required for border security leaders of today and tomorrow, and how these competencies are operationalised in the border security context. The information collected in Phase One was subsequently consolidated and crafted

into a beta ICA Leadership Competency Framework (ILCF). In Phase Two, quantitative data was collected through the Leadership Opinion Survey, where participants rated the beta ILCF (derived from Phase One) in terms of their importance and frequency of use in border security work.

Phase One of Data Collection: Qualitative Methods

Key Stakeholder Interviews (KSIs). These interviews provided data from key stakeholders in border security, i.e., ICA's senior management, on the leadership competencies required. The aim of the KSIs was to develop an in-depth understanding of ICA's mission, strategy in leadership development, and the current and expected leadership competencies for border security officers.

Participants. Thirteen ICA senior management leaders were invited to participate, including the Commissioner and his deputies.

Materials. To ensure standardisation in the KSIs, a KSI protocol guide was developed and utilised. All interviewers were trained on the KSI protocol guide to ensure uniformity in the data collected. The participants were interviewed on three main foci of interest: 1) their expectations for the ILCF, 2) present and future leadership challenges that border security officers are/will be facing, and 3) leadership competencies necessary for effective border security leaders now and in the future. The interviews were audio recorded to ensure that information was accurately captured and transcribed.

Procedure. All participants were interviewed using the same format and questions that were listed in the KSI protocol guide. To facilitate data collection, one interviewer and one scribe were present in each session. The participants were briefed on the purpose of the interview, and informed consent was obtained on the use of the audio recorder before each interview session commenced. In the event that participants refused to be audio recorded, the interview proceeded according to the KSI protocol guide with the exception of the use of the audio recorder. Each session took approximately one and a half hours. The audio recordings were deleted after the completion of the study. A total of 13 KSIs were conducted.

Critical Incident (CI) interviews. The CI interviews were conducted with the aim of exploring the crucial leadership competencies necessary to manage and

Table 1. Descriptions of the Six Border Security-Related Critical Incidents Discussed During the CI Interviews

Critical Incidents	Year of Incident	Brief Description
Dash-Through	2014	Vehicular dash-through at Woodlands Checkpoint
Border Security Officers' Safety Endangered	2017	An auxiliary border security officer was knocked down by a vehicle at Tuas checkpoint, and subsequently died
Mission Critical System Failure	2016	Mission Critical Systems had a technical fault and clearance work was temporarily halted at Coastal Command
Fire Incident	2017	A small fire at Changi Airport resulted in the evacuation of Terminal 2
Document Misalignment	2011	Printing alignment problems in issued documents resulted in a recall of 1280 documents
Escape from Custody	2015	Suspect attempted escape during vehicular checks

de-escalate border security-related incidents. In this study, CIs were defined as situations that are time-critical, where decisions have to be made quickly to prevent further adverse effects. Some examples of CIs in border security include dash-through (intentionally or unintentionally going past the passport clearance counters without providing passports for proper clearance), document misalignment, and escape from custody. In the CI interviews, the critical incident technique was used (see Flanagan, 1954; Butterfield, Borgen, Amundson & Maglio, 2005).

Participants. Six ICA border security officers with experience in managing border security-related CIs were interviewed on their experiences and the leadership competencies required. The six CIs are listed in Table 1. The participants were selected as they were in a leadership role during the incidents, and were deemed to have the most information regarding the facts of the case. The participants consisted of Senior Management ($n = 3$), Middle Management ($n = 2$) and Supervisory Officers ($n = 1$).

Materials. Similar to the KSIs, a CI interview protocol guide was developed and interviewers were trained on the protocol to ensure standardisation in the CI interviews. The participants were interviewed on 1) details regarding the CI, 2) crucial leadership competencies required to manage similar incidents, and 3) leadership lessons gleaned from the CI experience. The CI interviews were also audio recorded.

Procedure. All participants were interviewed using the same format and questions that were listed in the CI protocol guide. Again, an interviewer and a scribe were present in each session. Prior to the start of the CI interview, participants were briefed on the purpose of the interview, and were asked for their informed consent on the use of the audio recorder. Similar to the KSI procedure, when participants refused to be audio recorded, the interview proceeded according to the CI protocol guide with the exception of the use of the audio recorder. Each session took approximately one hour. The audio recordings were deleted after the completion of the study. A total of six CI interviews were conducted.

Focus Group Discussions (FGDs). From the KSIs and CI interviews, a list of detailed competencies was compiled. As FGD is a technique for qualitative data collection and helps to bridge scientific research and local knowledge (Cornwall & Jewkes, 1995), it was used in our study to gather contextualised examples for the list of leadership competencies, particularly on how border security officers across the different leadership levels displayed the competencies in their leadership roles.

Participants. Eighty-seven ICA border security officers were nominated by their supervisors to participate in the FGD through stratified convenience sampling. The officers were nominated to take part in the discussions based on the following criteria: for officers below the rank of Inspector (INSP), they were required to have at least five years of service within the organisation; for officers above the rank of INSP, they were required to have at least 6 months of experience in their current position. This criteria ensured officers

involved in the FGDs were familiar with the day-to-day border security operations, the complex border security crises, and the leadership competencies required to perform their duties well.

Officers from four different leadership levels were involved in these sessions: Support Officers (n = 28), Supervisory Officers (n = 23), Middle Management (n = 23) and Senior Management (n = 13). To ensure that each unit was represented, officers were deliberately recruited from all the border security checkpoints and staff divisions.

Materials. A FGD interview protocol guide was developed, and facilitators were trained on the use of the guide to ensure standardisation of the process during the FGD sessions. Participants were also provided with a set of handouts, which comprised a competency manual containing the list of leadership competencies and their definitions, blank paper to structure their thoughts during the discussions, and a feedback form.

Procedure. The FGDs were conducted according to the format listed in the FGD protocol guide. Prior to the start of each FGD, participants were briefed on the purpose of the FGD. There were two facilitators, a time-keeper, and 6 to 12 participants in each session. For sessions with eight or more participants, the FGD was split into two smaller groups with one facilitator assigned to each group. This was to allow sufficient air-time for all participants to contribute. Additionally, the FGDs were conducted separately for each leadership level to prevent hierarchical pressures from influencing officers' ease of sharing during the sessions. During the FGDs, participants were introduced to the list of competencies and were asked to discuss and elaborate on the applicability of the competencies to their current leadership level and posting locations. Each FGD took approximately three hours. A total of 15 FGDs were conducted.

Phase Two of Data Collection: Quantitative Method

Leadership Opinion Survey (LOS). From the KSIs, CI interviews and FGDs, leadership competencies required for effective border security leadership and their behavioural indicators were obtained. The information was subsequently consolidated and compiled into a list of 11 competencies, which was referenced during the LOS. The aim of the LOS was to validate the list of competencies by gathering a representative view of their relevance to border security officers during peacetime and crisis, across all leadership levels. The LOS was disseminated to border security officers across various units and across the leadership levels.

Materials. There were two main sections in the LOS. In the first section, participants ranked the 11 competencies on their level of importance to the specified leadership level, during peacetime and in crisis, with peacetime defined as "day-to-day border security operations", and crisis as "situations that are time-critical and do not occur often during day-to-day operations". Each participant was tasked to rank the perceived importance of the 11 competencies for 1) themselves (as incumbents), 2) their supervisors (if relevant), and 3) their subordinates (if relevant). This structure was to elicit officers' responses based on the belief that they would be more familiar with leadership competencies required and expected of their superiors and subordinates, due to their greater proximity with officers one leadership level above (superiors) and below them (subordinates).

In the second section, participants rated the competencies based on the frequency of use in peacetime and in crisis for their own leadership level (as incumbents) across a five-point Likert scale (from 1 = "Never/Not Applicable" to 5 = "Always"). Participants were also provided with an "Unsure" option in the event that they were unfamiliar with the use of the competency during peacetime or crisis.

Table 2. Break Down of the Sample Size Across the Four ICA Leadership Levels

Leadership Level	Group	Total
1	Support Officers	501
2	Supervisory Officers	297
3	Middle Management	111
4	Senior Management	35

Participants. In total, 944 border security officers were recruited for the LOS. Based on a 95% confidence interval, a representative sample size from the four border security leadership levels were recruited through stratified random sampling (see Table 2).

Procedure. Hard copies of the LOS were distributed to officers across the units. Taking into account the difficulties involved in dissemination and collection of the LOS to Support Officers, 4 group survey sessions were conducted for 501 Support Officers. During the group survey sessions, researchers provided a verbal explanation of the survey instructions and the leadership competencies to ensure that respondents had a clear understanding of the survey purpose. Officers were also assured of the confidentiality of their individual responses. For border security officers at more senior leadership levels, they were provided with a hard copy version of the LOS to complete at their own time. In the instructions and information sheet, these officers were informed of the LOS' purpose and assured of the confidentiality of their responses. The importance rankings and frequency ratings were collated and analysed using Microsoft Excel 2016.

Results

Phase One

A thematic analysis was conducted of the findings from Phase One. Five competency domains (personal mastery, mission-related, intellect-related, community-related and team-related) and 11 competencies were evident from the data. The findings from the analysis also revealed that five attributes were viewed as essential core competencies for border security leaders. Subsequently, these five core competencies were deemed to adequately represent the 11 competencies semantically categorised into five domains: Resilient (representing personal mastery), Adaptable (representing mission-related competencies), Thinking (representing intellect-related competencies), Collaborative (representing partnership-related competencies), and Inspiring (representing team-related competencies). These five core competencies were also identified as core competency domains; see Table 3 for detailed definitions.

Table 3. Definitions of the ILCF Core Competencies and Individual Competencies

Core Competency Domains	Definition	Individual Competencies
Resilient	An effective leader is adept in personal mastery, and resilient. In the face of obstacles, the leader has the inner strength to take them in his/her stride, and internalises the learning lessons from the experience, so as to enable self-growth. The ICA leader is also capable of bouncing back from setbacks, and has the drive to re-visit problems without giving up. In the process, the ICA leader presents himself/herself as a role model through leading by example.	Building Inner Strength
		Growing
		Leading by Example
Adaptable	An effective ICA leader is adept in adapting to changes and uncertainties when performing his/her border security and immigration duties. While having technical competence and a clear understanding of existing Standard Operating Procedures (SOPs) and Working Instructions, ICA leaders are also able to spot and adapt to emerging trends and challenges, construct feasible plans, and put the plans into action effectively to achieve mission success. When faced with a novel situation, the adaptable ICA leader taps upon past experiences or learns new techniques to master the issue, and to generate a feasible solution for effective problem solving.	Preparing
		Executing
Thinking	A thinking leader takes on a "helicopter view" and pieces together different information sources to make sense of a situation, to anticipate potential changes, and to evolve accordingly. As an inquisitive ICA leader, he/she puts thought into the actions and decisions of all players, and seeks clarification when unclear. Whenever possible, the leader also provides constructive feedback with the aim of developing ICA to greater heights.	Anticipating
		Evolving
Collaborative	An ICA leader understands the importance of effective collaboration with stakeholders and partners. The effective ICA leader values the collaborative spirit and forges bonds and goodwill with ICA's counterparts, stakeholders and partners for effective teamwork and to achieve the same objectives.	Communicating
		Partnering
Inspiring	An ICA leader inspires and ignites the passion within his/her team while instilling a sense of purpose in the officers' work. The leader inspires a culture of care by showing genuine supervisory care. The leader also grows trust within the team by using open communication and explaining the rationale for decisions. An effective ICA leader also focuses on developing team members in their own unique capabilities, to empower them to take charge of their own development and to grow as ICA officers. In doing so, the effective ICA leader gels the team together as one collective unit to achieve mission success (e.g., task, mandate, incidents).	Caring for Team
		Developing Team

Based on the findings from the thematic analysis, the completed ILCF (see Figure 1) comprises the following:

1.   five core competency domains

2.   11 competencies

3.   basic constructs of each competency, and

4.   behavioural indicators for each of the four levels of leadership for each competency (Support Officers, Supervisory Officers, Middle Management and Senior Management).

Figure 1. The ICA Leadership Competency Framework
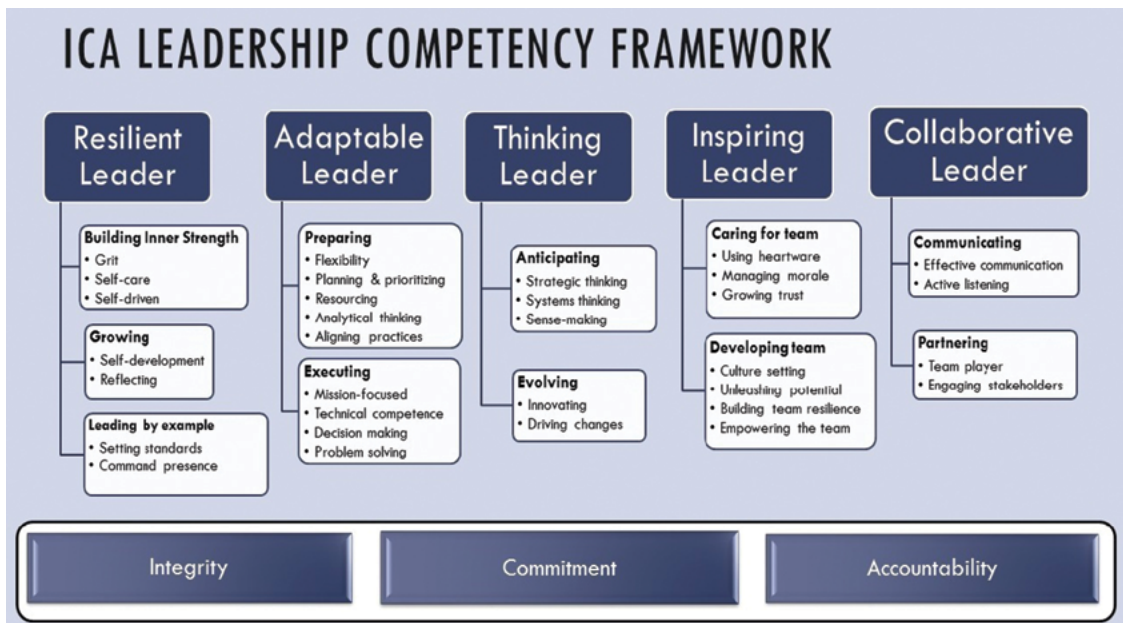
Phase Two

The LOS was disseminated to border security officers with the purpose of validating Phase One's findings of leadership competencies for border security officers, and to determine the perceived importance and frequency of use of the 11 competencies, during peacetime and crisis. The analysis was conducted on Microsoft Excel Professional Plus 2016.

Composite importance scores. The composite importance scores were calculated by taking the combined rankings from the perspectives of incumbents, superiors (if relevant) and subordinates (if relevant; refer to Table 4).

Table 4. The Various Perspectives (i.e., Incumbents, Subordinates, Supervisors) that were Taken to Compute Composite Scores for the Composite Importance Score

Leadership Level	Composite importance scores derived from
1	Incumbents, superiors
2	Subordinates, incumbents, superiors
3	Subordinates, incumbents, superiors
4	Incumbents, subordinates

The importance ranking provided by the participants for each competency were weighted, and averaged across the three types of respondents to attain a composite score using the following formula:

$$\text{Weighted importance ranking scores}$$

$$= \left[\frac{\Sigma(Incumbents'response\ rank\ x\ weighted\ ranks)}{Incumbents\ total\ responses} \right.$$

$$+ \frac{\Sigma(Subordinates'response\ rank\ x\ weighted\ ranks)}{Subordinates\ total\ responses}$$

$$+ \left. \frac{\Sigma(Superiors'response\ rank\ x\ weighted\ ranks)}{Superiors'total\ responses} \right] \div 3$$

The composite scores for importance ranking are displayed in Table 5. Based on the composite importance scores, the top three most important competencies during peacetime and crisis, according to leadership level are depicted in Table 6.

Frequency of use scores. The frequency of use ratings were obtained from the incumbents. The mean frequency of use ratings is depicted in Table 5.

Table 5. The Importance Ranking and Frequency Ratings for the 11 Competencies Across the Four Leadership Levels

Competency/ Leadership Levels	Peacetime								Crisis							
	Mean Composite Importance Scores				Mean Frequency of Use (Incumbents' Perspective)				Mean Composite Importance Scores				Mean Frequency of Use (Incumbents' Perspective)			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Building Inner Strength	4.61	5.57	6.43	7.17	3.87	3.87	4.02	4.12	6.12	6.66	7.34	7.64	3.87	3.87	3.72	3.64
Growing	5.31	6.27	6.91	7.80	3.88	3.88	4.16	4.00	7.81	8.37	8.99	9.30	3.62	3.62	3.04	2.75
Leading by Example	5.85	4.21	4.18	4.03	4.08	4.08	4.60	4.49	5.28	4.08	3.58	3.03	4.28	4.28	4.63	4.67
Preparing	5.72	5.87	5.76	5.68	4.02	4.02	4.27	4.24	5.04	5.01	5.25	5.33	4.14	4.14	4.03	3.70
Executing	6.72	6.94	6.91	7.32	3.88	3.88	4.26	4.09	4.06	4.00	3.35	3.45	4.27	4.27	4.66	4.70
Anticipating	7.47	7.39	6.20	4.71	3.64	3.64	4.01	4.11	6.56	6.35	5.91	5.93	3.91	3.91	3.89	3.35
Evolving	7.39	7.95	7.61	7.58	3.75	3.75	3.74	3.88	7.30	7.74	7.65	7.98	3.90	3.90	3.43	3.33
Communicating	4.34	4.68	4.84	4.87	4.31	4.31	4.57	4.60	3.71	3.94	3.73	3.49	4.45	4.45	4.66	4.74
Partnering	6.33	7.09	7.46	6.81	4.01	4.01	4.25	4.20	5.65	5.74	5.69	5.60	4.23	4.23	4.37	4.33
Caring for Team	5.66	4.79	5.18	5.36	4.22	4.22	4.48	4.51	6.53	6.29	6.19	5.67	4.20	4.20	4.30	4.41
Developing Team	6.50	5.24	4.48	4.72	4.03	4.03	4.41	4.46	7.93	7.91	8.39	8.73	3.93	3.93	3.36	3.09

Note: The lower importance value, the higher the importance of the competency. The higher the frequency of use scores, the more frequently the competencies are used.

Table 6. Leadership Opinion Survey Findings Revealing the Top Three Individual Competencies for Each Leadership Level

Situations/ Leadership levels	Level 1	Level 2	Level 3	Level 4
Peacetime	Communicating	Leading by Example	Leading by Example	Leading by Example
	Building Inner Strength	Communicating	Developing Team	Anticipating
	Growing	Caring for Team	Communicating	Developing Team
Crisis	Communicating	Communicating	Executing	Leading by Example
	Executing	Executing	Leading by Example	Executing
	Preparing	Leading by Example	Communicating	Communicating

Discussion

Being the country's first line of defence, border security officers deal with a multitude of relentless threats such as transnational terrorism and illegal smuggling, while maintaining service excellence to expedite travels. With leaders being key in maximising efficiency and achieving organisational goals, border security leaders are tasked with developing plans to enhance border security while leading effectively amidst a volatile, complex and dynamic operating environment.

Yet there is scant literature on leadership in border security; this paper fills a lacuna. One of the key findings from our study is how the leadership competencies may function along three main foci of "leading self", "leading task" and "leading people". Particularly central to leadership is "leading self", encompassing the competency of "Resilient Leader". For "leading task", the ILCF found that a border security officer should be an "Adaptable leader" and a "Thinking leader". For "leading people", the ILCF found that leaders should be a "Collaborative leader" and an "Inspiring leader" (see Figure 2).

Figure 2. The Five Leadership Competencies of ILCF Depicted by the Three Foci of "Leading Self", "Leading People" and "Leading Task".
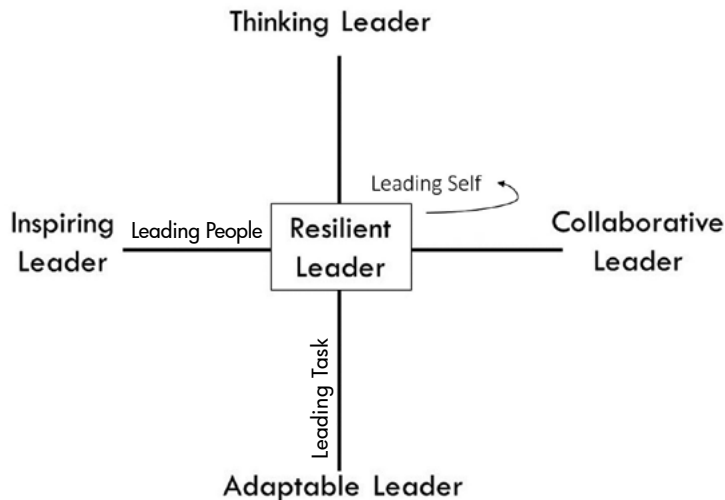
Crucially, the findings highlight the important leadership competencies necessary for effective border security leadership and provide insights into the criticality of leadership competencies across the different leadership levels. For instance, during peacetime, border security leaders at the lower leadership levels focus more on personal mastery and caring for the team, while leaders at the higher levels focus more on developing the team and forming holistic understanding of the situation to anticipate potential challenges. Additionally, the study reveals differences in the leadership competencies required during peacetime and crisis (as shown in Table 6), whereby border security leaders focus more on inspiring the team through a culture of care and development during peacetime, and more on executing the mission during crisis.

Although the reasons for these differences in competency criticality are not explored in this study, it is apparent that these differences enable border security leaders to fulfil the functional specialties of border security work.

Limitations and Moving Forward

Although this ILCF provides a good overview of the competencies that border security leaders require to lead effectively, it is not absolute and will require constant review and development to ensure relevancy of implementation within the organisation and its people. To this end, the authors have identified two important areas for future researchers to maximize implementation of the ILCF.

Selection and Assessment

ILCF guided selection. As recruiting the right people into the right job allows a strong pipeline of leadership talents (Oracle, 2012), an ILCF guided selection is crucial to identify individuals who have leadership potential. For instance, the ILCF can serve as a guide to select people who embody the unique characteristics of being a true border security leader. Through understanding how these leadership competencies can be measured and interpreted, they can be built into the selection process to objectively assess if a candidate's behaviour is indicative of the critical leadership competencies that recruiters should look for during the selection process.

For example, the core competency of "Resilience" posits that a border security leader needs to be someone who is resilient and values growth. To ensure the right individuals are selected, future researchers can work with recruiters to develop a selection guide for panellists to critically assess whether candidates are exhibiting these competencies to estimate their potential for border security leadership roles.

ILCF guided assessment. Apart from selecting the right candidates, the ILCF lays the foundation for the organisation to effectively assess actions or key behaviours that incumbents should demonstrate to exhibit proficiency in a particular leadership competency. One good use of these competencies is to weave them into future testing to assess suitability for key appointment jobs. For instance, ILCF puts forth that being an "Inspiring" leader is a core aspect of a border security leader and to do that proficiently, one has to showcase the ability to inspire his/her team towards a common goal and to instil a sense of purpose in the border security work that they do, through consistent care and development of the team. Thus, through an ILCF guided assessment that provides proficiency indicators of incumbents earmarked to assume key appointments, the organisation will be able to make sound decisions on succession planning (e.g., through considering the suitability of these incumbents before they are appointed).

Training and Development

ILCF guided training & development curriculum. While selection and assessment ensure that the right individuals with the right leadership competencies are placed in border security leadership roles, ILCF guided training and development allows the organisation to ensure that its leaders are given sufficient opportunity to develop their skills in their respective leadership roles. For ILCF to have lasting benefit within the organisation, it is important for leadership development programmes to be geared towards helping leaders acquire the leadership capacity necessary to fulfil functional specialties of border security work. Past research (Rabinowitz & Deloitte, 2018) has alluded to the importance of identifying corresponding capabilities for each competency as a means of translating the competencies into matching training activities. This huge undertaking requires future researchers to work together with important stakeholders like in-house trainers to determine a set of training and development curriculum which is measurable and specific to the competencies they

purport to train leaders in. An ideal training and development plan would take into account how ILCF differs across the leadership levels in terms of proficiency required. For instance, with inputs from LOS (as shown in Table 6), ILCF highlights "Thinking" as an important core competency that border security leaders should possess at a higher leadership level. Thus, it makes sense for middle management leadership programmes to provide training in higher order thinking (e.g. systemic thinking) and getting middle managers accustomed to adopting a helicopter view to prepare them for higher leadership roles.

Lastly, beyond the proposed implementation of this framework, future researchers should also devote attention to reviewing and recalibrating the current ILCF to meet the constantly changing operational demands of border security.

Conclusion

In sum, driven by the growing demands for effective border security leadership to maintain the safety and security of Singapore's borders, the ILCF was generated after a series of consultations across the depth and breadth of ICA. Despite being exploratory in nature, the present ILCF provides a viable platform for future researchers to advance leadership development within the organisation. Lastly, it is with great hope that the genesis of this home grown ILCF can carry the true mark of border security leadership forward to current and future generations of leaders to continually strengthen Singapore's borders.

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Down the Rabbit Hole:
ISIS on the Internet and
How It Influences Singapore Youth

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Abstract. Propaganda has long been used as a means of shaping opinions and influencing action, especially during conflict situations. The Islamic State of Iraq and Syria (ISIS) has used propaganda for similar purposes. Capitalising on new media channels, the Internet in particular, ISIS has achieved unprecedented success in recruiting people to its cause. Using local case studies of radicalised Singapore youth, this article looks at the techniques ISIS has used to optimise its online reach, in particular, the following five techniques: use of online platforms, search engine optimisation, use of 'social influencers', diversification of media sources, and appealing propaganda content. The article also examines the psychological components driving the Internet's role as an echo chamber, to illustrate how the Internet has been used as an enabler and catalyst for radicalisation of youth. It then concludes with recommendations for how online consumers can manage the threat posed by ISIS' propaganda.

ISIS' Propaganda War

The use of propaganda in conflict situations to shape opinions and to influence action is not a new phenomenon. In war, propaganda has been used as a means of recruitment and to justify being in a state of war so as to gather and maintain the support of the populace for such action. The history of the use of propaganda is marked by key improvements in information distribution like the Gutenberg printing press that made mass communication more convenient and accessible. Social developments such as significant improvements in literacy around the world further facilitated this process. The advent of the Internet and social media in the late 20th century marked yet another turning point in the history of propaganda.

Terrorist groups have long understood the value of propaganda. ISIS has been described as having perfected the use of the Internet to gather support, stir public sentiment and recruit people to its cause (Milton, 2018; Alghorra & Elsobky, 2018). ISIS propagandists have latched on to the convenience and accessibility of the Internet to turn it into an "enabler" of radicalisation– as a cheap way to interact across geographical borders 24 hours of the day.

ISIS' war is, at its core, an ideological one. Splintering off from al-Qaeda in 2006 in its early incarnation as the Islamic State of Iraq, ISIS surged onto the global stage in June 2014 when it marched into Mosul and declared the establishment of a caliphate shortly after. It continued to take over neighbouring lands, enslaving women and displacing people from their homes. During this period, ISIS was very active on social media platforms, and used such channels to publicise executions such as the beheading of journalist James Foley, and the burning of a downed Jordanian pilot. Its deft navigation of online platforms meant that "at its peak in August 2015", it was churning out approximately "900 pieces of propaganda a week" (Winter, 2017). During this period, ISIS propaganda narratives were diverse, containing themes of a utopian existence in its territories as well as themes of war (Winter, 2015). The impact of this propaganda is clear: ISIS succeeded in recruiting and persuading an unprecedented number of people to physically participate with it in the conflict (Bajekal, 2014). Although its propaganda output has significantly

decreased in recent years (Winter, 2017), the continuing effort to mount attacks in its name outside its diminishing territory suggests that the ideological threat posed by ISIS "remains present in the hearts of individuals who want to harm us" (Callimachi, 2018).

In Singapore, ISIS' propaganda has played a role in influencing a number of Singaporeans to join its cause as well. Between 2015 to 2018, 21 Singaporeans were dealt with under the Internal Security Act (ISA) for terrorism-related activities involving the conflict in Syria. Of this group, 19 were radicalised by ISIS' online propaganda with the remaining two radicalised by online content that encouraged participation in the Syrian conflict. (One wanted to join overseas militant groups to fight for his fellow Sunnis as he came to believe, through the influence of online materials, that the conflict in Syria was a sectarian struggle between Sunni Islam and Shia Islam. The other became convinced, partly through imbibing radical teachings online, that he was duty-bound to engage in armed violence overseas, including in Syria.) Of the 21 ISA cases, 14 were issued Orders of Detention and 7 released with conditions that, among other things, prohibit them from changing their residence, travelling out of Singapore or joining organisations without official approval. Apart from these 21 individuals, there have also been others in the nascent stages of radicalisation who were warned against participating in terrorism-related activities.

Drawing from classified case studies of eight Singapore youth who came to security attention after consuming ISIS propaganda, this article seeks to explain common components of the process by which they became involved with the terrorist group virtually. This is done by examining three aspects:

1. ISIS' optimisation of reach and engagement via online platforms;

2. The substantive appeal of ISIS propaganda content; and

3. The psychological components involved in the Internet functioning as an echo chamber.

The eight Singaporeans, whose names have been changed to protect their privacy, were within the ages of 19-30 when they first came to the attention of the authorities. The seven men and one woman are cited in this paper under the pseudonyms of Zain, Ismail,

Habib, Zahir, Rudi, Khalid, Fauzi and Siti. They were supportive of ISIS and their online experiences were largely representative of the experiences of the larger pool of individuals radicalised online. For instance, despite differences in their backgrounds, these eight individuals sought religious knowledge online out of a desire to improve their religious knowledge. They also concurrently faced a number of stressors which they had difficulty coping with. A culmination of both online and offline factors contributed to their support for ISIS, which manifested in a range of behaviours. The eight consumed and posted pro-ISIS messages online, and some also interacted with ISIS supporters on social media platforms. Of the eight, six had intended to travel to ISIS-controlled territories.

How ISIS Optimised Its Reach and Engagement

In general, the Singapore youths began the process of being exposed to terrorist groups' online propaganda rather innocuously. Many were initially searching for general information such as how to become more religious, and after watching the news, more information about ISIS. They also watched Facebook videos about religion. For some, their curiosity landed them at sites and pages that exposed them to radical content.

Zain, for example, chanced upon pro-ISIS material when he was searching for information about the conflict in Syria as well as an explanation of the "End of Times" concept from an Islamic perspective. While the content was initially innocuous, he was soon exposed to related videos depicting ISIS in a positive light. He was subsequently persuaded by the ISIS rhetoric that it was a legitimate group justified in fighting for the revival of an Islamic caliphate. In this way, Zain began to support their actions despite knowing that the majority of Muslims reject ISIS' interpretations of religious texts as distortions aimed at manipulating them.

How Zain and others like him fell down the rabbit hole – where the initial encounter with pro-ISIS material led to a deep interest in the subject to the point of distraction – is a fairly common phenomenon on the Internet, where people metaphorically burrow into an area by following one hyperlink to another, often without much forethought. As The New Yorker's Kathryn Schulz describes in a 2015 cultural comment,

"the Internet, which operates twenty-four hours a day, boasts a trillion-plus pages, and breeds rabbit holes the way rabbits breed rabbits." These online rabbit holes, she notes, take several forms. They are iterative, exhaustive and associative: you go online to look up a particular fact and two hours later, you've watched a dozen videos, learnt more about the issue, and looked up a distantly related topic.

Available research suggests that ISIS did not leave the possibility of recruits falling down rabbit holes to chance. Instead, it deliberately sought to optimise its reach and engagement by making deft use of online platforms. Combining research literature and insights gleaned from the local case studies, this article explores ISIS' use of five techniques to gain influence online:

- open platforms
- search engine optimization
- social influencers
- diverse media sources
- appealing narratives

Use Of Open Platforms

ISIS attained a reach that other terrorist groups were previously unable to by choosing to use open platforms. Specifically, ISIS chose accessible platforms to maximise its potential reach and this stands in stark contrast to al-Qaeda, whose propaganda is disseminated in vivo and/or on the dark web. Furthermore, as others have observed, ISIS displayed a savviness in leveraging technological advancements. To negotiate the delicate balance between keeping the secrecy of operational information and portraying an image of prowess, ISIS adopted a varied approach to its communications. Examples of this include the use of encrypted applications such as Telegram to distribute information on operational movements, and the use of open social media platforms for propaganda (Berger and Morgan, 2015). Even in the distribution of operational information, ISIS' choice of encrypted applications remained a far more open platform choice than the dark web and this allowed it to broaden the potential audience base and, in so doing, contributed to optimising its reach (Siboni, Cohen, & Koren, 2015).

Search Engine Optimisation

By using principles similar to Search Engine Optimisation (SEO) in digital marketing, ISIS optimised its exposure to digital media consumers searching for a specific type of content. SEO is a method by which brands and businesses seek to increase their online exposure to potential clients. Commercially, this is done via the strategic purchase of advertisement words (adwords) and advertisement placements on Google, such that their websites are more visible in search results. In a similar manner, ISIS was effective in its use of hashtags – words or phrases that have a hash sign (#) before them (e.g., #throwbackthursday) to categorise messages and posts on a specific topic – to draw attention to its materials (Siboni, Cohen and Koren, 2015). By using existing popular hashtags on postings, otherwise known as 'Hashtag Hijacking', ISIS was able to increase its content exposure to a wider audience. With fervent supporters tweeting in spurts and posting a high volume of tweets in a short span of time, the ISIS hashtags would trend, thus helping to surface its contents in search results (Berger and Morgan, 2015).

ISIS supporters also contributed to this process by increasing the sheer volume of pro-ISIS or ISIS-related updates available online. Berger and Morgan (2015) found that official ISIS social media operatives distributed information to other ISIS supporters who then continued to spread the information using hashtags. The same study found that ISIS users also used online bots and other mobile applications such as Dawn of Tidings to increase their frequency of posting pro-ISIS messages as part of the propaganda campaign. Dawn of Tidings is particularly effective because upon download, it posts tweets decided by ISIS social media operatives to the user's account so that everyone using the application will have posts with similar content. The posting frequency is also specifically timed to avoid bot detection by Twitter. At the same time, users can continue to post their usual content using the application.

This unregulated source of propaganda aided in broadening the reach of ISIS' ideology both in content and geography, sharing similarities to online fan behaviour. Just as fans of celebrities have group accounts to highlight achievements or shows featuring the celebrities they follow, remote supporters of

ISIS also set up fan accounts. For instance, it was reported by SITE Monitoring Service in 2014 that ISIS supporters had organically created a Twitter-based team to propagate ISIS narratives that allowed their postings to gain the attention of those looking for information on specific topics. In combination, these fan activities gave ISIS a more efficient way of reaching its target audience.

Use of 'Social Influencers'

Much like commercial influencer marketing, ISIS also used key ambassadors of the group to propagate its cause. Since the advent of social media, influencer marketing has taken on an unexpected turn as brands increasingly move towards the use of a pool of social media influencers to advertise their products. These influencers on social media generally have a large following on various platforms and tend to be popular within specific regions, as measured by their user engagement statistics. Just as these influencers post about their lifestyles and the products that they use, ISIS supporters living in ISIS-held territories fed others information about life there. That was particularly relevant for those looking to travel to Syria, as Siti's case shows. From Singapore, Siti began following a few women who lived in ISIS-held territories who posted updates on their daily lives. She read about how they engaged in mundane tasks such as cooking and cleaning the house, and gleaned operational information such as the times when borders were "permeable", making travel easier. These ISIS female 'influencers' also provided information on what was religiously permitted within ISIS-held territories, addressing concerns expressed by their followers. For Siti, the interactions with the pro-ISIS community made her feel "included and protected", motivating her to continue her support for ISIS.

Diversification of Media Sources

Another strategy used by ISIS was the deliberate diversification of media sources, with each of these sources producing high quality content so as to optimise engagement with potential supporters. ISIS had a few media centres that specialised in producing content for specific purposes; al-Hayat Media Center, for instance, focused on producing content for the West and non-Arabic speaking populations. Other media sources included al-Furqan, the official media arm; al-Athzam

for video production; and al-Bayan for production and dissemination of content for radio. These various media arms received significant resources to produce high quality content. ISIS productions have been described as containing aesthetically appealing content with a contemporary look that resonate with young people. For instance, al-Hayat Media Center was credited with high quality "professionally edited" video productions such as *Flames of War: The Struggle Has Only Begun*, a documentary-style film against U.S. intervention targeting ISIS. Siboni, Cohen, & Koren (2015) described the production as a "55-minute film [using] carefully designed romantic images… special elements of explosions…[and] edited slow-motion segments of executions" amongst other "sophisticated illusory elements". They also noted estimates by Terrorism Research and Analyses Consortium (TRAC) that a short film about beheading Syrian prisoners, uploaded at the end of 2014, would have cost approximately $200,000 to produce. Apart from this, ISIS also produced content that was intentionally relatable, such as a video clip produced in 2014 that looked strikingly similar to Grand Theft Auto 5, a popular video game. ISIS also used pictures similar to those commonly seen on Instagram, featuring catchy quotes superimposed on a picture supporting its cause.

The array of high-quality ISIS propaganda products in various mediums meant there was something for everyone, as the Singapore case studies showed. Habib, for example, told interviewers that the sleek images made him think that "jihad was cool" and that "ISIS looked powerful" in the videos as they "[took] down the West". Similarly, Zahir said that he had been attracted by pictures of ISIS fighters, whom he perceived as "very cool like Rambo". Not only did these images appeal to their need for bravado, but they also offered them reprieve from the stressors of life. For Rudi, *nasheeds* from ISIS functioned like a favourite song – he described them as "soothing" on a stressful day. (*Nasheeds* are chants or vocal arrangements that are popular throughout the Islamic world. They tend to make references to Islamic beliefs and its history.) Khalid said that watching the film *Flames of War* made him feel "powerful" and in this way, attracted him to ISIS.

Substantive Appeal of Propaganda Content

The ISIS media divisions also churned out a number of meta-narratives effective in optimising the group's appeal. A thematic analysis of ISIS propaganda in 2014 found that 53% of its messages focused on portraying ISIS-held territories as a utopia, while 37% focused on ideas related to war (Winter, 2015). Within these broad meta-narratives, there were several components. Winter (2015) also found that the overarching message of a utopian existence was further segmented into seven components such as religion, governance, and economic activity. Within messages focused on war, he identified seven components such as a summary of ISIS' military achievements for the day, and attacks launched on its enemy. Interestingly, these seemingly clashing concepts of war and a utopian existence were made complementary by the ISIS branding – the messages of brutality were softened by messages of an idyllic life in Syria, showing that "supporters of the group are not all bloodthirsty maniacs" (Winter, 2015).

In this way, ISIS was able to resonate with a variety of people without causing them to feel conflicted about the violence it was using in pursuit of its cause (Winter, 2015). Indeed, its propaganda seemed to have resonated with the varying needs of its supporters, from a desire to act violently to a desire to escape personal problems. This was also borne out by the Singapore cases. Fauzi described ISIS-held territories as a "religious environment" that was "ideal" for Muslims to practise their faith. He also cited videos showing welfare programmes for the poor within these territories as evidence of the ideal environment that the terrorist group was providing. Others such as Khalid cited videos of ISIS bombing its enemies as a "sign of [its] power" against the West. This fueled his support for ISIS as he bought into the notion of ISIS as an "underdog" making progress in a war against countries with military might. In short, with the Singapore cases, the ISIS propaganda had the effect of painting a romanticised vision of power and peace for those contributing to its cause.

Interestingly, the variety of narratives that ISIS propagated also offered a different value proposition for its Singapore audience. By offering a different version than what they were seeing on mainstream media, the ISIS propaganda had the undesirable converse effect of gaining credibility. Khalid, for example, believed that mainstream media was "stoking fear" about ISIS. He could see that life in ISIS as portrayed in social media was "peaceful", which was vastly different from how it was portrayed in mainstream media. This was a sentiment echoed by Rudi, who noted that "… a video about life in Syria, looked different from what is on the news … so [he] got curious". For him, this was sufficient reason to dismiss information from mainstream media.

Facilitating Effect of the Echo Chamber

In spite of these strategies and the appeal of the content put out by ISIS, not all who were exposed to the propaganda became radicalised. While some of the literature indicate that the Internet can function as an echo chamber (Fernandes, Asif & Alani, 2018; Behr, Reding, Edwards & Gribbon, 2013), there are other studies that suggest otherwise (Colleoni, Rozza & Arvidsson, 2014). The Singapore case studies suggest that the Internet functioned as an echo chamber facilitating their process of radicalisation. The three psychological processes commonly cited in the literature as components of this phenomenon – confirmation bias, selective exposure, and group polarisation – were also present in the Singapore cases.

Although they are separate concepts, selective exposure and confirmation bias overlap in practice. Confirmation bias, which refers to the pursuit of information that affirms one's belief, contributes to selective exposure as the individual chooses what he or she reads by controlling search terms and platforms chosen. This is further encouraged by the nature of social media platforms, which are designed to allow consumers to see more of what they like. For instance, users are able to join groups on Facebook while Instagram also surfaces content similar to one's click history on the Instagram Explore page and allows users to receive notifications on new activity from certain accounts. Singaporean Zahir said he joined specific Facebook groups that were dedicated to providing updates on the conflict in Syria as well as the Israeli-Palestinian conflict. More broadly, in the case of Khalid, the Internet was the platform of choice for seeking religious knowledge because he did not want to be faced with information that ran contrary to his existing beliefs. Khalid knew that his views would be challenged if he sought advice from an accredited religious counsellor, and so he continued to seek

religious content from the Internet. This mentality followed through to his search for specific types of information that affirmed his existing beliefs.

The culmination of selective exposure and confirmation bias is group polarisation. Group polarisation refers to the phenomenon where one's views are more extreme after interacting with a like-minded group (Brauer, Judd, & Gliner, 1995), and occurs for a variety of reasons. Literature on this issue suggests that group polarisation can be due to factors such as the individual being exposed to more justifications for his belief than what was previously held, as a result of that interaction (Burnstein & Vinokaur, 1977). For instance, Singaporean Ismail engaged in a debate with anti-ISIS individuals online and found more reasons to justify his set of beliefs because he undertook research to further substantiate his pro-ISIS stance and to refute others in debate. Furthermore, in a group of like-minded individuals, the emotional support he received helped Ismail feel "more confident and convinced" in his stance. This too is consistent with findings from the literature (Van Swol, 2009).

Notably, when considered alongside the appeal of the diverse narratives offered by ISIS, it appears that radicalised or at-risk individuals also seek specific information to serve their underlying needs. For individuals such as Khalid, who specifically chose to use the Internet to affirm his existing religious views, there were also deeper and more personal reasons why the ISIS narrative resonated with him. From being supportive of the idea of defending Islam against "the oppressors", to wanting to be part of building a utopian state, ISIS propaganda appears to work because it resonates with a personal need and the Internet merely facilitates this process by increasing exposure to such narratives.

Recommendations for Consumers

Given these findings, governments and other stakeholders have been looking for measures that will severely diminish the reach and appeal of the ISIS propaganda machine. Media corporations such as Facebook, Twitter and Instagram have taken to banning or suspending accounts suspected of being pro-ISIS. This has helped to decrease the number of pro-ISIS accounts and posts online, reducing the likelihood of exposure. The tech companies' actions have also helped challenge the ease of information flow ISIS requires for operational reasons, increasing

the barriers to entry for known ISIS fighters to provide information on travelling into Syria. This is primarily because pro-ISIS users now have to set up completely new accounts that may be difficult for followers to find. However, censorship is unlikely to be effective on its own; it is nearly impossible to censor pro-ISIS sentiments completely given the open nature of the platforms chosen, the often innocuous-sounding content of postings, and the sheer volume of content being produced. Considering the fast pace of technological innovations, there are many challenges to a singular top-down approach.

In addition, the literature suggests that a part of the problem is that consumers may not recognise bias and alternative agendas in the messages they consume online. In 2016, Wineburg and his colleagues found that youths are "easily duped" by information on social media despite their savviness in using these platforms This was also seen in the Singapore case studies. For instance, Rudi and Khalid believed that the posts they saw online were "true" and did not question the veracity or agenda behind posts portraying a utopic vision of ISIS-controlled lands although it was vastly different from the accounts in mainstream media. This paper thus offers three possible solutions for stakeholders to consider.

As a starting point for individuals, it is important to be cognisant of the fact that there are groups of individuals who may have potentially threatening agendas when they post on social media. To do so, it may be good to generate an awareness and foster a mindset of being discerning about the type of content consumed online. Zain, for instance, did not consider that the group he was interacting with online was offering a different interpretation of religious texts but instead assumed that the ISIS propaganda was "correct" without checking with verified sources. He also did not consider that the individuals online might be using these interpretations to recruit others to their cause and to justify their violence. He thus came to accept that certain religious concepts justified the violence.

Social media users can also take steps to look into the author or person posting information. Although this is understandably challenging to do online, where avatars and fake online accounts are common, taking the step to understand where the author is coming from can help individuals gauge the credibility of the post. For instance, users could be encouraged to look

at the person or group's newsfeed in general and watch out for provocative content propagating divisive messages. It may also be beneficial to contrast a group's stated intention with its postings. For example, if a group that says it wants to provide humanitarian aid in a conflict area instead posts content supportive of one side, then the consumer should be cautious of the information provided.

Another strategy that individuals can consider adopting is to look to content experts within the community rather than rely wholly on the Internet for religious knowledge. A key challenge inherent in any religion is the interpretation of religious text. Considering that most religions are deeply embedded within history which necessitate a rigorous understanding of theology before interpretation, certified experts are better suited to provide answers to religious questions than unverified online sources where unknown individuals are dishing out advice. In Singapore, options may be found with Majlis Ugama Islam Singapura (MUIS), the Islamic Religious Council of Singapore. One initiative by MUIS is the Azatizah Recognition Scheme (ARS) which accredits religious teachers. The list of accredited religious teachers are offered on the MUIS website, helping Muslims seeking religious knowledge to find accredited religious teachers to speak with. Other community organisations such as the Religious Rehabilitation Group (RRG) also offer accessible avenues for finding accredited religious counsellors whom consumers can approach for help. The RRG, as a group of volunteer religious counsellors, offer counselling at the Resource and Counselling Centre and are also available online via their website and mobile application to respond to questions or requests posed by members of the public.

Finally, efforts to counter ISIS propaganda should not be made in isolation – both individual and community efforts are important in managing the threat. In general, community efforts to improve media information literacy can be helpful in encouraging users to be discerning of the content they consume online. At the same time, individuals, having been empowered by better access to information, should also understand the importance of being discerning of what they read. Further work needs to be put in so that issues related to consumption of knowledge on the Internet may be addressed. Family and friends, too, have a role to play. For those spiraling further into extremism, he or she may not be aware of how their behaviour and thoughts are being altered because their choice of platforms put them in a self-reinforcing bubble. The case of Khalid stands testament to this, as he made the active choice to seek online knowledge which would affirm his increasingly radical beliefs. In such situations, family members and friends should pay attention to changes in their loved one's language and behaviour to help direct them towards experts who may be better able to help them.

Conclusion

In sum, ISIS was, and continues to be, successful in radicalising individuals through online messages of hate and violence because the multiple contemporary platforms and techniques it used at its peak enabled it to optimise the reach of its propaganda narratives. These narratives were catalytic because they appealed to personal issues. The Singapore cases cited here testify to the power of the ISIS propaganda tactics: the interaction Siti had with the network of ISIS supporters provided her with a community and a sense of belonging, the ISIS-produced *nasheeds* that Rudi listened to helped to provide reprieve from his daily stressors, and the vision of a utopian state in ISIS-controlled territories helped Fauzi imagine a better religious life for himself.

Drawing from available literature, this article examined the impact of five techniques used by ISIS and the facilitating effect of the Internet as an echo chamber to explain how several local youth became radicalised. The objective was to shed light on our understanding of how they went from seeking knowledge online out of a desire to improve their religiosity, or out of curiosity, and into the rabbit hole of ISIS propaganda, growing to support its cause and violent means. Their online radicalisation processes were further encouraged by the Internet's capacity to be used as an echo chamber reaffirming and polarising the views of those either at-risk or radicalised.

Given the pervasive use of social media, and the nature of the Internet, censorship as a sole tool to combat such propaganda has been largely ineffective. The Singapore cases suggest that a dynamic initiative is necessary to empower users to be more discerning and aware of the agendas put forth online. The involvement of community, including family and friends, is also crucial for early intervention.

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Applying Behavioural Insights to Youth Radicalisation

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Abstract. When thinking about the choices people make every day, policymakers often take rationality for granted, thinking that individuals will weigh known costs, benefits and risks in the pursuit of their self-interest. However, in reality, people deviate meaningfully from rationality in ways that are systematic, measurable and predictable. Accounting for these "irrational" behaviours and how they can be exploited may be particularly important for understanding youth targeted by radicalisation efforts, who are at risk of making choices that work against their long-term self-interest as well as the interests of society. In this article, we review the basic concepts underlying behavioural insights (defined by the Organisation for Economic Cooperation and Development as "lessons derived from the behavioural and social sciences, including decision making, psychology, cognitive science, neuroscience, organisational and group behaviour") and discuss the value of applying behavioural insights in this field, drawing on three known case studies of youth radicalisation for illustration. We highlight implications for future interventions, and reflect on the potential as well as limitations of such an approach.

Introduction

Are human beings rational? Policymakers often make decisions that implicitly or explicitly assume so, going back to a long tradition of neoclassical economics as well as the influence of visionary researchers such as Nobel laureate Gary Becker, who first brought choice theory to a range of topics across the spectrum of public policy. By thinking of individuals as self-interested agents who maximise their welfare after weighing the known costs, benefits and risks, policy makers have been able to analyse observed behaviours as rational responses to incentives/disincentives, as well as to identify interventions that address these trade-offs.

However, in recent years, both researchers and policymakers have begun to question the generalisability of this assumption. In reality, individuals typically make irrational decisions that may not be in their self-interest. Some of these "mistakes" are likely to be idiosyncratic and unpredictable, while others may not be highly consequential. Some may be the result of cognitive biases that can be measured (and also manipulated) systematically, and moreover could have significant implications for the long-term benefit of the individual as well as others. While choice modelling still provides a critical structure, policymaking in an irrational world requires also drawing on the behavioural sciences and context-specific information to help understand what drives actual decision making in any given situation.

This realisation has led to rising policy interest in behavioural insights (BI), defined as "lessons derived from the behavioural and social sciences, including decision making, psychology, cognitive science, neuroscience, organisational and group behaviour" (OECD, 2017). While many of these lessons are therefore familiar, the BI movement represents a new commitment to their systematic application to policy, first led by the United Kingdom with the formation of the world's first BI Unit. Governments

and international organisations worldwide have now invested in teams that apply BI to problems in areas as diverse as public health, taxation and energy consumption.

Radicalisation has been defined as "the social and psychological process of increasing commitment to extremist political or religious ideology" (Neumann & Rogers, 2008; Horgan, 2009), which generally targets young adults who are particularly impressionable (Bhui, Dinos & Jones, 2012). The vulnerability of youth to violent extremism is evidenced by the palpable rise in the number of young people joining extremist groups globally (Institute for Economics and Peace, 2017).

BI concepts can be useful in understanding the radicalisation trajectory of youth. The use of BI to examine and counter youth radicalisation represents a novel approach which adds value to existing social science perspectives on this topic. In this article, we examine the potential application of BI in issues pertaining to youth radicalisation, looking at BI concepts in three case studies.

A Primer on BI Principles

Dual-process or dual-system theories (Kahneman, 2011) posit that the human mind processes information in two ways: subconsciously, in a fast, intuitive and associative mode (System 1) as well as consciously, in a slow, deliberative and analytical mode (System 2). While System 2 is capable of self-aware, logical thinking, it is also effortful and energy-consuming. System 1 on the other hand operates automatically and constantly at a subconscious level. The interplay between System 1, System 2 and environmental stressors/cues manifests in three important ways that have implications for how decisions are modelled.

Firstly, **individual preferences may be inconsistent or unstable**. Individuals with *inconsistent time-preferences* may exhibit preference reversal, i.e., they become less or more patient, as time goes by. Context can shape choice in important ways when value is uncertain. For instance, prospect theory suggests that individuals may respond to relative gains and losses rather than value; *loss-averse* individuals are disproportionately sensitive to losses and may be more likely to respond to negative rather than positive

framing. *Social preferences* also matter – feelings of reciprocity, perceived social norms or social status effects can alter the subjective value of one option vs another.

Secondly, **our beliefs are often biased.** When thinking about risks and probabilities, two common examples are *availability* (overweighting the likelihood of events that are easily brought to mind, or more *vivid/emotionally salient*) and *representativeness* (judging the probability of an event based on similarity to past experience or assumptions). Individuals can be mis-calibrated even in terms of their beliefs about themselves (*over/under-confidence)*. One root cause is that belief formation is subject to *confirmation bias,* or the tendency to selectively filter new information based on existing priors. Changing mistaken beliefs, however, can be difficult, in part due to reactivity or *backfire effects* (aggressive negative counter-reactions in response to threatened strongly-held core beliefs).

Thirdly, **limited attention constrains our ability to optimise**. System 2 is resource-intensive, and as a result, individuals experiencing high levels of cognitive overload tend to fall back on System 1. Environments that are too complex or difficult to process, that confront the individual with scarcity or other kinds of stress, or that trigger strong emotional responses can result in the use of heuristics (mental shortcuts or rules-of-thumb meant to lessen cognitive burden), induce System 1 thinking such as a narrow focus on the immediate future, or in the extreme case, result in choice avoidance (refusal to engage with decision-making altogether).

Three Radicalisation Journeys

We consider three cases of youth radicalisation that reflect three different background movements and channels of initial contact as a basis for generating hypotheses about factors that might lead to certain predispositions, as well as biases that open the door to and sustain radicalisation as well as deradicalisation.

Aaron Driver, a Canadian teenager who had a turbulent childhood and subsequently became radicalised by ISIS propaganda in the online space. In spite of attempts to intervene, Aaron was ultimately convinced to become a suicide bomber.

Christian Picciolini, an American teenager recruited into the White Supremacist Movement through an encounter with an influential White Supremacist figure. Christian became a movement leader until the dissolution of his marriage and the violent deaths of some close friends (and eventually his brother) caused him to leave and take on the role of change-agent for those struggling with hate.

Sarah (pseudonym), an American teenager who became involved with the extreme right-wing scene via a skinhead gang in high school. Sarah was eventually incarcerated but through exposure to a diverse prison community, disengaged from the movement and began working with similarly at-risk youths.

From a behavioural perspective, some potential common factors emerge:

Early Formative Age

In early childhood all three experienced significant instability with respect to relationships with adult role models, whether in the form of the death of Aaron's mother followed by the relative absence of his father, the turbulence of Sarah's relationship with her father, or Christian's relative emotional distance from his family. Evidence suggests that such early childhood instability can have long term impacts on cognition and behaviour, potentially through a lower capacity for self-regulation, i.e. a reduced inherent propensity towards overall System 2 thinking (Fomby and Cherlin 2007, Sandstrom and Huerta, 2013).

In addition, in adulthood, this may result in a *scarcity mindset*, where being deprived of something results in an individual henceforth valuing it disproportionately or obsessively. With respect to emotional and social validation, all three of these individuals experienced severe deprivation in childhood, and later became highly focused on emotional and social acceptance.

Initiation

Adolescence is a challenging period as cognitive and social development is happening alongside other physical and hormonal change, leading to increased vulnerability to risk-taking, myopic and sensation-seeking behaviour compared to mature adults. As social identities are forming, young people may be more easily influenced by peers as well as perceived role models (i.e., there is a strong tendency to want to norm towards the behaviour of peers they regard as being similar to them or as aspirational leaders). For those who feel alienated from their immediate family or community, radical organisations also offer an alternative social connection and social status.

In each of our three cases, the pathway to radicalisation began with a social connection which afforded them immediate gratification, followed by positions of leadership and agency, in sharp contrast to their previous lives. Aaron found an online community that allowed him to become an influential presence internationally, while Christian was attracted by a specific strong role model and subsequently evolved into a position of leadership. Sarah meanwhile was drawn into a peer group in her immediate surrounding that transformed alternative anti-establishment behaviour into a form of empowerment.

Conversely, being associated or forced to interact with groups who are perceived as dissimilar may result in strong negative feelings. In the case of Aaron, an eventual attempt to pair him with a peer mentor with a strong mismatch of views had the counterproductive effect of reinforcing the idea that no one could understand him, triggering a negative reaction. In the cases of Christian and Sarah, both these individuals ultimately became deradicalised when removed from the immediate social and emotional feedback loop of their radical groups, allowing them the mental space to think clearly.

Individuals who are at risk of radicalisation are often in challenging, complex and stressful situations, hence psychological theory predicts they may experience a strong desire for simplifying narratives and rules. They are therefore likely to avoid making complex decisions or seek paths that reduce ambiguity and confusion. Indeed, the rhetoric of radicalisation often manipulates these behavioural biases, employing simple and vivid stories and images relying on anecdotal information and emotional appeal rather than numbers and statistics. Recruiters may also use stories that tap into "side-stories" of personal issues

(e.g. seeking adventure, personal glory or a sense of purpose) but have little to do with the cause being propagated. Aaron, for instance, was not able to accept either mainstream North American values or traditional Islamic teachings and instead turned to the Internet to find alternative, simplified narratives that appealed to him.

Momentum and Inertia

At the same time, it can be challenging for young people to recognise that they are being radicalised. Individuals (not just youth) may be over-confident about their own abilities to make good judgements, and tend to hold over-optimistic beliefs about their environment and their peers; to further exacerbate this, they are likely to selectively filter information that reaffirms their beliefs or even instinctively develop a strong negative counter-reaction).

Once involved, even those who consciously realise that this may not be in their best long-term interests may find it difficult to reverse their position. Present-bias may mean that the *immediate* social or psychic costs of breaking off with a peer group seem overwhelming, making it seem easier to simply go with the default unless a precipitating event occurs. Some may experience sunk-cost fallacy (the feeling that they have already invested so much in developing a commitment to the movement) or narrow-framing (the misperception that they have no other alternatives). Both Christian and Sarah experienced doubts about their extreme movements and whether they were right in their beliefs, but by then, they were already deeply involved. Instead, in order to put aside their guilt and doubts, they chose to justify their violent actions with selective filtering of information which made sense to them.

Implications for Policy Interventions

In their seminal book, Richard Thaler and Cass Sunstein define the concept of the "nudge", i.e., any aspect of the choice environment that uses BI to "alter people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives" (Thaler & Sunstein 2008), and suggest that, by considering BI rather than relying solely on theoretical assumptions of rationality, policymakers in multiple settings can potentially increase the effectiveness and efficiency of their policies and programmes.

In our case, bearing the factors in Table 1 in mind, intervention programmes that seek to "nudge" young people away from radicalisation should therefore be responsive to these biases and heuristics.

Firstly, programmes could be made available to at-risk groups as a matter of course, or on a default opt-out basis. Waiting for youth themselves to seek help is not likely to be productive. Where necessary, there should be clear immediate incentives for participation, whether material or social.

Participants should be able to see other participants framed as a group of desirable and relatable peers, or be able to connect to aspirational role models. Enabling positions of leadership may also be an important part of this strategy, providing a new source of status and self-worth. To help sustain long-term effects, the programmes could aim to introduce self-commitment devices, i.e., mechanisms that allow participants to set goals for themselves for which they can be held accountable, as well as a supportive social network including both mentors and peers whom they can keep going back to.

Table 1. Common Themes Across the Three Case Studies

	Common Features
Early Development	• Emotional instability in early years • Conflicting and complex transitions to adolescence
Process of Radicalisation	• Desire for social status and recognition among a peer group • Complexity avoidance / desire for simplifying narratives • Desire for immediate (social and emotional) gratification • Scarcity mentality towards socio-emotional support
Conflict around Deradicalisation	• Strong, emotionally salient triggers • Inertia and sunk-cost perceptions about having gone "too far" and having no alternatives

Programmatic content could focus on helping youth to promote System 2 thinking and enable them to overlook short-term or immediate conflicts in order to focus on long-term constructive engagements, for instance, by fostering strategies around emotional self-regulation and creating mindfulness.

Another approach is to help individuals better manage complexity and navigate conflicting values/identities, for instance, by presenting them with a spectrum of views from peers or relatable, influential role models on common topics used by radicalisers in order to increase cleavage between different worldviews and identities.

A final programmatic approach is to ensure that youth are deliberately exposed to an inclusive community, in which mutually beneficial interactions take place as a matter of course, setting background norms and expectations. In Christian's case, for instance, living and working with a diverse community was a catalyst for attitudinal change; and similarly with Sarah who encountered new peers when in jail.

Regardless of content, in order to avoid backfire effects, the context and material should be relatable and authentic, recognise and respect individual agency, and support individual problem solving. Rather than attempt to assert a dominant factual narrative, building up a consensus position that draws on and connects multiple points of view is likely to be more effective. In the case of Aaron, following discovery of his activities, his family initiated a radical separation that happened very quickly without any connection to his underlying preferences or beliefs, and was further exacerbated by a failed intervention. The reaction to this approach was a very strong backfire effect, resulting in a suicide attack attempt accompanied by a note in which he told his family that they would never understand why he had set out to become a jihadi.

The Strengths and Limitations of BI

Behavioural insights help us understand why ordinary people do not necessarily behave as predicted by straightforward cost-benefit analysis. However, it is important to recognise the limitations of applying BI. Nudging is one of the many ways in which these issues can be approached but may not always be the most appropriate course in many settings. For instance, when individual behaviour becomes highly consequential and incurs large negative spillovers, nudging alone may not be sufficiently effective or socially optimal. Nudges are not mandates, but in the case of extremist behaviour, strong mandates are clearly necessary.

BI is a complement to existing policy instruments, and not to be regarded a universal replacement or substitute for traditional policies. BI may be most useful as part of a strategy for youth counter-radicalisation at an early stage, when it is important to guide but also preserve choice, and when opportunities still exist to foster a sense of individual responsibility for collective well-being.

In a BI-driven worldview, individuals are exposed to the risk of their own bad decisions, other stakeholders actively choose to exploit those risks and finally policymakers themselves may inadvertently cause undesirable and unexpected actions and reactions. The fundamental premise of BI therefore is that policymakers need to take a pragmatic view driven by outcomes and action rather than assumptions, and that their own behaviour should be as proactive and reflective as possible, a stance that is highly relevant to the increasingly complex threat of radicalisation. While these individual insights may be familiar, overall BI reflects a fresh perspective that, with more research, can potentially inform an expanded policy toolkit to help address these threats as they continue to evolve.

About the Authors

Joanne Yoong is an applied micro-economist conducting research on behavioural economics, health and financial decision making, and economic development. A Senior Economist at the University of Southern California, she directs the research programme for the Centre for Economic and Social Research in Singapore and Washington DC and is a founding member of the USC Behavioural Economics Studio.

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Huiwen's major role in NSRC entailed researching Counter Violent Extremism (CVE) strategies. During her stint in NSRC, she planned and organised numerous CVE initiatives and workshops for key stakeholders.

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Bystander Intervention to Prevent Radicalisation:
Insights from a Behavioural Sciences Perspective

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Abstract. Given the current difficulties in countering radicalisation, community reporting of suspected radicalisation to violence has become of utmost necessity. Such reporting can facilitate the early identification of radicalised individuals, which involves procedures to ascertain whether a person of interest is in the nascent stages of radicalisation, and if he or she will further gravitate towards violent extremism. However, in the domain of radicalisation, the topic of bystander effect and relevant interventions is understudied. Thus, there is a need for behavioural research to contribute to this growing and important area of bystander intervention. This paper attempts to identify five key points, based on insights derived from a behavioural sciences angle, that those who work on countering violent extremism need to be aware of.

Some Bystanders Act and Many Don't

The literature on violent extremism contains striking cases of individuals who witnessed signs of radicalisation to violence but failed to report the person of concern or to intervene. One of the Boston Bombers, Dzhokhar Tsarnaev, had bragged to a friend a month before the 2013 Boston Marathon that he knew how to build a bomb and told another that "martyrs die with a smile … and go straight to heaven". He was also telegraphing his intentions to take action against evil and "to ask Allah to ease the hardships of the oppressed and give us victory over kufr [the infidels]" over Twitter (Bergen, 2016). Yet nobody reported him to the authorities, who had previously looked at his older brother Tamerlan for suspected links to Chechnyan militant groups but found no grounds for further action.

According to the CNN National Security Analyst Peter Bergen, an FBI study of 80 terrorism cases between 2009 and 2016 found that more than 80 percent of the time, the terrorists "leaked" information about the impending attack either by confiding in a friend or making ominous remarks. There was an average of three bystanders per case – one case had 14 – who saw radicalization behaviour and some even witnessed actual plotting and planning such as the acquisition of weapons and bomb-making skills. "FBI analysts were dismayed by how common it was for bystanders to know that a radicalized individual was up to something yet failed to tip off the authorities," Bergen wrote.

The non-reporting behaviour of bystanders is even more perplexing for the authorities at a time of heightened security threat. Yet it is not unusual and it could be argued that individuals who do not report their knowledge or suspicions of radical behaviour or terrorist planning are exhibiting what is known as the bystander effect.

The term 'bystander effect' was first coined by social psychologists Latané and Darley (1970) in the wake of the Genovese case. In 1964, Kitty Genovese was brutally murdered outside her apartment as 38

neighbours – i.e. bystanders – allegedly witnessed the attack but did not come to her assistance (Lurigio, 2015). In an attempt to understand why individuals do not intervene in emergency situations such as the Genovese case, Latané and Darley conducted seminal work to identify the barriers and psychological processes that influence a bystander's decision to take action, and proposed a five-step bystander intervention model, viz.:

(i)   notice an event

(ii)   interpret the event as an emergency

(iii) assume responsibility for intervening

(iv)   know how to intervene

(v)   intervene

The successful completion of all five steps can potentially lead an individual to perform helping behaviour (for review, see Dovidio, Piliavin, Schroeder & Penner, 2006). In contrast, situational factors such as the presence of other individuals may interfere with the successful completion of these steps, and contribute to errors in decision-making at each step (Anker & Feeley, 2011).

There are case studies in several countries that show how the community successfully sought out at-risk individuals and prevented attacks from happening by reporting the individuals. In the United Kingdom, an attack in Westminster was foiled because the suspect's family members reported him to the police after becoming concerned about his behaviour ("Whitehall incident", 2017). In another instance, a Derby man who intended to travel to Syria to fight for ISIS was caught before he could make it there; his family had reported him to the police, which may have saved his life ("Syria-bound Derby man", 2017). In Singapore, it had been reported that five suspected radicals were brought to the attention of the authorities by their families and friends; they had noticed changes in the suspects (i.e., changing their Facebook profile to one identifying with ISIS and behaving differently), and were sufficiently concerned to make police reports (Mokhtar, 2017a).

However, such cases of successful prevention through reporting are rare. A 2014 study by Gill, Horgan and Deckert found that 82.4 percent of members of the community who were aware of the terrorist's grievances and/or intentions to carry out an attack did not report their suspicions to the authorities. Thus, insights into the (perceived or otherwise) obstacles that prevent these individuals from reporting and/or intervening, and suggestions for overcoming these barriers, have clear practical significance.

The topic of bystander effect and related intervention research has been the subject matter of a number of domains, including sexual violence (e.g., McMahon, 2015), bullying (e.g., Pozzoli, Ang & Gini, 2012), cyberbullying (e.g., Machackova, Dedkova & Mezulanikova, 2015), whistle-blowing in organisations (e.g., Dozier & Miceli, 1985), workplace bullying (e.g., Hellemans, Dal Cason & Casini, 2017), and dating aggression (e.g., Edwards, Rodenhizer-Stämpfli & Eckstein, 2015). It is, however, understudied in the domain of radicalisation (Schillinger, 2014; Williams, Horgan & Evans, 2016). For the purpose of this paper, radicalisation refers to the process whereby individuals are exposed to and indoctrinated with religious, radical ideologies that may lead them to express violent intent or exhibit violent tendencies.

Given the current difficulties in countering radicalisation (e.g., limited manpower, difficulty in identifying and tracking persons of interest by the authorities), community reporting of suspected radicalisation to violence is of utmost necessity. This could facilitate the early identification of radicalised individuals, which involves procedures to ascertain whether the person of interest is in the nascent stages of radicalisation, and if he or she might further gravitate towards violent extremism. This paper is thus an attempt to contribute to this growing and important area of bystander intervention. It identifies five key points, based on insights derived from a behavioural sciences perspective, that law enforcement practitioners, policymakers, and academics need to be aware of.

1. There are Warning Signs that Bystanders can Observe

While there is no standard violent extremist profile in terms of socio-economic and educational background, there are behavioural and belief tell-tale signs exhibited by individuals who are radicalised or are in the process of being radicalised (Clutterbuck & Warnes, 2011; Neo, Khader, Ang, Ong & Tan, 2017). Individuals may show an observable range of warning signs that can be gleaned by others (Meloy, Roshdi, Glaz-Ocik

& Hoffmann, 2015). For example, Gill, Horgan and Deckert (2014) found that in the time leading up to an attack, most bystanders were aware of the grievances fuelling the violence, the perpetrator's commitment to a specific radical ideology, and the perpetrator's intent to commit attacks. In fact, former assistant to the US President for Homeland Security and Counterterrorism, Lisa Monaco, underscored the urgency to educate members of the public on the need to recognise and report suspicious activities in a 2014 speech:

> In more than 80 percent of cases involving home-grown violent extremists, people in the community – whether peers or family members or authority figures or even strangers – had observed warning signs a person was becoming radicalised to violence. But more than half of those community members downplayed or dismissed their observations without intervening.

The significance of community reporting as a way of thwarting potential attacks is of utmost importance, as early reporting of an individual who is radicalised or at risk of being radicalised may increase chances of the individual being brought back onto the right path (Neo, Dillon & Khader, 2017).

There are two implications arising from the finding that in most cases, there are warning signs that bystanders can observe. Firstly, there is a need to identify and determine who these bystanders in question are. Terrorism experts and law enforcement agencies generally believe that friends and family members are in the best position to find out if the people around them are radicalised (D.D. Cheong,

personal communication, June 22, 2018; Williams et al., 2016). Similar results have also been seen in the Singapore context.

In 2016, Neo administered an online survey to members of the public to examine the bystander effect in the context of violent extremism in Singapore. He attempted to answer two research questions:

(i) Can the first four steps of the bystander intervention theory developed by Latané and Darley (1970) be used to explain bystander effect in the context of violent extremism? Participants were asked to rate 11 items created to capture the psychological processes that influence a bystander's decision to take action for the first four steps.

(ii) What are the barriers preventing individuals from reporting those who exhibit early signs of radicalisation to the appropriate authorities? Participants were asked to rate three items created to identify who they felt would be in the best position to notice the early warning signs, as well as the barriers that would reduce the likelihood of reporting in two scenarios – when early warning signs are exhibited, and when the person-of-interest threatens to commit violence.

In total, 254 participants (123 males and 131 females aged between 18 and 73 years old) completed the 14-item survey. From a counter violent extremism perspective, insights gathered from this study can provide an empirical basis to identify ways to overcome

Figure 1. **Views on Which Group is in the Best Position to Notice Early Signs of Radicalisation (Neo, 2016)**
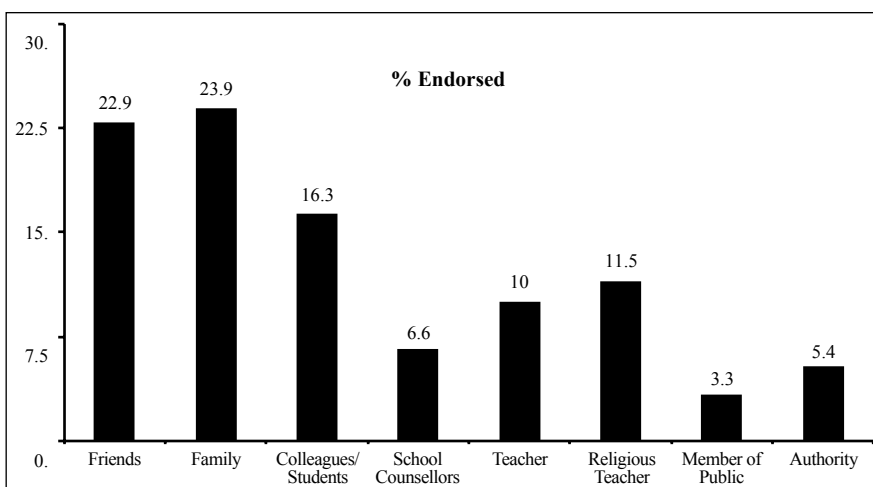
the bystander effect and increase the likelihood of community reporting.

Results from the survey revealed that close friends and family members were deemed most likely to notice early signs of individuals becoming radicalised (see figure 1; Neo, 2016). Understandably, there is a need to target interventions at these two groups of interest by providing them with information on what to look out for.

Secondly, it is important to recognise the varied responses that bystanders can have. Not every bystander is willing to report the person of interest to the relevant authorities (i.e., indirect intervention). The variety of bystander responses includes inaction (e.g., ignoring what is happening), joining in (e.g., encouraging the person to pursue the radical cause), or direct intervention (e.g., attempting to contain the situation). Given that bystander effect studies in other domains (e.g., McMahon & Banyard, 2012; Hawkins, Pepler & Craig, 2001) suggest that the responses of bystanders have an impact on the person of interest, bystanders can condone and embolden the actions of the person by not reporting, or directly hinder the radicalisation trajectory by reporting.

Furthermore, unlike conventional bystander effect studies where there is a clear demarcation of who the victim and the perpetrator are, this may not be so clear in the context of radicalisation (Fox, Neo & Khader, 2016). To begin with, is the individual viewed as a *victim* of radicalisation or a *potential perpetrator* of violence? These are essential questions because an individual's likelihood of intervention is influenced by how he/she perceives the person of interest. It would therefore seem fair to hypothesise that if people perceive the radicalised individual to be a 'victim' who is misguided and needs help (whom they may thus be inclined towards protecting from punishment) rather than as a 'perpetrator', they are more likely to report the individual to the relevant authorities. However, there are certain situational barriers that the bystanders have to surmount first before they can do so.

## 2. There are Barriers that Bystanders Have to Overcome Before Reporting

A meta-analysis conducted by Fischer and colleagues in 2011 identified several other factors that may be related to the decreased likelihood of helping behaviour. For instance, the likelihood of helping decreases when bystanders fear that their helping behaviours may be evaluated negatively by non-intervening bystanders, e.g., running the risk of embarrassment and ridicule for misinterpreting the event as one that requires assistance (van den Bos, Müller & van Bussel, 2009), facing potential retaliation from the perpetrator (Madfis, 2014), and getting themselves or the victim in trouble (Zhong, 2010). This may lead the bystander to 'diffuse' and shift his/her responsibility for intervention to other bystanders, which in turn inhibits helping.

However, it is important to distinguish radicalisation from conventional types of domains (e.g., sexual violence, bullying) in the bystander effect literature, including its frequent occurrence behind closed doors, and how it may not be perceived as an emergency due to the relatively longer period of time it takes for someone to become radicalised (Fox et al., 2016).

Nevertheless, many of the barriers to bystander action in radicalisation have been found to be similar to barriers documented in the general bystander effect literature (Neo, 2016; Williams et al., 2016). Given that the potential bystanders are likely to be close friends and family members of the person of interest (as highlighted earlier), they may be the least willing to report their suspicions due to fear of (i) damaging their relationship with the individual, (ii) putting the individual in danger from policing officials, and (iii) putting themselves in danger from policing officials (Williams et al., 2016).

Similarly, in his research on the bystander effect in violent extremism in Singapore, Neo (2016) found that the top four most endorsed reasons for not taking positive action after witnessing signs of radicalisation were all associated with some form of fear (see figure 2).

Figure 2. Views on What Would Prevent You from Speaking with the Police about Your Concerns (Neo, 2016)
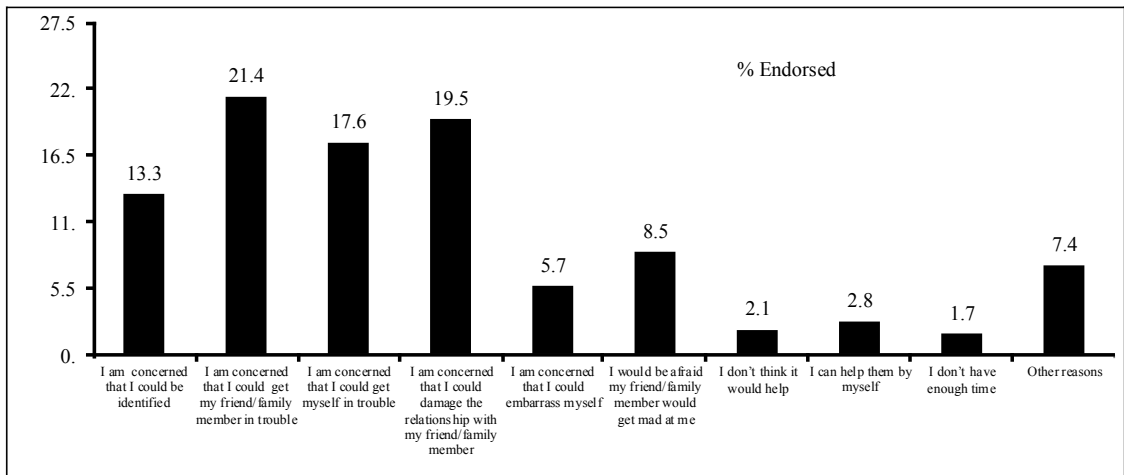
This result was confirmed by the authors in a 2018 survey administered to middle managers in a private company (see figure 3).

Figure 3. Survey on What Would Prevent You from Reporting
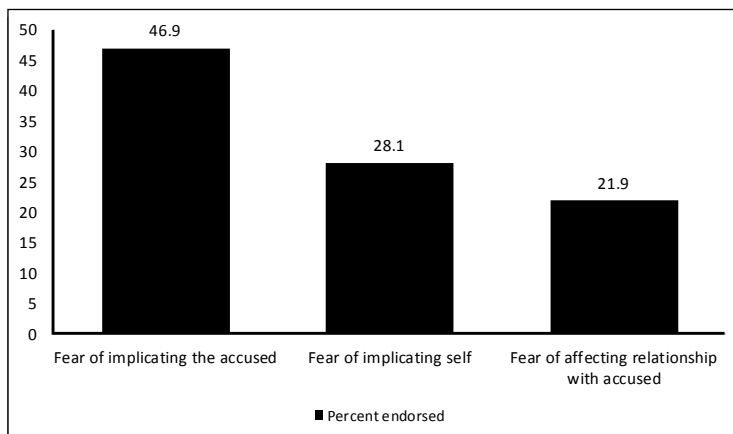
Taken as a whole, these findings suggest that one should not expect this group of bystanders – i.e., close friends and family members with whom relationships are primarily built upon genuine and mutual concern – to overcome these fears and report the person of interest easily (Williams et al., 2016). To them, the act of reporting entails the risk of harming treasured personal relationships.

Furthermore, due to the close bond and/or long-standing relationship between the bystanders and their friend/family member, these bystanders might not be inclined to believe that their friend/family member is capable of committing violence. In this regard, the fear of mislabelling and stigmatising one's friend/family member as a potential violent extremist may

lead the bystander to dismiss or overlook the warning signs (Williams et al., 2016), thereby decreasing his/her likelihood to report.

Thus, with respect to overcoming bystanders' reluctance to intervene, there is a need to first circumvent the element of fear associated with reporting and offer them a safe platform to do so (Neo, 2016). Firstly, given the sensitivities involved (e.g., fear of getting it wrong and damaging the relationship with the individual), it is reasonable to assume that members of the public may find it challenging to cooperate with (i.e., report to) the authorities. There is therefore a need for the relevant authorities to reach out and provide reassurances to the public that investigations concerning radicalisation will be carried

More importantly, the findings point specifically to the importance of not 'guilt-tripping' the bystanders by holding them responsible for their friends'/family members' behaviour. Instead the results suggest that outreach efforts should focus on providing opportunities for bystanders to report if they witness signs of radicalisation (i.e., based on the strong relationship between step 1 [noticing an event] and step 4 [know how to help]), and providing reassurances to them that they are reporting for the benefit and safety of the person of interest and the wider community. In other words, an individual's likelihood to report increases if one is simply asked to do so whenever one witnesses signs of radicalisation. Anker and Feeley (2011) found similar results. By simply providing students with the opportunity to register as organ donors, students' intentions to donate in the future were increased.

Additionally, to overcome the bystander intervention inertia, outreach efforts have to provide information that is simple and easy to relate to, as well as specific instructions on how to respond if one witnesses something suspicious. For instance, the 'If You See Something, Say Something' campaign implemented by the US Department of Homeland Security is straightforward and easy to grasp. However, in order to elicit the intention to report once the bystanders witness signs of interest, there is first a need to raise public awareness about the threat that radicalisation poses.

4. There is a Need to Educate Bystanders that the Threat Posed by Radicalised Individuals is Severe

A major concern about reporting signs of radicalisation is the ambiguity of the phenomenon itself. There is a wide range of behaviours involved, and depending on each individual, these behaviours may be manifested differently in terms of their severity and violence. On the one hand, there are behaviours that would generally be obvious 'red flags' or high-risk situations, including the expressions to kill and the desire for martyrdom (Kebbell & Porter, 2012). It is therefore reasonable to assume that bystanders would classify the presence of these signs as an emergency. On the other hand, there are behaviours that contribute to the nascent stages of radicalisation (low-risk situations) including the expression of intolerance towards a particular group, the use of the Internet to search for radical propaganda,

etc. (Neo, Dillon, & Khader, 2017). The behaviours at this end of the spectrum are less obvious, and therefore their connection to radicalisation may not be recognised nor judged as an emergency. As a result, radicalisation can be more difficult for the bystanders to notice than an overt emergency situation. This notion is best exemplified by what Muslim parents in Britain told interviewers: "Parents don't know if their children are going to Syria. So how can we report them? I am not sure what to look for? What are the signs? This just looks like spying" (Awan & Guru, 2017, p. 35). In other words, individuals (i.e., friends/family members) who are in an ideal position to witness signs of radicalisation may not understand the severity of the behaviours nor know what to look out for.

Hence, there is a need to educate bystanders that the threat posed by radicalised individuals is severe (i.e., one is one too many), and that it is a form of emergency. Indeed, bystander effect research on alcohol overdose by college students (Blavos, Glassman, Sheu, Diehr & Deakins, 2014), and sexual harassment (Fischer, Greitemeyer, Pollozek & Frey, 2006) have shown that bystanders are motivated by the perceived severity of the situation (e.g., the victim may die) to render assistance.

Similarly, the extent to which bystanders' behaviour may be moderated by the severity of the situation is also seen in the survey conducted by Neo (2016). It found that when participants were posed a scenario whereby an individual mentioned an 'intention to commit violence' (i.e., high-risk situation), more were triggered to report the individual than in a scenario where an individual only exhibited early signs of radicalisation (i.e., low-risk situation). Interestingly, participants expressed less concern about getting their friends/family members in trouble or of damaging their relationship with them in the high-risk situation. In both high- and low-risk situations, however, the participants were still equally concerned about getting themselves into trouble (see figure 5). It could be that these participants in the high-risk situation appreciated the severity of the situation, which resulted in their increased intentions to report, despite the potential of getting themselves into trouble.

Based on these insights, several implications for law enforcement practitioners, policymakers and academics can be identified. Firstly, outreach efforts

Figure 5. Impact of the Severity of the Situation on the Bystander Effect (Neo, 2016)
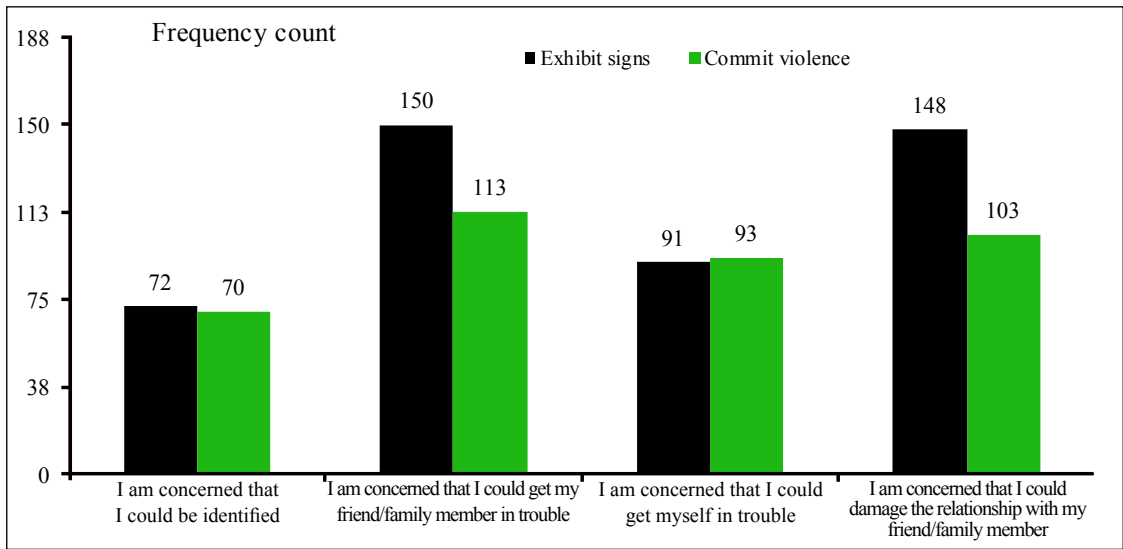
should be tailored to articulate clearly the warning signs of radicalisation (i.e., associated with high-risk situation) where the bystanders should intervene upon recognition. There is also the need to impress upon the bystanders that such situations, where the signs of radicalisation are salient, are emergencies that require their action. This in turn may increase the opportunities for individuals to become 'positive' bystanders who help guide the person of interest away from becoming radicalised.

Secondly, there is a need to establish outreach programmes that consider the level of general knowledge that the public may have about the topic of radicalisation; in fact, there are many examples where members of public did not understand basic concepts associated with radicalisation (see Awan & Guru, 2017). For instance, they may misconstrue a practising Muslim as a potential violent extremist. This may alienate the affected community and negatively affect social cohesion. Thus, programmes should (i) address the roles of a positive bystander, (ii) challenge myths and misconceptions about radicalisation, (iii) share signs of radicalisation, and (iv) recognise and reinterpret bystander intervention against radicalisation as events that affect the community. This will also shape public perceptions of radicalisation, and generate greater awareness about the threat it poses. However, there is a need to first create a safe and conducive culture which encourages reporting, in order for such outreach programmes to work.

5. We Need to Create a Culture Where Reporting is the Norm

While security forces work tirelessly to safeguard the nation's security by training their tactical capabilities and developing new technology and surveillance, the public too has a part to play in safeguarding the country against the threat of radicalisation (i.e., the SGSecure movement). Indeed, a key counter-radicalisation initiative adopted by many countries is to foster and enhance cooperation between the government and the public (Dunn et al., 2016; Spalek, 2014). Such community engagements may have a positive influence on eliciting bystander actions if there is an established level of confidence and trust between the two entities; for instance, people are more willing to share information if they believe the police to be fair. For example, the case of Andrew Ibrahim in the United Kingdom as highlighted by Pantucci et al. (2016):

In April 2008, members of a Bristol mosque noticed burn marks on Ibrahim's hands and arms; already concerned by his radical views, they contacted their community police officer. When police subsequently raided Ibrahim's flat, they discovered explosives, a suicide vest and evidence that he had been planning to attack a local shopping centre. Strong relationships between the police and the community had created an environment in which Ibrahim's suspicious behaviour could be detected and his plans disrupted (p. 16).

However, if members of the public perceive the authorities to be unjust and untrustworthy (e.g., due to racial prejudice), they will demonstrate an unwillingness to come forward with important but potentially incriminating information (Awan, 2012; Weitzer & Tuch, 2004). In such circumstances where the authorities are viewed with suspicion, people are likely to react like civilian Uzma Hussain did: "I would not call them because the police might just come knocking on my door and arrest my other children. Hard to trust them" (Awan & Guru, 2017, p. 34). These examples underscore the importance of building a culture that embraces cooperation and trust between the government and the public, which in turn may encourage bystanders to intervene in a positive manner.

Besides building trust, recent studies have identified other factors that may facilitate the creation of a positive culture for bystander actions. For example, studies have found that social norms and perceptions of cohesiveness have a strong influence on bystander intervention. Cantillon's 2006 analysis of youth delinquency found that members of the neighbourhood are more likely to offer assistance when they feel a greater sense of social and emotional connection to their neighbours. Group membership is also a contributing factor, where people are more likely to intervene when those who require assistance are perceived to be an in-group member (Levine & Manning, 2013).

This conclusion supports the potential use of a collective identity, which members of the public can relate to, in outreach programmes. For example, by engaging all Singaporeans, including the authorities and those who may become radicalised in outreach programmes, people can be reminded of their shared membership as members of the Singapore community. In addition, outreach programmes should reiterate that acts of radicalisation are not only wrong, immoral, and illegal, but antithetical to the Singaporean national identity shared by all citizens. An example would be the 'Stand United' messaging that is part of the national SGSecure movement (Seow, 2017). Besides emphasising the need for Singaporeans to build strong ties with their neighbours and the community, it also underscores an equally essential message for Singaporeans to maintain the ties and look out for one another, especially after an attack. However,

implementing such programmes is challenging as trust between the government and members of the public must be engendered, and steps taken to ensure the public can accurately identify concerning behaviour.

Other than building social cohesion within the community, it would also be important to educate Singaporeans on how to go about reporting suspicious behaviours. For instance, the SGSecure mobile application serves a very purposeful and important function in getting Singaporeans to report suspicious behaviours. Roadshows or informational booths can be set up in community centres or schools to allow for citizens to gain greater exposure and understanding of the utility of the mobile application. Besides serving as an easily accessible platform for users to upload photos, videos or text descriptions about suspicious incidents or objects, it also provides useful guidelines (e.g., what suspicious behaviours to look out for, what to do if you are caught in an attack), making it easier for bystanders to take notice of a crisis/emergency and act, as well as the latest updates in the event of a major emergency.

These suggestions have the potential to play a critical role in creating a culture where reporting is the norm, where all members are willing and able to intervene, and become active in reporting signs of radicalisation.

Conclusion

The current state of violent extremism makes community reporting of suspected radicalisation to violence absolutely essential. This paper, therefore, seeks to answer the question of how to encourage the community not to 'stand by' (i.e., be bystanders) and report more. Based on the preliminary insights derived from a behavioural sciences perspective, five key points and their associated implications for law enforcement practitioners, policymakers and academics have been identified.

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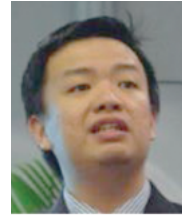
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Building Bridges, Managing Relations: Community Interventions in the Aftermath of a Terrorist Attack

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Abstract. Terrorist attacks have in recent years increasingly challenged societal cohesion in countries around the world as fear and anger led to suspicion and hatred directed at specific communities. Multi-racial and multi-religious nations like Singapore therefore have to plan ahead and prepare appropriate community responses to deal with the aftermath of a terrorist attack. To help Singapore agencies involved in mitigating post-attack tensions prepare for 'the day after', the Research & Statistics Division of the Ministry of Home Affairs reviewed several terrorist attacks overseas, and identified six common approaches undertaken by affected communities to maintain cohesion and resilience. These approaches included rallies for solidarity and interfaith events led by religious leaders, social media campaigns calling for help and support, and memorials and vigils organised by the community. The examples offer some lessons for Singapore agencies that have to plan for interventions that help the community recover and return to normalcy 'the day after' an attack.

A Cohesive Society Regardless of Race, Language, or Religion

Since independence, maintaining a cohesive society has been one of the greatest concerns in Singapore, where racial and religious relations have been the most worrisome fault-lines. Generations of leaders have continued to emphasise the importance of being "one united people, regardless of race, language, or religion". More than 50 years after independence, Prime Minister Lee Hsien Loong is still reminding the nation that:

> The work of building Singapore for the next 50 years will be a massive, long-term undertaking, lasting more than a generation. To sustain this project, we will need a strong economy and sound government finances. Most importantly, we need social cohesion, political stability, and good government for many years to come, in order to carry out and realise our vision (Lee, 2018).

Community Cohesion Threatened

Global terrorist attacks over the last decade have increasingly threatened societal cohesion worldwide, including the unity of small nations like Singapore. The threat of terrorism has added to the complexity of managing racial and religious relations. Terrorist attacks are usually defined as "the threatened or actual use of illegal force and violence by non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation" (Global Terrorism Database). Besides the victims directly caused by terrorist attacks, the diffusion of terror, including through social media channels, magnifies the psychological impact among the wider public. This triggers feelings of fear and uncertainty, and affects people's behaviour (Ballegooij & Bakowski, 2018). In turn, this might affect cohesion after a violent extremist attack, where the resulting fear and anger faced by the populace may lead to suspicion and hatred being directed at specific groups and communities (Wang et al., 2015).

For instance, terrorist attacks carried out in the name of Islam has led to a rise in hate crimes and Islamophobia globally, threatening cohesion. In 2017, Tell MAMA, an independent, non-governmental organisation in the United Kingdom, reported that the year had seen the highest number of anti-Muslim incidents since 2012 (Atta, Randall, Charalambou & Rose, 2017). The types of incidents reported included assaults, threats, physical violence, anti-Muslim protests and online hatred.

In multi-racial and multi-religious Singapore, there is concern that the nation may experience similar social mistrust, and distrust in inter-community solidarity. Hence, managing community relations and promoting religious and racial understanding in the immediate aftermath of an attack will be crucial.

Post-Attacks: Building Bridges, Managing Relations

Working on the premise that ground-up initiatives might better resonate with the people than top-down efforts, the Research & Statistics Division (RSD) of the Ministry of Home Affairs reviewed several overseas examples that took place in the past five years, and identified useful examples for local community and religious organisations that might be involved in maintaining cohesion in 'the day after' scenarios. The incidents reviewed include the 2017 attacks in the United Kingdom (Westminster attack in March, Manchester Arena attack in May, London Bridge attack in June, and London Tube attack in September); attacks in France (Paris attacks in November 2015, Charlie Hebdo attack in December 2015, Nice attack in July 2016); and other attacks in Europe, including the attack in St. Petersburg, Russia in April 2017, and Barcelona, Spain, in August 2017.

Based on these incidents, RSD identified six common post-attack approaches undertaken by the community that helped mitigate communal tensions, raised cohesion and helped with recovery in the affected countries.

Defining Community Cohesion

But first, what do we mean by community cohesion? In order to plan for measures to maintain cohesion and facilitate post-crisis recovery, agencies need an understanding of what constitutes a cohesive society to better help them select and plan possible interventions in the aftermath of a crisis. A common definition of the concept will also help agencies to evaluate if the examples highlighted in this review are applicable to Singapore, and how to adapt them to suit the Singapore context.

Community cohesion is a complex domain involving several components and has no universally accepted definition. Forrest and Kearns (2001), citing a definition widely adopted to build community cohesion in the United Kingdom, argue that the following key components need to be present for the community to be cohesive:

a. Presence of social order and control, made up of the following key elements:

    i.   Respect for differences, absence of incivility

    ii. Absence of inter-communal conflicts

    iii. Effective informal social control and easy resolution of collective problems – this refers to the community's use of social norms, folkways, customs and traditions to restrain behaviours that threaten cohesion or to encourage certain behaviours that contribute to social order. As people generally agree to a set of socially acceptable behaviours, adherence to this 'behaviour code' becomes a method to negotiate and resolve collective problems in the community.

b. Social solidarity, made up of the following key elements:

    i.   Acknowledgement of one's social obligations – i.e., an acknowledgement by the citizens of a society of their obligations to re-distribute resources to ensure equal access for fellow citizens. An example is the need to exercise restraint and responsibility by curbing individual liberties and preferences that may disrupt social order in society.

    ii. Social interactions with other ethnic communities

    iii. Willingness to help one another, especially across ethnic communities

iv. Perception that one has equal access to benefits and opportunities - this requires individuals to have sufficient social capital and for them to trust that the government treats everyone fairly.

c. Sense of belonging - this requires people to feel connected to their co-residents, their home area, and to have a sense of belonging to the place (e.g., Singapore) and its people.

Community Interventions: Examples from Europe

More than the act of terror itself, the fear of an act of terrorism can be an even more powerful weapon, where the culture of fear could affect people's ability to deal with crises in a positive way. However, overseas examples have shown that there is often an existing sense of community cohesion and resilience in society, where people are generally supportive of each other in rendering immediate help to those in need, and to rally the people to support each other. Six common approaches undertaken by communities in Europe after a terrorist attack are discussed here, each showing the importance of community interventions in mitigating tensions, restoring public confidence, and help with the recovery process.

1. Rendering Immediate Help

a. Providing the Essentials

In many of the incidents studied, there was evidence of a reasonable amount of community resilience as people were quick to provide support for victims. After the 2017 Westminster attack, some members of public were seen administering first aid before first responders arrived at the scene. Others were comforting the victims (Evans, 2017). The ability of passers-by to provide immediate first aid meant a higher chance of survival for the victims. Other help often came in the form of offers of free transportation, food and shelter. After the 2015 Paris and 2016 Nice attacks, people also offered shelter and help through social media, using hashtags such as #PorteOuverte *(*"Open Door"). Hashtags such as #RechercheParis ("Search Paris") and #RechercheNice ("Search Nice") were set up to help in the search for missing individuals. After the 2017 Barcelona attack, public transport was free, and taxi drivers and transport services

offered free rides as well. People also rushed to donate blood to help the victims (Harris, 2017).

b. Facebook's Safety Check

After the 2015 Paris attacks and 2016 Nice attack, Facebook activated its safety check to allow Facebook users who were at or near the site of the attacks to inform their friends that they were safe. After the 2017 London Bridge attack, people could also use this feature on Facebook to seek help or to offer help (Nagesh, 2017). Likewise after the 2017 Barcelona attack, more than seven thousand offers were registered on the Facebook page within a day after the attack ("Huge wave of solidarity", 2017).

2. Role of Religious and Community Leaders in Mitigating Tensions

Religious and community leaders used their social networks and relationships to mitigate tensions by rallying their communities to stay calm, and act peacefully. The constant dialogues between leaders and residents not only meant that it was easier for the leaders to reach out to their communities after a crisis, but that the people would also trust them more than the government.

a. Reactions from Muslim Leaders

Where attacks were perpetrated by extremists who identified themselves as acting in the name of Islam, it was common for Muslim leaders to come forward to quickly condemn the attacks and emphasise that the attackers did not represent Islam. By distancing themselves from the attackers, Muslim leaders were seeking to mitigate retaliatory attacks against innocent Muslims.

i. Condemnation of Attacks by Muslim Leaders

The 2016 Nice attack was the third that France suffered within 18 months. In addition to condemnations by local Muslim leaders, strong statements by leading international Muslim actors helped to put distance between the actions of the terrorists and the ordinary Muslim community. For instance, the six Gulf Arab states issued a statement strongly condemning the terrorist act in Nice, and reiterating the Gulf Cooperation Council's position that it stood "in solidarity with the

French republic following this cowardly criminal incident whose perpetrators have been stripped of all moral and human values" ("Muslim, Gulf leaders condemn Nice attack", 2016). After the 2017 London Bridge attack, not only did the Muslim Council of Britain issue a statement to condemn the attack, but more than 130 Muslim imams and religious leaders from across the country also jointly refused to perform the traditional Islamic prayer for the dead attackers, and called for others to do the same because "such indefensible actions are completely at odds with the lofty teachings of Islam". They added: "These vile murderers seek to divide our society and instil fear; we will ensure they fail" (Muslim Council of Britain, 2017).

ii. Keeping Communities Calm and Cohesive

Amidst rising Islamophobic sentiments in the United Kingdom after the series of attacks in 2017, Muslim victims of hate crimes were urged by their leaders not to retaliate as such actions would only sow distrust and divide society. When an anti-Muslim attack took place near a Muslim Welfare Home and Finsbury Park Mosque in London in June 2017, injuring several worshippers, an imam in Leeds and a member of the government's anti-Muslim hatred working group, Qari Asim, urged followers: "We must remain calm and vigilant, and increase security around mosques. We must stand together to drown out extremism and hatred with hope and unity" (Sherwood, 2017). Imam Mohammed Mahmoud was hailed as a hero after urging irate witnesses not to attack the Finsbury attacker. Speaking to reporters, he said that there was a "group of mature brothers" who helped to "calm people down and to extinguish any flames of anger or mob rule". He added: "This community of ours is a calm community, not known for their violence. Our mosques are incredibly peaceful. I can assure you we will do our utmost to calm down ill intentions" (Gayle, Ross & Sherwood, 2017).

iii. Calls for Recognition of Different Types of Terrorist Threats

However, some Muslim leaders also criticised the time taken by the British authorities and media to classify the 2017 Finsbury Park attack as a terrorist act. Founder of the Muslim Engagement & Development, Sufyan Ismail, said: "We also condemn the initial ambivalent response of, and language used by parts of the media in reporting this as a terrorist attack. We would contrast this with their response to the similar Westminster attack that was immediately described as a terrorist attack. We call upon the media to ensure even-handedness and objectivity in their reporting of such incidents regardless of the alleged perpetrator or victims" (Sherwood, 2017).

b. *Reactions from Other Faith Groups*

Other religious leaders and interfaith organisations also reacted immediately after an attack to show their support and solidarity with all communities.

i. Rallying Support for All Communities

After the 2017 Finsbury Park attack, Rabbi Herschel Gluck said: "An attack on the Muslim community is an attack on every single citizen in Great Britain, because we are one nation, under one God, living together, working together, co-operating together in this country" ("United against all terror", 2017). Similarly, after a blast on board a metro train in St. Petersburg in April 2017, many religious leaders offered condolences, and rallied their followers to support the victims. Archbishop Paolo Pezzi of Moscow condemned the acts of terrorism and called on all Catholics in Russia to pray for Russia ("Archbishop laments 'curse of terrorism'", 2017). Buddhist communities across Russia also united to express their condolences and offer prayers for the victims (Klasnova, 2017).

ii. Interfaith Events

Interfaith gatherings were often organised after an attack as an act of solidarity and defiance against acts of terror, and to call for unity between religions. In preparing for backlash against the Muslim community following one of the deadliest attacks in France after the 2015 Paris attacks, over 3,000 people supported

French Muslims by attending a multi-faith event, "Rally with Muslims of France for Peace and National Unity", held two days after the attacks (Kaleem & Blumberg, 2015). Similarly in the United Kingdom, after the 2017 Westminster attack, faith leaders gathered at Westminster Abbey for a vigil and a minute's silence for the victims. The Archbishop of Canterbury, Rev. Justin Welby, was joined by the Roman Catholic Archbishop of Westminster, the Chief Rabbi of the United Hebrew Congregations of the Commonwealth, the Chief Imam at the London Central Mosque, and a representative of the Shia Muslim Council. Welcoming them, Archbishop Welby said: "In standing here, we represent the three Abrahamic faith communities, all equally committed to a peaceful future" ("Welby and Nicholas join religious leaders", 2017).

3. Acts of Solidarity

In addition to efforts by religious and community leaders, the community also came together in shows of unity against terrorism and support for the victims.

a. Solidarity Marches

Over one million people, including world leaders, marched through Paris four days after the December 2015 Charlie Hebdo attack as a show of unity against terrorism, and to honour the victims. Among them was Dalil Boubakeur, the rector of the Great Mosque of Paris and president of the French Council of the Muslim Faith. The march was the biggest in French history, and similar marches were held worldwide, including in Berlin, London, Washington and Jerusalem (Alderman & Bilefsky, 2015).

b. Encouragement through Social Media Campaigns

Social media was often flooded with messages of condolences and solidarity in the immediate aftermath of the attacks. Many Spaniards, celebrating their cultural diversity, stood up against any attempts to divide society in the aftermath of the 2017 Barcelona attack. Hashtags displaying solidarity with Spain were expressed in different languages, such as *#BarcelonaSomTots* (We are Barcelona) and *#BarcelonaAmbTuu* (With you Barcelona) in Catalan, and *#BarcelonaContigo*

(With you Barcelona) in Spanish. Some also incorporated the red and yellow stripes of Estelada, the unofficial flag of the Catalan independence movement (Burack, 2017). Additionally, the Spaniards also cooperated with security forces through social media. After police urged social media users not to share photos of victims or the attack, social media users used images of cats to express their defiance and sense of solidarity with Spain (Molloy, 2017). The posting of cute pictures of cats was also to thwart one of the objectives of terrorism, which is to scare and horrify people (Wheaton, 2017). One user wrote: "We will post cute cat photos so that the murderers do not exploit the blood spilled and the pain caused." This movement was like the 2016 Brussels attack where people took to posting pictures of cats following the police's appeal not to post pictures that might reveal details of the counterterrorism operation (Persio, 2017).

c. Being Wary of Potential Sensitivities

Different hashtags (e.g. #JeSuisCharlie ["I am Charlie"]) emerged or were rehashed from previous incidents as rallying points for people against the 2015 Charlie Hebdo attack. However, as Charlie Hebdo was a satirical newspaper known to make fun of Islam, #JeSuisCharlie became controversial and sparked debates about freedom of expression without limits or responsibilities as it upheld the right and courage to express oneself freely, with seemingly little consideration for the sensitivities of Muslims (Dearden, 2016).

4. Restoring Confidence in the Community: Fighting Islamophobia & Racism

While there were reports of increasing retaliatory attacks against Muslims after an incident, there were also many others who stood up to fight against Islamophobia and racism.

a. Stand against Hate Speech and Crimes

After the 2017 Finsbury Park attack, hundreds attended a vigil held outside the mosque as a show of solidarity, carrying signs such as, "We stand by you" and "Leave our Muslim Neighbours Alone" ("Finsbury Park attack", 2017). After the 2017 Manchester Arena attack, radio host and newspaper columnist Katie Hopkins was berated

by the online community after tweeting that the country needed a "final solution" – a term originally used by the Nazis for the Holocaust. She was reported to the Metropolitan Police for using hate speech as well, raising questions about the limits the press could go when reporting the fallout from terrorist attacks ("Katie Hopkins reported to police", 2017). Many, especially victims of both Manchester Arena and London Bridge attacks, also shared their experiences of support from Muslims and their generosity in an attempt to fight against Islamophobia. After the Manchester Arena attack, a social media user tweeted: "It was a Muslim taxi driver that got me out of that hellish situation and to safety. People need to watch their words" (Revesz, 2017).

b. *Breaking Down Barriers*

Hundreds of people showed their support for Muslims by attending an open day at Thornaby Mosque in Teeside, which was vandalised after the 2017 London Bridge attack. The open day was organised to allow the community to learn more about Islam, hoping to "break down barriers in the community". A local resident, Suzanne Fletcher, was quoted as saying: "I thought it was really important to show solidarity because of the way they've been demonised in the press" (Halliday, 2017). This event exemplified the importance of creating opportunities for interaction amongst faith groups, and to learn about each other's religions.

5. Ground-up Memorials and Vigils

Makeshift memorials were a common sight after attacks, where people rallied together to pay respect to the victims. These also helped people to better understand the terrorist threat as they acknowledged that the victims could have been anyone, including themselves.

a. *Makeshift Shrines*

After the 2016 Brussels attack, the plaza outside the Belgian stock exchange was transformed into a giant message board within 24 hours of the attack. Using chalks, people wrote messages on the ground to the victims of the attacks and left notes of defiance and solidarity (Siddique & Khomami, 2016).

b. *Vigils: Unity in Adversity*

In Spain, thousands, including locals and tourists, attended a vigil held at Barcelona's Plaça de Catalunya a day after the 2017 Barcelona attack. In a show of defiance and unity, the crowd spontaneously shouted, "No tinc por!" (I am not afraid) after a minute of silence, and continued the chant as they walked down Las Ramblas. In a show of political unity, the vigil was attended by King Felipe VI, Prime Minister Mariano Rajoy, and Catalan President Carles Puigdemont. Reports emphasised the unity of Spaniards as this represented a rare moment of unity for the Prime Minister and the Catalan President who had been at loggerheads over a planned secession vote on 1 Oct 2017. There was also a notable absence of national flags. It was reported that a woman waving a Spanish flag was told to put away the flag. While some people wanted to show the flag as a symbol of a nation coming together, others felt that it was not a time for nationalism ("Barcelona and Cambrils attacks", 2017). This was different from other countries where people rallied together as one nation, regardless of race or religion. It highlighted the importance of being sensitive to local context when allowing or planning for community interventions to facilitate recovery.

c. *Beyond Faiths: Acts of Defiance*

When attacks were claimed by Islamic extremists, Muslims also made an effort to show their solidarity and pay respect to the victims. After the 2017 Manchester Arena attack, thousands attended a vigil held at Albert Square a day after the attack to honour the victims, and as an act of defiance against terrorism. Muslims from around the United Kingdom also drove to Manchester to show their solidarity. One of the attendees noted: "I'm not here as a person with brown skin or a Muslim background. I'm here as a Mancunian" (Pidd, 2017). Members of the Ahmadiyya Muslim Youth Association also attended the vigil after the 2017 Westminster attack with banners stating, "Love for all, hatred for none" (Dearden, 2017).

6. Return to Normalcy

Social trust will be impacted by attacks that are religiously motivated. Hence, in order to rebuild trust

amongst communities, it is important to encourage ground-up initiatives that serve to return the community to normalcy as soon as possible, and show that the nation will not allow the terrorists to damage communal relations.

a. *Back to Work and Life*

Although calls to return to normalcy were predominantly made by government leaders, members of the local community helped by rallying people to go back to work and school as soon as it was safe to do so. After the 2016 Brussels attack, many people returned to work and school less than 24 hours after the attacks. To encourage others to return to normalcy as quickly as possible, several Parisians posted photos of themselves outdoors with the hashtags #JeSuisEnTerrasse ("I am on the Terrace") and #TousAuBistrot ("Everyone to the Bistro") to show that the French would not give up their way of life after the 2015 Paris attacks. Parisians reportedly flocked to local restaurants and bars in a "uniquely French display of solidarity" (Toor, 2015).

b. *Humour as an Act of Defiance*

Instead of caving in to fear, after the attacks in London in June and September 2017, Londoners encouraged each other to resume their daily lives by using humour. After the London Bridge attack in June, a man who was pictured holding onto a half-full glass of beer as he fled the scene of attack inspired many defiant messages from the British, such as "People fleeing #LondonBridge but the bloke on the right isn't spilling a drop. God bless the Brits!" ("London terror attack", 2017). In classic British humour, after the London Tube attack in September, businesses such as haute couturier Antonia Pugh-Thomas encouraged people to return to normalcy by posting on Facebook: "One of my clients has just rung me to complain bitterly about the type of interfacing we've used on the facings of her dress. It's good to have perspectives on life" (Molloy, 2017). Others showed their spirit of resilience and defiance by example – a victim of the attack, Peter Crowley, went straight back to work despite suffering burns to his head (Baynes, 2017).

Preparing For 'The Day After'

Given the high threat of terrorism, it is important that we continue to maintain community cohesion during peacetime, and prepare a strong community response in the event of a crisis. The examples reviewed here show community interventions to be important mechanisms to mitigate tension, restore public confidence and help with the recovery process.

In 2016, Singapore launched the SGSecure movement to prepare community leaders and citizens to anticipate how a crisis might affect cohesion, and how we can respond to, and recover from it. Through movements such as SGSecure, citizens are being prepared for a crisis during peacetime, and constantly reminded of the importance of staying united and strong in the event of a crisis. Hence, this article has sought to offer agencies involved in SGSecure some lessons from the examples of other cities as they prepare to meet potential challenges in our own "day after" scenarios.

About the Author

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Singapore's Drug Control Policy: Why Zero Tolerance Works

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Abstract. Singapore has a harm prevention, or zero tolerance, approach to drugs, using a legal framework of sanctions against drug consumption, possession and trafficking that is enforced vigorously while an equally comprehensive preventive education programme starts with the young. This article examines the reasons for Singapore's drug control model, which has evolved through various challenges, including a failed drug substitution therapy approach in 2002-6 that has reinforced the belief that harm reduction does not work.

The Three International Drug Conventions

More than a century ago, the international community met in Shanghai on 26 February 1909 to discuss the world's opium problem at a conference known as The Shanghai Opium Commission. This meeting laid the groundwork for the first international drug control treaty three years later – the International Opium Convention of The Hague. Over time, the global drug situation evolved, with opium losing popularity in many parts of the world and replaced by other substances of abuse. The global community responded to the evolving challenge with the enactment of the 1961 Single Convention on Narcotic Drugs, followed by the 1971 Convention on Psychotropic Substances, and the 1988 United Nations (UN) Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. Despite the highly contentious nature of drug control policies, these treaties successfully obtained near universal consensus for the strict control of abused substances, with over 180 countries becoming parties to the conventions (UNODC, 2008).

The conventions form the global framework for the control and restricted use of drugs, under which state parties have legal obligations to develop control measures to prevent the production, cultivation, trafficking and diversion of controlled substances, while still allowing their availability for legitimate medical and scientific purposes (UN, 2013). This framework of rules and beliefs was designed to give countries flexibility in adapting their legislation according to local context, and yet bring about a universal application of drug control policies.

Singapore is a state party under the conventions and adopts a harm prevention, or zero tolerance, approach. This approach utilises a legal framework which imposes sanctions against drug consumption, possession, and trafficking, and provides law enforcement agencies with significant powers to conduct investigations into drug offences. Singapore's aim is to be a drug-free society where her people can work, live and play safely.

Changing Attitudes towards Drug Control

However, in the last few decades, harm reduction advocates and certain interest groups, tapping shifting attitudes towards drugs, have criticised the zero-tolerance approach and pushed for the liberalisation of international drug control policies. The critics argue that such policies have led to a nearly worldwide rapid increase in prison populations, human rights violations, restricted access to essential medicines, and the criminalisation of users, creating obstacles for health care, including strategies for HIV/AIDs prevention (Jelsma, 2010).

In recent years, Latin American leaders, fatigued by the violence of the war on drugs, have joined in the call for policy changes (Forero, 2012). In 2012 they pressed for the UN General Assembly to hold a review of the drug control system, which took place at the UN General Assembly Special Session on Drugs

four years later – UNGASS 2016. At the UNGASS, proposals to liberalise the approach towards drugs were intensely debated but did not result in significant shifts to global drug policy (Fassihi, 2016).

Meanwhile, some countries have unilaterally departed from the previously forged consensus. On 17 Oct 2018, Canada, in violation of the 1961 convention of which it is a signatory, became the second country after Uruguay to legalise cannabis for recreational purposes. Under new Canadian laws, adults over 18 years old are allowed to buy cannabis oil, seeds and plants and dried cannabis from licensed producers and retailers, and possess up to 30 grams of dried cannabis in public. They can also grow up to four plants per household for personal use. Legalisation fulfils a campaign promise by Prime Minister Justin Trudeau, whose Liberal Party won the 2015 General Election. Trudeau argued then that Canada's long prohibition of cannabis has been ineffective since Canadians are still among the world's heaviest users. The new laws, he has argued, are designed to restrict access of the drug to youth – who are among the heaviest users in Canada – and reduce the burden of cannabis laws on the justice system while undercutting the profitable illicit market for the drug, of which $400m a year will now flow to the federal government in tax revenues from legal sales. But concerns remain, including the potential rise in drug impaired driving and the ability of police to cope. Two days before legal sales started, the Canadian Medical Association Journal published an editorial calling legalisation "a national, uncontrolled experiment in which the profits of cannabis producers and tax revenues are squarely pitched against the health of Canadians" (Murphy, 2018).

Different Drug Control Regimes

Throughout history, societies have displayed different levels of tolerance for the use of mood-altering psychoactive substances. Some substances like tobacco and alcohol are regulated to varying extents. Others such as narcotic drugs and psychotropic substances controlled under the three international drug conventions are judged to be harmful and hence placed under strict controls. In this, concern for the health and welfare of humankind is considered the cornerstone of the international drug control framework (International Narcotics Control Board, 2018).

Countries have interpreted their responsibilities under the conventions differently, and these differences have evolved into the following distinct drug control regimes:

1. Zero Tolerance

Under the framework of the three international drug control conventions, many countries have adopted the zero tolerance approach towards drug abuse, where abuse is treated as a behavioural problem to be corrected. It is also often considered a criminal justice issue, with laws providing for severe penalties, including imprisonment, to deter drug abuse. Some countries also focus on treatment and mandatory rehabilitation to help abusers abstain permanently from drugs.

2. Harm Reduction

During the AIDs crisis in the 1980s, a number of countries experienced a high number of HIV transmissions among and from intravenous drug abusers. These countries began exploring a different approach underpinned by harm reduction treatment programmes, which the UN Office for Drug Control and Crime Prevention (UNODC) define as policies or programmes that aim to reduce harm resulting from drug abuse, both to the individual and the community, without necessarily requiring abstinence (UNODC, 2000). Such programmes, which included needle exchanges and drug consumption rooms, were initiated to encourage abusers to consume or administer drugs safely. Drug substitution therapy was also used to reduce the need for intravenous drug administration. These programmes led to an improvement in the HIV situation, and prompted the European Union to officially recommend harm reduction policies to member states in 2003 (Hedrich, Rhodes & Dagmar, 2010). As of 2016, 90 countries have implemented needle exchange programmes to some degree and 80 have adopted drug substitution therapy (Stone & Sander, 2017).

3. Decriminalisation

The UNODC refers to decriminalisation as "removal of penal controls and criminal sanctions in relation to an activity, which however remains prohibited and subjected to non-penal regulations and sanctions" (UNODC, 2000). This is achieved by changing the

laws penalising drug abuse and/or possession from criminal offences to civil/administrative offences (punishable with a fine), or diverting drug abusers from the justice system and into rehabilitation programmes. In decriminalisation, the intention is usually to shift the focus from punishment to helping drug addicts cope with their addictions (Marlatt, 2002).

Actual decriminalisation does not involve legislative reform, but courts and law enforcement agencies are given discretion to pursue administrative actions instead (Beckley Foundation). An example is the 'drug courts' that operate in some areas in Australia, the United Kingdom and the United States, which were established as an alternative way of dealing with nonviolent drug offenders. In drug court, a bargain is struck between judges and defendants in which criminal charges are not filed against the defendants if they agree to undergo treatment and court-monitored supervision. If the defendant fails to keep to the treatment plan, the court may order him or her to be incarcerated. If the defendant completes the treatment, the judge may dismiss the criminal charges or reduce the sentence imposed (Marlatt, 2002).

A common reason why countries adopt a decriminalisation approach is the failure of previous prohibition-based drug policies to stem rising drug abuse and HIV rates among intravenous drug abusers. Another factor is the lack of capacity to cope with an increasing prison population due to drug abuse offences and drug abuse within the prison itself (Koling & Duke, 2016). The rationale for decriminalisation in these countries is to ensure that drug addicts, especially youths, are directed to treatment programmes to manage their dependence and minimise harm. It also frees the authorities to focus limited resources on arresting drug suppliers.

4. Legalisation

The UNODC refers to legalisation as "the removal of the prohibition over a previously illicit activity … [but] it does not necessarily imply the removal of all controls over such activity" (UNODC, 2000). The decisions taken by Canada and Uruguay to permit the recreational use of cannabis are a form of regulated legalisation. They, however, contravene the international drug control framework and are in violation of the 1961 Single Convention on Narcotic Drugs, by permitting the non-medical use

of a controlled drug (International Narcotics Control Board, 2018). Instead, cannabis is being managed in a manner similar to alcohol and tobacco as the government is regulating their use through taxation and by setting regulations on how it is sold and who can purchase it.

Besides Uruguay and Canada, some U.S. states have also legalised the use of recreational cannabis. In these places, people voted in favour of cannabis legalisation for several reasons: to allow police officers to focus on prevention of violent crime and to remove some of the burden on prosecutors and courts, to increase state revenue, to protect users by subjecting illicit substances to health and safety regulations, to enhance individual freedom (to use drugs), and to eliminate the black market for drugs (Coalition to Regulate Marijuana Like Alcohol).

5. Legalisation for "Medical Purposes"

The legalisation of drugs for "medical purposes" mainly applies to cannabis for which a number of countries and US states have changed laws. Under this policy, only individuals with a prescription from a medical practitioner are allowed to have access to the drug and obtaining it from other sources remains illegal. This is based on the belief that cannabis has medical uses and thus should be available to those who might benefit from it.

Singapore's Zero Tolerance Approach

1. Zero Tolerance Prevents Drug Abuse from being Normalised and Protects Society

The Singapore government's position is that zero tolerance is the best way for managing illicit drugs. A key reason why Singapore does not have a severe drug problem is the recognition that drug abuse has a far ranging impact that extends beyond the suffering of addicts; their families suffer too and the overall security of the community is affected. Accordingly, there is an imperative to protect the community from the harm caused by drugs. At a fundamental level, that starts with preventing drug abuse from being normalised and treated as acceptable behaviour. The zero tolerance approach hence works to build up a national consensus against drugs that in turn protects the community from harm. Singapore also rejects other approaches for practical reasons; when a harm

reduction approach was tried more than 15 years ago using drug substitution therapy, it created a set of serious problems instead.

From the Singapore perspective, the numbers tell the story. From a peak of about 6000 drug abusers arrested yearly in the 1990s, the number has steadily decreased to the low 3000s although Singapore's total population has grown by more than 50% in the last two decades. In 2017, there were 3,091 drug abusers arrested, or 0.056% of the population, compared to 0.15% of the population in the 1990s. On the other hand, Singapore is consistently ranked in the top tier of global indices which measure safety and security perceptions within countries. For example, Singapore was ranked first in Gallup's Law and Order Index 2018, for the fourth consecutive year since 2015 (Gallup, 2018), and also first for order and security in the World Justice Project Rule of Law Index 2017-2018 (World Justice Project, 2018).

2. Singapore's Drug Problem has a Different Context

Importantly, Singapore's context is vastly different from countries who have chosen to adopt more liberal drug policies and the Singapore government too does not see any compelling reason to change its approach. For example, Singapore does not have a problem with HIV transmission through intravenous drug abuse, which has been a key reason for many countries adopting harm reduction or decriminalisation policies. According to the Singapore Ministry of Health, there were no HIV positive cases among local intravenous drug abusers in 2017. Indeed no more than 4 HIV positive cases have been reported in any one year since 2011, accounting for 1% of the total infections in the last 7 years. The majority of HIV infection cases were due to unprotected sex (Ministry of Health, 2018). The data indicates that the HIV and intravenous drug abuse situation is well contained under the existing drug policies and strategies. Having said that, the strategy behind Singapore approach of zero tolerance is continuously reviewed so that it remains relevant and effective.

3. Harm Reduction Approach Leads to More Problems

Singapore tried a harm reduction approach in 2000 and it proved to be an ineffective method of drug control. Subutex (containing the active drug buprenorphine hydrochloride) was then approved for use by the Ministry of Health (MOH). In 2002, it was introduced as part of a drug substitution therapy for heroin addicts. The aim of the treatment was to reduce the craving for heroin and to facilitate improvement in their social functioning, allowing users to be gainfully employed and engage in personal relationships. However instead of consuming Subutex sublingually (i.e. placed under the tongue to allow the drug to be absorbed into the blood stream faster) as prescribed, drug addicts began mixing it with other drugs and injecting it into their bodies. This led to the introduction of a needle culture that had not previously been seen in Singapore. Such misuse and administration of the drug resulted in medical complications such as Hepatitis B and C, HIV, gangrene and even deaths. Within 4 years of Subutex's introduction, there were at least 3,800 known Subutex abusers in Singapore (Earn, 2006).

The problem was addressed along three prongs. Firstly, on 14 Aug 2006, buprenorphine was made a Class A Controlled Drug under the Misuse of Drugs Act (MDA). This allowed the Central Narcotics Bureau (CNB) to engage in enforcement action against its consumption and distribution. Secondly, MOH implemented a Subutex Voluntary Rehabilitation Programme (SVRP) to help addicts wean off their dependency on Subutex and stay drug free. This programme was developed by a panel of psychiatrists and included a detoxification regime that was supported by doctors and counselors. Thirdly, transitional provisions were also put in place to allow addicts to receive maintenance doses of Subutex over a two week grace period before signing up for SVRP, under the strict supervision of medical general practitioners (Earn, 2006).

Due to these actions, Subutex abuse has been almost eradicated in Singapore. The authorities learnt from the Subutex experience that substitution drugs are highly susceptible to abuse. When drug abusers can simply transfer their addiction to a legally prescribed substitution drug, their resolve to wean themselves off their addiction soon weakens.

4. Cannabis is Harmful

Contrary to claims that cannabis is harmless, there are well-established studies that show adverse physical and psychological harm associated with cannabis use. The US National Institute of Drug Abuse (NIDA) has found that depending on the age of the abuser, between 9-30% of those who use cannabis may have

some degree of cannabis use disorder. People who begin using cannabis before the age of 18 are four to seven times more likely to develop a cannabis use disorder than adults. Research has also shown that cannabis has negative effects on attention, memory and learning, and someone who smokes cannabis daily may be functioning at a reduced intellectual level most of the time. Considerable evidence suggests that students who smoke cannabis have poorer educational outcomes and several studies have linked heavy marijuana use to lower income, greater welfare dependence, unemployment, criminal behavior, and lower life satisfaction. There is also growing concern that the rising potency in cannabis will lead to worse outcomes than in the past. From the data studied by NIDA, the average THC content in confiscated cannabis samples was roughly 3.8% in the early 1990s. In 2014, it was 12.2% (National Institute on Drug Abuse).

A study commissioned by the Singapore Ministry of Home Affairs in 2015 and conducted by the Institute of Mental Health (IMH) also came to the same conclusions about the harm caused by cannabis use. A team of psychiatrists and researchers from IMH reviewed more than 500 papers from international medical journals in the US and Europe (e.g., Journal of the American Medical Association, European Journal of Clinical Pharmacology) and other sources of information, such as international medical bodies (e.g., American Psychiatric Association, British Medical Association), and made these findings:

a. Cannabis is harmful. Cannabis use, in particular THC, has been linked to anatomical and functional changes in the brain. It has also been linked to the development of serious mental illnesses such as schizophrenia, and may have adverse consequences for foetal health.

b. Cannabis, specifically THC, is addictive.

c. There is insufficient evidence on the effectiveness of medical cannabis. There is some evidence to support the use of cannabinoids for certain limited conditions, but insufficient evidence to support the use of cannabinoids for most conditions (Lee, Cheok, Kandasami, Rapisarda and Ho, 2015).

Likewise, a review by the National Addiction Centre at King's College London on the scientific evidence gathered between 1993 and 2013 shows that cannabis can have a detrimental impact on people's mental health, especially when users smoke it regularly and from a young age. In addition, as cannabis may be used together with alcohol and tobacco, certain risks may be compounded (Hall, 2014). A more recent study by Rapisarda, Lim and Lee (2017) also found evidence that recreational use of cannabis doubles the risk of a fatal traffic accident by impairing attention and lengthening reaction time. Even short-term use lowers performance in working memory, attention, executive functions and visual perception tasks, and chronic recreational use in adolescents doubles the risk of early school-leaving, cognitive impairment and psychoses in adulthood.

Besides the human costs, there are economic issues like insurance costs and lost productivity that are linked to cannabis abuse. Since legalising recreational cannabis in 2013, Colorado has found that traffic deaths involving drivers who tested positive for cannabis has more than doubled from 55 in 2013 to 138 in 2017, and the yearly rate of cannabis-related hospitalisation has risen by more than 148% (Rocky Mountain High Intensity Drug Trafficking Area Strategic Intelligence Unit, 2018).

5. "Medical Cannabis" Has Not Been Properly Validated for Medical Use

Products like herbal marijuana, edibles, tinctures and marijuana buds, which are smoked, are sold as "medical cannabis" in some countries. But they are different from the cannabinoid pharmaceuticals prescribed by doctors. "Medical cannabis" products have not been validated by clinical trials or endorsed by the medical fraternity for use as medication. Smoking is also not considered an acceptable means of administrating medications and concerns have been voiced on the use of marijuana buds, which are the unprocessed plant. The American Medical Association has warned that cannabis is a dangerous drug and a public health concern. It has also cautioned that marijuana has a high potential for abuse. Beyond the marijuana-based medications approved by the U.S. Food and Drug Administration (FDA)[1], marijuana has no scientifically proven or acceptable medical use for preventing or treating any disease in the United States (American Medical Association, 2017). Similarly, the American Psychological Association has warned that there is no current scientific evidence that marijuana is beneficial for the treatment of any psychiatric disorder,

[1] The FDA approved THC-based medications, dronabinol [tradename: Marinol] and nabilone [tradename: Cesamet] prescribed in pill form, for the treatment of nausea in patients undergoing cancer chemotherapy and to stimulate appetite in patients with wasting syndrome due to AIDS. The FDA also approved a CBD-based liquid medication called Epidiolex for the treatment of two forms of severe childhood epilepsy, Dravet syndrome and Lennox-Gastaut syndrome.

and instead has a strong association with the onset of psychiatric disorders (American Psychological Association, 2013).

Singapore has a framework under the Misuse of Drugs Regulations (MDR) to regulate medications containing controlled drugs (e.g. morphine), including those not registered for use in Singapore. This approach does not deny access to medication based on cannabis, and there is thus no need for the drugs to be legalised. Having a structured control framework is beneficial as it reduces the risk of diversion and abuse of such medication.

Features Of Singapore's Drug Control Approach

1. Drug Addiction Viewed as a Social-Behavioural Problem

In Singapore's zero tolerance approach, drug addiction is viewed as a social-behavioural problem where the individual has a choice whether to take the drug, rather than as a medical condition where the individual has no control over his actions.

2. Measures to Reduce Both Drug Supply and Demand

Though the approach has remained unchanged, Singapore's national strategy has progressed over time according to changing needs. The current national strategy is based on an integrated multi-agency and multi-pronged approach to address both the supply and demand aspects of the drug problem, taking into account the interrelated and dynamic interactions between drug supply and demand. In its simplest form, drug supply satisfies and creates demand, and demand in turn supports existing supply or even creates new ones. Hence, Singapore's strategy includes not only measures targeting drug supply, but is also complemented by measures to reduce the demand for drugs through preventive education, vigorous enforcement, treatment, rehabilitation of addicts, and aftercare to reintegrate reformed addicts back into society.

3. Preventive Education

Preventive education is considered the first line of defence. In 1994 and as part of recommendations made by the Committee to Improve the Drug Situation in

Singapore a year earlier, CNB became the lead agency in directing preventive drug education measures in the country. In this role, the bureau conducts high profile anti-drug programmes directed at the public, particularly youths, to sustain a national consensus of zero tolerance towards drug abuse in Singapore. These programmes include anti-drug talks, drama skits and exhibitions, as well as interest-based activities such as dance contests, film and art competitions.

Efforts are made to engage different stakeholders in the family, school and community settings with the objective of engaging youths at different touch points during their journey to adulthood. The preventive education message is enhanced through contextualisation according to the different levels of cognitive complexity. For example, to inoculate younger children from taking drugs when offered them, the focus is on educating them on the harms caused by drugs, including the legal and social implications of abusing drugs. As they grow older and become more analytical, some youths may think they can manage the risks so that they can satisfy their curiosity about drugs. The focus of preventive education therefore shifts to stimulating them to think more deeply about the impact of drug abuse, and the related costs to society. The aim is to help older youths rationalise for themselves that drug taking must never be allowed to take root in Singapore.

Figure 1. Cover of an Anti-Drug Book Sponsored by CNB to Educate Young Children

Figure 2. Educators' Toolkit and Parents' Handbook

A collaborative project between the Central Narcotics Bureau and authors Jillian Khoo and Teh Yu Yin, the 40-page illustrated book invites readers to join Aida, Pavan and Wei Ming as they embark on a mission with Captain Drug Buster to stop Dr Wacko from destroying lives with drugs.

Targeted at children aged between 7 and 10 years old, the book provides useful tips on refusing drugs. Through simple dialogues and illustrations to hold their interest, it deals with drug abuse in ways they can easily relate to, e.g. school, family, friends, and the fear of being left out.

Resource toolkits have been developed to equip and facilitate the engagement of youths by key influencers (e.g. teachers, parents, counsellors, National Service commanders) who are in a position to persuade their charges from experimenting with drugs.

Recognising that youths today are highly exposed to global influences through social media and may think it is cool to adopt more liberal attitudes towards drugs, CNB's engagement strategies have also extended beyond traditional media and physical activities to include digital touch points. This involves extensive social media outreach through CNB's social media channels (on Facebook, Instagram and YouTube with the handle "CNB.DrugFreeSG"), which are saturated with youth-centric contents that aim to shape a compelling narrative of building a drug-free Singapore.

Community-driven advocacy is a cornerstone of CNB's engagement strategy, with the objective of generating a multiplier effect to galvanise the community to support the drug-free cause. CNB rallies organisations, youths and adults to speak up for Singapore's anti-drug approach through the Anti-drug Advocacy (A3) Network and United Against Drugs Coalition (UADC).

4. Vigorous Enforcement and Tough Legislation

Rigorous, sustained and effective enforcement against drug traffickers and abusers is a key tenent of Singapore's national strategy against drugs. For drug traffickers, harsh penalties including the death penalty for trafficking in substantial amounts of drugs serve as a deterrence to keep foreign drug syndicates out of Singapore and local Singaporeans from being involved. CNB's enforcement strategy is targeted at the following three levels:

a. Upstream collaboration with overseas partners to dismantle drug trafficking syndicates and interdict drug supplies overseas;

b. Border enforcement to deter and detect importation of drugs with CNB officers embedded with the Immigration & Checkpoints Authority at the checkpoints as part of the Integrated Checkpoint Command; and

c. Rigorous, sustained and effective in-land enforcement with partners such as the Singapore Police Force.

Enforcement against drug abusers has been effective because the MDA allows for drug abusers to be committed immediately to a drug rehabilitation centre for treatment, thus preventing them from continuing their drug abuse and influencing others.

5. Treatment, Rehabilitation and Aftercare

Drug abusers are subject to a compulsory treatment and rehabilitation regime, where the Director of CNB is empowered under the MDA to commit drug addicts to the Drug Rehabilitation Centres (DRC) administered by the Singapore Prison Service. This regime includes a detoxification phase and based on the assessed risk and needs, appropriate programmes are then charted for interventions that include psychology-based correctional programmes, family programmes, skills training and religious services. The programmes are designed to protect the abuser from relapsing back to drug abuse by raising motivation levels, modifying thinking patters about substance abuse, helping the abuser identify and learn specific behavioural skills to reject drugs and manage triggers that could lead to relapse, and to develop a relapse prevention plan.

First-time young abusers (aged below 21 years old) go through additional risk assessments; those assessed to be at low risk of re-offending are not sent to the DRC but instead placed on the Youth Enhanced Supervision Scheme. This is a structured rehabilitative programme designed to facilitate the reintegration of these first-time young abusers while they are supervised by CNB through regular reporting for urine tests. Under this programme, the young abusers receive counselling and casework delivered by social services agencies to address risk factors such as psychological problems, inadequate problem solving skills, poor interpersonal relationships, etc. Families of the young abusers also receive help to build up strong family support, which is a positive factor in their rehabilitation.

Those who are assessed to be of moderate risk are referred to a Community Rehabilitation Centre (CRC), a step-down arrangement after a period of detention in the Drug Rehabilitation Centre. The young offenders are required to stay at the CRC where they undergo counselling and casework while they continue their education or employment during the day. Repeat abusers and first-time young abusers who are assessed to be high risk will be sent to the DRC for compulsory treatment and rehabilitation.

At the tail-end of the DRC regime, suitable ex-abusers will go through a community-based component where they undergo case management to review and put into practice their relapse prevention plan. Upon discharge from the DRC or CRC, ex-abusers are subjected to compulsory 2-year drug supervision under CNB where they go through regular urine tests to detect drug consumption. This serves to deter drug addicts and prevent them from relapsing back to drug abuse.

Other drug abusers who are imprisoned for drug offences and require more support for reintegration are placed on the Mandatory Aftercare Scheme (MAS). The current remission system allows for ex-offenders to be released after serving two-thirds of their prison sentence. Under the MAS, eligible ex-abusers are placed on a structured aftercare regime to reduce the risk of re-offending and to facilitate gradual reintegration back into society. These supervisees may be placed on a short-term residency stay at a halfway house depending on their risks and needs. They are also subjected to electronic monitoring with curfew requirements and undergo compulsory counselling during the same period while undergoing regular urine tests.

Besides the Singapore Prison Service, the Singapore Corporation of Rehabilitative Enterprises (SCORE) also has an active role in inmate rehabilitation. Working closely with the prison service, SCORE administers the Vocational Training Programme and Work Programme, which impart accredited skills upgrading and positive work ethics. Job coaching services are also provided to help ex-abusers develop behavioural goals to succeed and sustain retention at work.

Other Challenges

1. Worsening Regional Drug Situation

Currently, the most common drug abused in Singapore is methamphetamine, or 'Ice' in street lingo, which has replaced heroin as the drug of choice since 2015. In 2017, out of the 3,091 drug abusers arrested, 1,991 (or almost two-thirds) were methamphetamine abusers. This is in line with the growing abuse of methamphetamine in the region, where seizures of illicit drugs and number of abusers have increased throughout East and Southeast Asia. As there are no drug manufacturing facilities in Singapore, the drugs are trafficked in from regional sources. The UNODC World Drug Report 2017

reported that East and Southeast Asia accounted for the highest percentage of global methamphetamine seizures in 2015, and the methamphetamine market in the two regions has been expanding. More recently in May 2018, UNODC declared that the production of synthetic drugs in the Mekong Region, and Myanmar in particular, has reached "alarming levels" (United Nations News, 2018).

Such production and seizure trends are strong indications that methamphetamine use will increase further in the region, especially when several ASEAN countries have already surpassed 2017 seizure totals within only a few months into 2018. Besides the increased availability of methamphetamine, poppy cultivation in Southeast Asia also increased by 30% between 2010 and 2015. The use of cannabis in Asia also continued to rapidly increase in the past five years. Transnational drug syndicates are continuing to exploit the region as a transit point with its increasing connectivity. It is also an attractive region to grow their markets given the growing affluence (UNODC, 2017).

2. New Psychoactive Substances

There is much concern that New Psychoactive Substances (NPS) will take root in Singapore. NPS, which are created to circumvent drug control laws as 'legal highs', mimic the effects of controlled drugs such as cocaine, cannabis and Ice. NPS first surfaced in Europe in 2004 and within four years, became an emerging global concern. It is considered a threat due to its large variety and evolving variants, posing a challenge to traditional drug listings, and identification via scientific methods. It is also linked to serious side-effects such as seizures and even death. As of December 2017, 800 NPS have been reported to the UNODC Early Warning Advisory on NPS (UNODC, 2018).

Singapore was one of the first few countries in Asia to legislate against NPS. In 2013, the MDA was amended to allow for temporary listing in the MDA's Fifth Schedule for one year while research and industry consultation take place to confirm that there are no legitimate use for a particular substance. During this time, enforcement officers are empowered to seize the substance and conduct investigations to control its proliferation but traffickers and abusers

involved with that substance face no penalty. After the one-year period, if it is determined there are no legitimate use for the substance, it will be placed on the MDA's First Schedule with full penalties for drug traffickers and abusers. A generic listing approach has also been adopted to allow for the control of a family of substances by describing the parent molecule and the substitution patterns. This is because many NPS are created by slight variations of the core structure. For example, for the JWH family which is a form of synthetic cannabis, the core structure its frequently modified to create chemical variations of the drug with similar effects.

3. Internet-Enabled Trafficking

The Internet has emerged as a challenge for drug enforcement. Many websites have been set up for online distribution of prohibited items, including drugs. Some of these websites are hosted within the Dark Web, which consists of websites that use the public Internet, but require specific software for access and is not indexed by search engines to ensure anonymity. The challenge posed to law enforcement agencies is further compounded by the use of cryptocurrencies such as Bitcoin, which increases the difficulty of taking action against persons who purchase drugs from Internet sources.

Way Forward

The challenges faced are not unsurmountable. Singapore has been through multiple trials in its fight against drugs and has persevered in keeping the drug situation under control. The current framework is a robust one that has leveraged lessons from the past, and which will continue to progress to meet the challenges of the present and future.

The Singapore government believes that there must be no compromise on zero tolerance as it has served the country well in the past and remains an effective tool for protecting society against the harms created by drug abuse. Other countries may choose differently, but until there is clear evidence that other methods work better, the vision remains one of a Singapore without drugs, where all Singaporeans can live, work and play safely.

About the Author

Nathaniel Sim joined the Central Narcotics Bureau in 2008 after graduating from Nanyang Technological University with a Bachelor of Engineering (Mechanical Engineering). Currently a Senior Manager in the Policy, Planning and Research Division where he is involved in the formulation and review of drug control policies, he previously worked in drug supervision, field operations, investigations, intelligence and operational policies.

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Stealing More Than Just Your Heart: A Preliminary Study of Online Love Scams

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Abstract. In recent years, online love scams have been on the rise alongside increasing usage of the internet and social networking in Singapore. Online love scams are a type of online fraud where individual criminals or syndicates communicate with Internet users, pretending to establish a romantic relationship. What sets online love scams apart from other types of cybercrime is that it takes advantage of the emotional attachment and trust that victims have in their online 'lovers'. Consequently, victims not only face a financial loss but also suffer a traumatic experience from the loss of a relationship. This paper examines how online love scams work, providing an in-depth analysis of the crime using the CLIP (Criminalistics-Legal/Local-Investigative-Psychological) framework, and provides recommendations on preventing such scams in Singapore and helping victims cope with their negative experiences.

Background

According to the 2017 Annual Survey on Infocomm Usage in Singapore, 84% of residents has access to the Internet, with almost all residents aged below 35 years old being Internet users. Senior citizens are not left out either; about nine in ten and more than half of senior citizens aged 50 to 59 years, and 60 years and above respectively, use a smartphone to access the Internet (IMDA, 2018). In the last 6 years, there has also been a sharp increase in the use of online social networks on mobile devices among individuals aged 35 to 49, from 27% in 2011 to 79% in 2017 (IDA, 2011; IMDA, 2018).

As more communications take place online, it may be harder for Internet users to discern online identities, thus increasing the risk of Internet users becoming victims of online scams. In particular, online love scams (otherwise known as Internet romance scams) have been on the rise in Singapore. In 2017, there were 825 reported cases of online love scams – a jump of 1,550% over five years from 50 cases in 2012. The total amount cheated have also increased significantly, from S$1.18 million in 2012 to S$37 million in 2017, with the largest amount cheated in a single case being close to S$6 million (SPF, 2013, 2017).

Online love scams are defined as "a type of online fraud in which individuals or organised criminal groups engage Internet users in online communication under the pretence of initiating a romantic relationship" (Garrett, 2014, p. 9). Perpetrators of online love scams often initiate conversations on online dating sites or social media platforms, and then switch over to more personal modes of communication such as private messaging and e-mails, where they will spend more time developing a romantic and trusting relationship with the victims. The ultimate aim of the scammers is to convince the victims to transfer money to their bank accounts (Buchanan & Whitty, 2014; Whitty, 2013; Whitty & Joinson, 2009).

Unlike other cyber frauds, online love scams involve an element of romance, and victims consequently experience a "double hit" (Whitty & Buchanan, 2012; 2016). The first hit occurs when victims lose their money. The second hit experienced is the emotional impact of losing a relationship (Pizzato et al., 2012; Rege, 2009; Whitty, 2013). Some victims are reported to have undergone grieving (i.e., loss of a love relationship) after learning that they had been cheated (Whitty & Buchanan, 2012; 2016).

Due to the nature of online love scams, victims often feel fear, shame and embarrassment (Whitty

& Buchanan, 2012; 2016). As a result, there may be under-reporting of such scams, with victims reluctant to share their personal encounters (Button, Nicholls, Kerr & Owen, 2014).

Given that online love scams are increasingly prevalent in Singapore, the Singapore Police Psychological Services Division (PPSD) has been examining how such scams work, with the aim of providing recommendations to the public on preventive measures to take, and to help victims cope with their negative experiences. This preliminary paper draws from information and data gathered from journals and news reports, and insights gleaned from interviews with subject matter experts, including Singapore police investigators with experience in handling cases of online love scams, to analyse the crime using the CLIP framework developed by PPSD. This approach recognises that no one perspective has a monopoly on the understanding and interpretation of crime and criminal behaviour, and that multiple lens are needed to understand crime (Khader et al., 2012).

Crime Analysis Using the CLIP Framework

Most crime analyses are focussed on one area to explain criminal behaviour such as using forensic science and psychological concepts. Yet, crimes are often complex and they require analysis from multiple perspectives. To obtain a comprehensive understanding of crimes, PPSD developed the CLIP framework, a profiling methodology consisting of four aspects:

C - Criminalistics / Forensics Considerations

The criminalistics aspect involves identifying, obtaining, and assessing forensic evidence that is available and related to the criminal offence. This process is cyclical in nature as physical evidence can point towards the direction of the type of offence that has been committed, and vice versa.

L – Legal / Local Considerations

Under the legal aspect of the CLIP framework, we analyse how a criminal offence is classified under the laws that dictate its consequences. In addition, it is also crucial to understand the characteristics of Singapore which may render certain crimes to be more prevalent as compared to other regions of the world.

I - Investigative / Operational Considerations

The investigative perspective looks at the procedures adopted by investigation officers. Possible structures of the criminal syndicate and modus operandi of the crime are examined.

P - Psychological / Behavioural Considerations

It is also necessary to look into the psychology of perpetrators and victims in order to get a fuller picture of the studied crime and to develop a stronger understanding of the guiding forces behind specific behaviours and consequences. Specifically, this aspect of the CLIP framework analyses the traits and behavioural patterns exhibited in crimes.

These four aspects are not mutually exclusive and links can be drawn across them. For example, the physical evidence gathered may give insights on the motivations of the offender in committing the crime. It should be noted that the CLIP framework is a way of thinking about crimes, and not a way of profiling offenders.

Online love scams are often complex in nature. To facilitate the analysis of online love scams, this study uses the CLIP framework to provide a systematic and structured way of examining the crime from different perspectives.

Criminalistics Considerations

There are fundamental differences between traditional love scams and online love scams. In traditional love scams, victims would meet up with their 'lovers', enabling them to physically see and describe how their 'lovers' looked. However, in online love scams, interactions between the victims and their 'lovers' occur over electronic platforms where there is a high level of anonymity. Victims of online love scams are thus almost always unable to describe the physical features of their scammers. There is, however, usually electronic evidence (e-evidence) that can be used to trace the location of scammers. Volonino (2003) has defined e-evidence as "electronically-stored information on any type of computer device that can be used as evidence in a legal action" (p. 459). Gathering e-evidence is advantageous as some traces by the scammer cannot be fully erased, thus providing leads for investigators to explore (Garfinkel, 2013).

An example of e-evidence is the Internet Protocol (IP) address, which refers to the numeric code that is assigned to every device that is part of a computer network to facilitate communication. In investigating cases, police officers have been able to obtain IP addresses by liaising with online dating sites and social media platforms, requesting them to provide information on the account used to cheat the victim. Although IP addresses do not promise complete accuracy on the location of perpetrators, they can help to narrow down geographic areas.

Other useful e-evidence that investigators may look for include e-mail correspondence, and recorded voice and video files. Investigators may also look into the behavioural biometrics of an instant messenger user's real identity (Orebaugh & Allnutt, 2009). Behavioural biometrics refer to the patterns of consistency that take place over time. An example is the way and style in which a user writes online. Online writing habits are usually displayed subconsciously and even if scammers try their best to hide their style of writing, they are generally not able to disguise their patterns. Investigators have found that most scammers have several behaviours that remain constant over time, which help them zero in on suspects.

Other evidence useful to investigators are bank account numbers that victims were asked to transfer money to. By examining other transactions linked to the accounts during the same period, investigators have been able to find other victims. More importantly they can retrieve information about the account holders, and trace where the monies sent by victims were transferred to. However, tracing the actual perpetrator is usually not that simple or direct, as the names linked to the accounts may not belong to the scammers. In some cases, the account holders may be other victims persuaded to open the accounts for their "lovers" without realising that they may be committing money laundering.

Other evidence that might provide clues to the location of scammers include phone numbers given to victims and text message exchanges. But where scammers are located overseas, Singapore police will have to rely on INTERPOL to continue the investigation.

Legal Considerations

Online love scam offenders face serious charges in Singapore. They may be charged under Section 415 (Cheating) or Section 420 (Cheating and dishonestly inducing a delivery of property) under the Penal Code (Attorney-General's Chambers, 2015). If found guilty under Section 415, the punishment is a jail term of up to three years, a fine, or both. The penalty for a Section 420 offence is even stiffer; culprits may face a jail term of up to ten years and a fine.

If online love scams involve individuals who engage in money laundering, money launderers may be charged under Section 43 (Assisting another to retain benefits of drug dealing) or Section 46 (Acquiring, possessing, using, concealing or transferring benefits of drug dealing) under the Corruption, Drug Trafficking and Other Serious Crimes (Confiscation of Benefits) Act. An individual operating in his/her personal capacity will be liable on conviction to a fine of not more than S$500,000 or a jail sentence not exceeding ten years, or both. An individual who is part of a syndicate will be fined up to S$1 million.

Local Considerations

High Internet Penetration; Avid Social Networkers

Constantly adapting to new technology, it is not surprising that Singapore is among the top few countries with a high Internet penetration rate of 82%. They are also digital natives, with 77% of residents being active social media users, the most popular platform being Facebook. On Facebook, the majority appear to be adults, the largest demographic being those aged 25 to 34 years, followed by those between 35 to 44 years (We Are Social & Hootsuite, 2017).

Increasingly Higher Proportion of Singles

There is a higher proportion of single Singaporeans across most age groups compared to a decade ago. The biggest increase has been among female citizens aged 25 to 29, where the proportion of singles increased from about six in 10 in 2007, to seven in 10 in 2017. For male citizens aged 25 to 29, this proportion increased slightly to about eight in 10 in 2017. For most other age groups, a similar trend of rising singlehood has also been observed (Population in Brief, 2018).

This trend could possibly explain the greater usage of online dating sites locally. In 2009, 26% of Singaporeans reported using online dating sites. This number had risen to 51% by 2013 (Lim, 2013).

Figure 1. Possible Roles within an Online Love Scam Syndicate
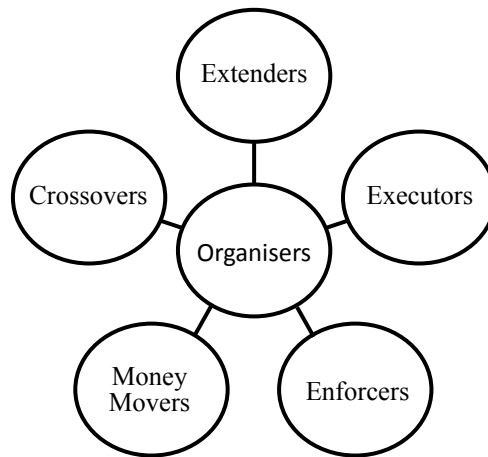
Common dating sites patronised by Singaporeans include Lovestruck, SingaporeLoveLinks.com, and Singapore Cupid.

Investigative Considerations

Possible Roles within a Syndicate

Online love scams may be carried out individually or at an organisational level. Syndicated online love scams are often complex and interconnected. Figure 1 shows the possible roles within an online love scam syndicate based on research conducted by Rege (2009).

Organisers are central to the criminal network. They are the ones dictating the nature of the scams. The *extenders* are in charge of growing the syndicate, which they do so by recruiting new members, promoting partnerships with illegal forms of business and cultivating sources inside the government and justice sectors.

The responsibility of the *executors* is to perform the objectives set by the organisers. More often than not, executors of online love scams are proficient in foreign languages. They use their language skills to craft flirtatious letters and e-mails, and speak to victims over the phone during the grooming process. *Enforcers* protect the criminal network and take action to ensure victims' compliance when necessary. This can be done through emotional blackmail, where scammers will claim that they have fallen in love with the victims and take advantage of their trust. They may also record webcam videos of the victims, and threaten to release them unless victims give them money.

The role of *money movers* is to collect money from victims and pass it on to the criminal network. Finally, *crossovers* are individuals who are part of the criminal network and also in a legitimate governmental, financial, or commercial sector. This group of people can increase the effectiveness of the syndicate by obtaining insider information. The criminal network may also recruit crossovers to provide fake official documents like passports and visas to increase the credibility of scammers.

More often than not, online love scams are highly complex and extensive in nature. In particular, online love scams can be interconnected with other types of online frauds, such as e-commerce frauds. With reference to Figure 2, a scammer may establish an online "love" relationship with a victim (victim 1). Concurrently, the scammer may pose as a seller of a product and request another victim (victim 2) to make an advance payment. Victim 2 will then be asked to transfer money to a bank account that the scammer claims to be his/her own. In actual fact, the scammer

Figure 2. Inter-Connection between Online Love Scams and E-Commerce Frauds
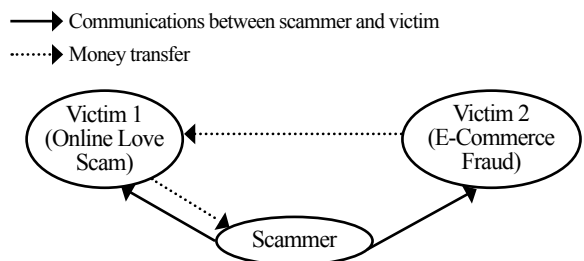
has taken advantage of victim 1, asking him/her to open a bank account based on some pretext. Upon receiving the money, victim 1 will transfer it to the scammer, unaware that he/she is committing a crime of money laundering.

Modus Operandi: The Scammers Persuasive Techniques Model

Whitty (2013) has developed the Scammers Persuasive Techniques Model, which provides a clear picture of the modus operandi of online love scams in seven stages.

In Stage 1, victims are motivated to look for a "perfect" partner, the definition of which is subjective to each individual. In Stage 2, victims come across a fake profile created by the scammer on online dating sites or social media platforms, which they think matches their definition of an ideal partner. Generally, if scammers are posing as a male, they often pretend to be a Caucasian army general or a businessman. If scammers are assuming the identity of a female targeting male victims, they often choose pictures of women who are scantily dressed and who look like models. More often than not, these fake profiles are viewed as physically attractive by the victims. Thereafter in Stage 3, scammers groom their victims to the point where they are willing to give money. To gain the trust of victims, scammers create a seemingly protected environment for victims to reveal their secrets and personal information. They often also shower victims with sweet talk and even gifts at times. From time to time, scammers may send victims love poems so as to create an illusion that victims are in a true love relationship.

Upon gaining the victims' trust, scammers proceed to request for money in Stage 4. The foot-in-the-door technique is a testing-the-water strategy to see if victims comply with the scammers' request for money. For example, scammers may ask for an initial small sum of $500 or even small gifts. If victims comply with this request, scammers will present them with new crises or repeatedly ask for small amounts of money until the victims no longer have money to give them. Victims may also exit the scam upon realisation that they are being cheated.

Scammers may also directly present victims with a crisis instead of using the foot-in-the-door technique at Stage 4 when they feel that victims have been sufficiently primed to agree to their requests. For instance, scammers may request for $1000. If victims comply with this sum, scammers may present them with more crises. If not, scammers may adopt the door-in-the-face technique and use the original sum as an anchor and adjust downwards to a lower sum, e.g., $500. Scammers will come up with excuses ranging from being hospitalised to requiring money to start a business, and use these seemingly legitimate reasons to convince victims to transfer money to them.

Stage 6 involves sexual abuse of online love scam victims, which involves cyber sexual exploitation of victims. In cases where victims disclose to scammers that they do not have any money, scammers may request them to strip naked and masturbate in front of the webcam. Scammers may then secretly record the acts and use the videos to blackmail victims in the future. Stage 7 highlights the cyclical process of online love scams victimisation, where victims may fall for the scammers' excuses and comply with the requests again and again.

Reported Cases

In a Singapore case, a 60-year-old woman met her online lover on Facebook (The New Paper, 2014). Over time, he showered her with sweet and romantic talk. Upon earning the woman's trust, the supposed online lover told her victim that he was going to send her a parcel with S$1.5 million. On the same day, a supposed courier told the woman that the parcel had arrived at customs. However, the woman was asked to remit S$210,000 for the transaction and insurance fees before she could claim the parcel. Here, the scammer took advantage of the victim's trust and cheated her with the pretext of paying an administrative fee for a highly valuable parcel. At that point in time, the victim thought that her "lover's" explanation was legitimate, and so fell prey to the scam.

In another case in Malaysia, a 31-year-old man thought he had found his dream girl on an online dating platform (Chan, 2014). The two of them subsequently established a "love" relationship. Upon hearing his

dream girl's pitiful story of having been brought up in a poor family and facing problems because of unemployment, the man transferred S$4,500 to her. He also bought her plane tickets from the Philippines to Malaysia on two separate occasions. However, the man realised that he had been cheated when his 'dream girl' did not turn up on both occasions. In this case, the victim put on a sympathetic façade which appeared convincing to the victim. Having fallen for her, the victim was genuinely hoping to help ease her from a seemingly terrible situation. Unfortunately, the perpetrator of the online love scam made use of his kindness and trust.

Psychological Considerations

Psychological sciences play a crucial role in analysing the motivations and behaviours exhibited in a crime. Understanding the psychology of scammers and victims help to better understand the mechanisms involved in online loves scams.

Scammer Profile

Research overseas has found that perpetrators of online love scams often originate from Nigeria and Russia (Garrett, 2014). In Singapore, police investigators have observed that scammers targeting victims in Singapore seem to be located in Nigeria and the Philippines. More recently, there have been African gangs based in Malaysia targeting Singaporeans (Chew, 2018, as cited in Mahmud, 2018).

Nigerian scammers prey on both male and female Internet users, and they usually request victims to remit money to them, re-ship goods, and cash cheques. Conversely, Russian online love scammers frequently pose as a traditional young Russian woman with a decent income. Russian scams typically involve getting victims to transfer money without engaging them in money laundering.

In addition, the scammers are patient, with grooming continuing for months, or even years (Whitty & Joinson, 2009). They also have good social skills, which enable them to smooth-talk their victims and create a trusting "love" relationship.

How Scammers Make Sense of Their Actions

Before preying on victims, scammers may engage in three types of techniques to rationalise their actions (Rege, 2009). The first is the "denial of victim" technique, where the consequences of their scams are seen as a form of punishment towards a deserving victim. For example, scammers may rationalise cheating by saying, "The victim was greedy, thus he/she deserved to be cheated as a punishment." Scammers may also use the "denial of injury" technique to claim that they are not causing direct harm to victims as they are not using their real identities. They appear to believe that they are not doing anything illegal in their personal capacity. Lastly, scammers may also use the "appeal to higher loyalties" technique. They reason that what they are about to do is a way of following the standards and achieving the goals of the syndicate. Specific behaviours include attaining weekly goals of getting money from victims, consolidating resources, and conducting training sessions for beginners of online love scams.

Victim Profile

Victims of online love scams are typically middle-aged, from 40 to 59 years old, with professional jobs, and often actively looking for long-term relationships (Garrett, 2014; Whitty & Joinson, 2009). The literature suggests that one possible reason for scammers to target this demographic population is that these victims have greater financial resources (Whitty & Joinson, 2009). This is likely also why victims aged 40 to 50 have been targeted in Singapore, say police investigators. In the U.S., the Internet Crime Complaint Center reported that in 2012, females made up the bigger portion of victims who lodged a police report (Garrett, 2014).

In Singapore, the victims that police investigators have come across are generally single or divorced. There have also been victims who were married but had problems in their marriage. More often than not, victims in Singapore visit online dating sites to look for affection. They also come from a spectrum of educational background and socioeconomic status.

Victim Susceptibility

Previous research studies have found several psychological factors to be related to an increased risk of individuals becoming victims of online love scams. However, it should be noted that these factors alone are not why individuals fall prey to online love scams. At the moment, no causal relationship has been identified between these factors and victimisation in online love scams. Instead, these psychological factors have been found to correlate with the risks of victimisation.

Buchanan and Whitty (2014) suggest that lonely individuals are more likely to become victims of online love scams. Lonely people tend to be more expressive on the Internet and as a result have a greater likelihood of forming strong relationships and attachments in the cyber world. Scammers may then take advantage of the strong connection that victims make with them to convince them to transfer money to the syndicate. Another factor that may explain why some individuals are more susceptible than others is that they hold romantic beliefs of idealisation (Buchanan & Whitty, 2014). These individuals believe in the concept of romantic destiny, and also the notion that two people are fated to be together. As a result, these individuals are more likely to fall prey to online love scams when scammers approach them and express interest in their profiles, saying things such as "fate has brought us together", or "you are the one for me". In such cases, the beliefs of victims are reinforced, and they become more trusting of their online "lovers".

It has also been found that individuals with a lack of pre-meditation are at higher risk of becoming victims of online love scams (Modic & Lea, 2011). Pre-meditation refers to the ability to predict an outcome of one's own action. Research has revealed that people who lack pre-meditation often make errors in decision making and they are prone to behaving impulsively. Another characteristic that is related to impulsive decision-making is self-control (Bossler & Holt, 2010; Modic & Lea, 2011). If an individual has a high level of self-control, he tends to prefer rational outcomes. In the General Theory of Crime, low self-control has been found to be the strongest predictor of victimization (Donner, Marcum, Jennings, Higgins, & Banfield, 2014). In online love scams, victims who are rash in making decisions easily comply with requests from their "lovers". Extroverted individuals are also found to be high risk takers who often fail to learn from past experiences, resulting in re-victimization (Buchanan & Whitty, 2014).

Consequences Faced by Victims

Victims of online love scams experience a "double hit". The first "hit" refers to the financial loss, as victims have been cheated of their money, whereas the second "hit" refers to the loss of a "love" relationship which victims invested and believed in (Whitty & Buchanan, 2012). Victims may thus experience psychological consequences such as shame, betrayal, humiliation, fear and feeling stupid (Button et al., 2014; Whitty, 2013; Whitty & Buchanan, 2012, 2016).

In severe cases, victims may be in extreme distress, and some may contemplate suicide (Whitty & Buchanan, 2012; 2016). They may also undergo stages of grieving upon losing a "love" relationship. For example, feelings of shame and fear were evident when a local victim of an online love scam told a reporter, "I am really stupid. Now I'm disheartened, I don't want to meet men again. I am scared" (Jamil, 2014). An online love scam victim in Toronto, Canada also revealed, "I almost wanted to commit suicide. If I could disappear, it would be so easy not to have to deal with the money (I have lost)" (Stevens, 2015). Other victims may cope by denying the scam, continuing to believe that they are in a true romance relationship and have not been cheated.

Under-Reporting of Online Love Scams

In Singapore, many cases of online love scams have been discovered in the course of police investigations and not because victims came forth to lodge police reports. This is a phenomenon also observed in other countries (Whitty & Buchanan, 2012). The reluctance of victims to lodge police reports could be due to the psychological impact of losing a "love" relationship.

It has been noted through investigative interviews that some victims continue to be in denial even when the police have sufficient evidence to prove that their online "lovers" are in actual fact perpetrators of scams (Whitty & Buchanan, 2012). One possible reason for this is that the victims are not ready to give up on a relationship that they developed over a long period of time and in which they are heavily invested. Even

when victims are suspicious and obtain admissions from their "lovers" that they are scamming them, some may still not be able to accept the truth or to report their "lovers" to the police.

Investigators have noted that victims may also choose to remain silent because of the emotional trauma they experience upon learning that their online "lover" is actually a scammer. Some victims who are married may find it prudent to keep their encounter a secret from their spouse. In cases where the scammers blackmailed the victims and threatened to release their nude pictures and videos online, victims are even less likely to file police reports.

Some victims may also consider their financial losses to be insignificant and not worth their time and effort to lodge a police report. For such victims, the benefits of making a police report (i.e. providing information so scammers are more likely to be traced) do not outweigh the costs of doing so (i.e. having to travel to the police station to give a statement).

Why Online Love Scams Succeed

One of the key characteristics of online love scams that make them successful is that scammers engage in visceral appeal, including appeals to love and companionship (Button et al., 2014; Modic & Lea, 2013; Pizzato et al., 2012). Given that most online dating site users are actively looking for a relationship, the façade of an online "love" relationship works by creating the illusion that users are being courted. Users are thus more likely to fall into traps set by scammers and comply with their requests. In addition, scammers frequently appeal to trust, authority and legitimacy to increase their credibility when establishing a "love" relationship with victims (Garrett, 2014; Whitty, 2013). For instance, scammers may pose as military personnel or businessmen with strong moral values (Garrett, 2014; Scam Warners, 2009). They may also provide photos of false official documents like passports and visas. With higher credibility, scammers are more likely to earn the trust of victims and convince them to send money.

Over time, victims gradually develop a psychological dependence on communicating with their online "lover" to fulfil their need for positive feelings

(Garrett, 2014; Whitty, 2013). They look forward to receiving text messages and e-mails from their online 'lovers'. Some victims have reported that disclosing information about themselves and their personal history was very therapeutic, which may explain why victims wish to maintain the relationship (Whitty, 2013). Social information processing theory suggests that computer-mediated communications allow people to be selective about the information that they disclose, and this helps to create a more intimate relationship than one established face to face (Heinemann, 2011). This strong attachment makes it even more challenging for victims to dissociate themselves from the "love" relationship. It may also be possible for victims to be increasingly compliant with the scammers' money requests and to shower them with more gifts to maintain the relationship.

Distance and a high degree of anonymity contribute to the success of online love scams (Button et al., 2014; Rege, 2009). For scammers, distance makes them empathise less with their victims as there is little proper connection between the two parties (Button et al., 2014). For victims, distance makes it harder for them to contact and confront their "lovers" upon suspecting that they have been cheated. Furthermore, victims have fewer sensory cues that they can tap into to help them recognise a scam (Rege, 2009). The Internet also allows users to remain anonymous, rendering it challenging for police to identify scammers (Rege, 2009). Victims, expecting investigations to be lengthy, may thus be reluctant to lodge a police report. In turn, scammers who are not caught continue to target more victims.

Public Awareness Campaigns

In light of the increasing number of cases of online love scams in Singapore and the detrimental effects they have on victims, greater public awareness is required. In recent years, the Singapore Police Force (SPF) and the National Crime Prevention Council (NCPC) have run several public education campaigns to increase the public's knowledge of such scams.

In May 2015, SPF and NCPC worked together to release a series of scam prevention posters, including one targeting online love scams (see Figure 3).

Figure 3. Online Love Scams Prevention Poster Issued by NCPC in 2015 with Further Recommendations
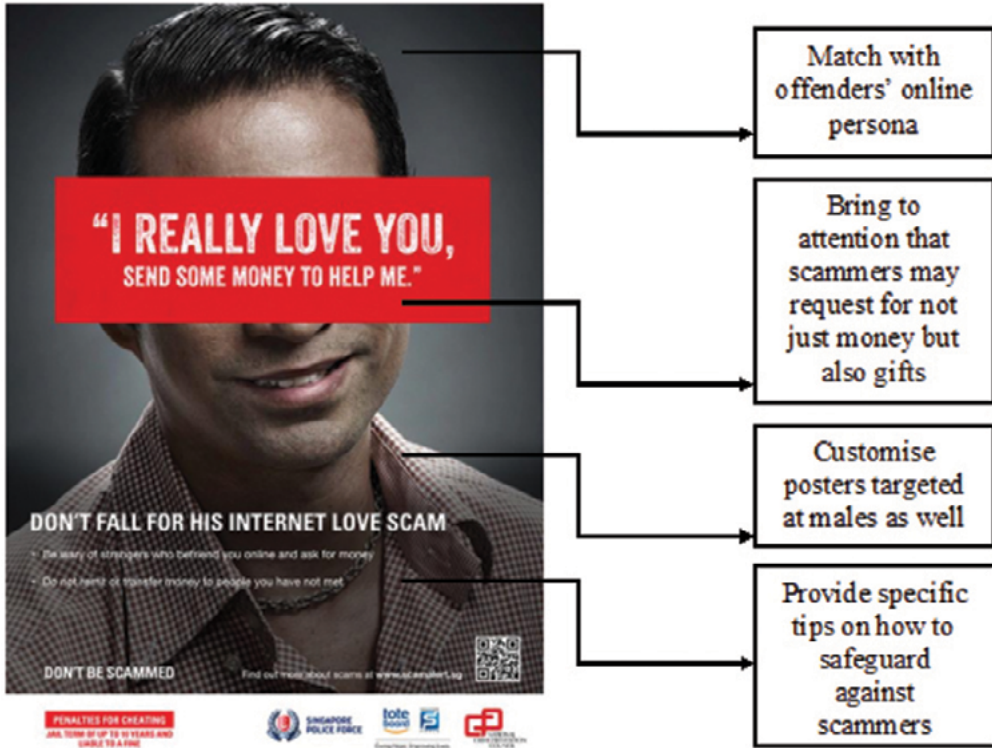
Although a good way of warning the public about online love scams, PPSD felt that such posters could be more effective if the following points were considered:

1. Match the background character with online personas commonly used by perpetrators of online love scams. In Singapore, police investigators have learned from interviews with victims that commonly used online personas are Caucasian.

2. Warn that besides money, online love scammers may request gifts such as iPhones and laptops. In fact, scammers may do so to test the level of compliance of victims in the initial stage. Knowing this pattern of behaviour may help potential victims to be more vigilant.

3. Although more females than males fall prey to online love scams, males are not immune. Perhaps a separate poster could be customised to inform males of signs that they are being scammed.

4. Provide specific tips on how individuals can safeguard themselves against online love scams. Tips can be split into Do's and Don'ts (Action Fraud, 2011; see Table 1). When specific tips are provided, the public has a clearer understanding of what they should do when they encounter situations suggestive of online love scams.

Table 1. Specific Tips for Prevention of Online Love Scams

Do's	Don'ts
Do be vigilant. Fraudsters are adept at changing their approach.	**Don't** send any money, no matter how persuasive the story is.
Do speak to a family member or friend for advice if you are in any doubt.	**Don't** believe anyone who offers to recover money you have already sent.
Do conduct your online chats within the dating website's monitored area. Resist pressure to move quickly from a chatroom to personal e-mail.	**Don't** let your own bank account be used by someone else to deposit or transfer money. They could use your account for money laundering.
Do your own research using an internet search engine. Type in 'online love scams' it will bring up lots of information on methods used by scammers.	**Don't** give out personal or financial details. Fraudsters may use these to steal your identity and use it to commit other kinds of fraud.
Do keep a record of correspondence.	**Don't** keep things to yourself, even if you are asked to.
Do report any suspicions to the dating website. They can check profiles.	**Don't** share compromising photographs. They could be used to force you to continue sending money.

Subsequent posters issued by the SPF and NCPC took some of these recommendations on board (see Figure 4). However, as posters are a visual medium, there is a limit as to how much information can be included in one.

Figure 4. Anti-Scam Posters Warning of Online Love Scams Issued by NCPC in 2017 and 2018

Prevention tips are thus provided on a Scam Alert! website set by the NCPC in 2014 (https://www.scamalert.sg). Victims are also encouraged to share their experiences and "fight back". Their stories are displayed along with bite-sized information panels on "What to look out for" and "How to protect yourself". These tips summarise many of the insights contained in our CLIP analysis with contact details for help lines to call.

Figure 5. Crime Prevention Tips from www.scamalert.sg

Providing Support Resources to Victims

Online love scams are uniquely different from other Internet scams in that they involve an element of romance. As a result, victims of online love scams suffer not only from financial loss but also negative psychological effects. As a law enforcement agency, the SPF and its investigators may have to provide victims with the care resources that can help them cope with their experiences.

Investigators may want to consider providing contacts or referrals to health professionals whom victims can seek immediate support from (Whitty & Buchanan, 2012, 2016). This is especially crucial when victims display signs of being suicidal. Moreover, some victims may not wish to inform their family members about their encounters and may thus not receive much support from their families. Victims provided with contacts of health professionals to seek help from may be better able to cope with their traumatic experiences.

When victims have reached the point where they have no more money to transfer to their online "lovers", they may ask their friends or even banks for loans. Victims who borrow money are trying to comply with the scammers' requests to maintain the "love" relationship. Some do so because they are being blackmailed with pictures and videos taken without their permission. To assist victims, investigators may have to advise victims to negotiate with banks on their loans. Successful negotiations could allow victims to give themselves more time to grieve, calm their state of mind and figure out how to pay off their debts.

Conclusion

Cybercrime has gained more attention over the past few years. Even though efforts have been made to equip the public with knowledge to identify online love scams and prevent themselves from becoming the next victim, online love scams remain prevalent in Singapore. There is a need to delve deeper into the specifics of how online love scams operate, and to strengthen investigative tools.

This preliminary study using the CLIP framework has described some of the forensic evidence that are useful in solving online love scam cases as well as the typical modus operandi employed by scammers and the psychological traits they exploit to groom victims. Some ideas have also been provided for making the crime prevention campaigns carried out by the NCPC more effective, along with suggestions on how police investigators may further help victims cope.

Further research is ongoing to build on this paper, which started as part of a series of research studies on scams that the Police Psychological Services Division has been actively working on since 2015 to better support police investigations and crime prevention efforts.

About the Authors

Yee Zhi Wei graduated from Nanyang Technological University with a Bachelor of Arts (with honours) in Psychology. She completed her internship at the Police Psychological Services Division in 2015 under the supervision of Dr Majeed Khader and Vincent Yeh, where she conducted a literature review on the topic of online love scams and provided practical recommendations to the Singapore Police Force. She also presented her findings in an international conference, Social Media in Communication, Governance and Security: Insights from Lessons Learned, that was attended by representatives from law enforcement organisations such as the New York Police Department, Australian Federal Police and Toronto Police Service. Zhi Wei is currently a provisional clinical psychologist completing her Master of Psychology (Clinical Psychology) degree at the University of Melbourne.

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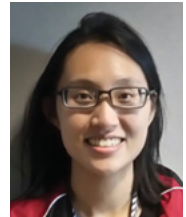
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Self-Efficacy, Social Relationships and Desistance from Crime: A Singapore Prison Study

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Abstract. To understand how self-efficacy and social relationships impact desistance from crime, we interviewed 44 Singaporean males with an average desistance period of 8.34 years (min 1, max 30 years). It was found that most participants' desistance journey involved self-efficacy (40 out of 44) and social relationships (43 out of 44). In-depth analysis revealed two aspects of self-efficacy: motivation to change and taking actions for change. Social relationships affected participants by triggering change and maintaining change. Furthermore, desistance can be seen as a journey of events that triggers and maintains change. These findings suggest that rehabilitation programmes that focus on the individual's motivation to change and behavioural commitments to change can have an impact. An environment with activities and processes that encourage behavioural changes should thus be provided. Furthermore, there is a need to strengthen the individual's social capital and relationships through family interventions and community support.

Desistance As Continued Non-Offending

Desistance is the termination of offending behaviour (Laub & Sampson, 2001) and also a process of maintaining non-offending (Maruna, 2001). Desistance theories fall into two groups. The first group of theories focusses on external factors and emphasises the importance of social relationships. Social control theory posits that weak bonds with society (marriage, employment, socially accepted values) results in offending (Junger & Marshall, 1997). Social learning theory states that problematic behaviours and values learnt from deviant peers result in offending (Akers, 1998). The focus of the second group of theories is on internal factors and highlights the individual's role in the change process. Life course theory suggests that individuals are "active participants in reconstructing their lives" within the context of environmental factors (Sampson & Laub, 2005). This requires a changed identity and self-efficacy (Maruna, 2001). Understanding desistance therefore requires examining internal factors such as self-efficacy and external factors such as social relationships.

Desistance Factor: Self-Efficacy

Self-efficacy is the belief in one's ability to act and bring about change in line with one's goals of leading a crime-free lifestyle (Lloyd & Serin, 2012). When an ex-offender has a greater sense of hope – a component of self-efficacy – they are less likely to be reconvicted 10 years after release (LeBel, Burnett, Maruna & Bushway, 2008). Furthermore, desisters are likelier to have a "language of agency" in their narratives such as taking ownership of their crimes and reporting greater self-motivation and belief in their ability to desist (Maruna, Porter & Carvalho, 2004).

Desistance Factor: Social Relationships

Social relationships can help or hinder desistance. Hser (2007) found that among male drug addicts tracked over 30 years, those who desisted had a supportive network of non-drug users. On the other hand, Stouthamer-Loeber, Wei, Loeber & Masten (2004) found that having antisocial peers led to higher rates of offending. The dual effects are exemplified by marriage. Marriage provides material resources,

supervision by spouse, and emotional support which helps offenders reintegrate back into the community. However, marriage can also be a source of stress and antisocial spouses may instead provide opportunities for criminal behaviour (Wyse et al., 2014).

Why Study Desistance?

The Singapore Prison Service (SPS) aims to enforce secure custody of offenders and rehabilitate them back into society as law-abiding citizens. We believe in grounding the SPS' rehabilitation practices in sound local research. We thus undertook this study to understand the journey undertaken by Singaporeans who have stayed away from crime after leaving prison to verify if self-efficacy and social relationships are important for desistance in Singapore. Desisters were interviewed to understand their journey of desistance – what helped them stay away from crime.

Methodology

Participants

44 male desisters were recruited from halfway houses and through personal contacts. Desistance was defined as the absence of drug or other criminal behaviour in the past 1 year or longer (Maruna & Immarigeon, 2004). Participants consisted of Chinese, Malay and Indian ethnicity. Their age ranged from 28 to 63 years (Avg = 48.88, SD = 9.30) and years of desistance ranged from 1 to 31 years (Avg = 8.34, SD = 8.10). Out of the 44, 40 (91%) had a prior drug offence (consumption, possession, trafficking). The diverse profile of participants (race, age and years of desistance) ensures comprehensive results as it covers the desistance journeys of various groups (young/old, short-term/long-term desistance).

Procedure

Three SPS civilian researchers conducted six focus group discussions and 19 individual interviews. Semi-structured interview questions were used to identify what helped participants desist from crime and whether self-efficacy or social relationships were important for their desistance.

Thematic analysis (Braun & Clarke, 2006) was used to analyse the data. Researchers first coded each transcript individually followed by discussions to ensure inter-researcher reliability. Two a priori themes used for coding the transcripts were: Self-efficacy and Social relationships. To prevent confirmation bias, all instances of self-efficacy and social relationships were coded for, whether it supported or hindered desistance. After coding, the two themes were analysed for sub-codes that described aspects of each theme.

Table 1. Summary of Themes and Codes Present in Participant's Stories

Themes	Codes	Description
Self-Efficacy	Motivation	Desire for change
		Determination to change
		Making a choice
		Having goals
		Self-belief in ability to change
	Behaviour	Having pro-social activities
		Leaving criminal friends
Social Relationships	Trigger Change	Desiring a better life because of family
		Role models gave hope for change
		Realised consequences of crime on self and family
	Maintain Change	Support & Encouragement from friends and family
		Leaving criminal friends
		Making crime costly because of its effects on others

Results

The high occurrence of both themes (Self-Efficacy, Social Relationships) across participants' data increases confidence that self-efficacy and social relationships are indeed important for desistance. Though participants' desistance length ranged from 1 to 31 years (M = 8.34, SD = 8.10), the same themes appeared in most stories which shows that the results are reliable. Table 1 shows the summary of results.

Self-Efficacy as Individual Motivation and Changed Behaviour

Self-efficacy was present in the narratives of 40 out of 44 participants. Further analysis grouped the data into two aspects of self-efficacy: motivation and behaviour.

Motivation. The motivational aspect of self-efficacy was seen by participants as key to their desistance. This desire for change was a desire to leave behind their negative past. Said one participant: "I really want to change because I really get tired of my life [in prison] (S23)." Participants were determined to pay the cost and their commitment to change was seen through their words such as "must" and "have to". As one participant described: "If you want [to change], you must know the cost you have to pay (S19)." This change was a choice they themselves made to move towards a clear goal. This goal (new life, job, family) provided a motivation for change, made them consider how to change, and to seek out resources for that change. "If you want to make changes, then you have to know where to go and what to do. You need to seek help (S3)." Throughout the desistance process, participants had the self-belief that they could achieve their goals. They had hope which helped them take steps towards change.

Behaviour. The behavioural aspect of self-efficacy was clearly described by one participant: "When you work it out, you will see results. You don't work it out, you think [about change] – everybody also can think – I mean sometimes thinking is deceiving (S19)." Pro-social activities (community work, religious activities) prevented boredom or associating with antisocial friends. Furthermore, being immersed in a pro-social community helped change their values and how they saw themselves. Leaving criminal friends was also reported to be crucial for desistance. Criminal friends were a source of temptation and participants actively took steps to avoid them. "Drug is always there. Even now after 30 years, I am cautious who I meet and where I meet friends (S30)."

Social Relationships Triggered and Maintained Change

43 out of 44 participants highlighted that social relationships were important for their desistance. Their main relationships were family members and friends from places such as religious organisations and halfway houses. Further analysis grouped the data into social relationships which triggered change and those which maintained change.

Triggering Change. Social relationships served as a pull factor for change. Participants desired a different life because of the people around them, which made them realise the consequences of crime on their families. "When my wife came to prison … she told me, people go honeymoon bring wife holiday every other country but I bring her to every prison in Singapore. I think she's right (S26)." Moreover, other successful desisters were role models, giving participants hope that since others could change, they could change too. Apart from pull factors, social relationships were also push factors for change. Participants realised the heavy consequences of crime when they saw how it affected their friends. "I got a few friends going to gallows already (S6)." These became turning points that triggered their desire for change.

Maintaining Change. Family and friends helped participants maintain change by providing advice and encouragement. This support was crucial for participants who had to face the multiple difficulties of reintegration. Social relationships also helped to maintain desistance by making crime costly. Many participants had families who they knew would be hurt by their future criminal behaviour. "But now it's that we have a family. And am I going to give up all these things just because of some fun things [drugs] like that? (S34)" The importance of mixing around with pro-social company and leaving antisocial friends was frequently mentioned. As one participant succinctly described: "Bad company influence bad, good company influence you good. Right or not? (S19)." Without the support of family and friends, it would have been much harder for participants to successfully desist from crime.

Table 2. Implications for Offender Rehabilitation

Individual Capital	Focus on self-efficacy for change, motivation, and behavioural commitment. Every interaction is seen as an opportunity to impact change. Environments should include activities and processes which support and encourage bahavioural changes.
Social Capital	Strengthen social capital and capabilities through family interventions and community support.

Implications

Self-efficacy and social relationships were ubiquitous in participants' descriptions of their desistance journey. 91% (40/44) participants mentioned self-efficacy as helpful for desistance while 98% (43/44) said the same of social relationships. These findings support existing research on factors important for desistance (Skogens & von Greiff, 2012). Through in-depth analysis on how self-efficacy and social relationships contribute to desistance, this study builds on existing research in understanding desistance. Our findings reinforce the notion that offender rehabilitation should be a multi-pronged approach addressing both individual capital, social capital, and the environment the offender is in (Table 2).

Build Individual Capital – Self-efficacy

Rehabilitation programmes can be improved by addressing both aspects of self-efficacy – motivation and behaviour. Treatment programmes using motivational interviewing to increase desire for change (Miller and Rollnick, 1991) can be coupled with cognitive behavioural therapy and pro-social activities. Second, the lack of self-efficacy is a barrier to effective rehabilitation programmes when it results in poor engagement (Sturgess et al, 2016). Programme effectiveness, in particular programme engagement, can be improved by increasing offenders' self-efficacy such as providing voluntary programmes or allowing choices within mandatory programmes. This is just one example of how the programme environment can support and encourage behavioural changes.

Build Social Capital – Social Relationships

The importance of social relationships means that rehabilitation should focus not just on the individual but his social environment too. Social support and mixing with prosocial friends are important factors for desistance. An offender's social capital can be built through social skills training and rehabilitating the individual's family and community. Apart from rehabilitating the offender, programmes can focus on teaching families and the community around him how they can support rehabilitation outside the prison setting. One such programme is the Winners' Circle Program (WCP) in Illinois, United States (Lyons & Lurigio, 2010). WCP organizes voluntary peer-led and peer-driven meetings for former prisoners. Apart from sharing experiences, the programme also provides "information about employment … and connects former prisoners with the local community [and voluntary organisations]" at each meeting.

Conclusion

Our study demonstrated the importance of self-efficacy and social relationships for desistance from crime for Singaporean ex-offenders. The results suggest that rehabilitation programmes can focus on two things: building individual capital and building social capital. Future studies can examine how an ex-offender's community helps or hinders the process of desistance, and identify credible behaviours that serve as signals for desistance.

About the Authors

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TECHNOLOGY

Optimising Firefighters' Performance with Wearable Technology & Predictive Data Analytics

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Abstract. As much as saving lives is pivotal in an emergency, it is important to also care for responders. Stress faced by responders during response to an emergency can result in heat-related disorders, and deterioration of operational capabilities. To better protect responders, physiological status monitoring systems in the form of wearable technology should be introduced for continuous monitoring of work strain levels. With the ability to track an individual's work strain level, the technology gives commanders and trainers the ability to detect early signs of heat stress and provide prompt intervention. This inherently gives responders the assurance to operate in emergencies too. When applied to training, these wearables also allow individuals to achieve their optimal performance range. In this article, the prototype Heat Strain Monitoring System developed by DSO National Laboratories for use in emergency response situations is discussed.

Introduction

Firefighters need to perform physically demanding tasks while enduring intense heat during firefighting scenarios. Heat generated by the body, compounded by ineffective heat dissipation due to the protective firefighting ensemble firefighters have to wear, can result in increased heat strain on the body (Smith & Benedict, 2010) as it reacts physiologically to dissipate the excess heat. This leads to an elevation in the body's core temperature (T_c). Heat strain, if left unchecked, may lead to adverse health effects, including unconsciousness and cardiac arrest. High T_c is a reliable predictor of heat-related disorders (Montain et al., 1994), and the ability to accurately monitor this parameter can help reduce the risk of heat injuries for firefighters working to put out fires (Malchaire et al., 2001). Furthermore, while various strategies can be harnessed to combat heat strain, the ability to monitor individualised T_c will further optimise heat management for firefighters (Wah et al., 2015; Racinais et al., 2015).

Multiple T_c measurements, when composited into a heat strain index, can reveal the thermoregulatory responses – the regulation of one's own body temperature – of a working individual. As this information is indicative of the individual's thermo-physiological strain and endurance, it can be used by instructors and commanders to vary the training intensity and work limit for firefighters, thereby optimising training effectiveness while balancing fitness level and operating environment demands. One suitable heat strain index is the Physiological Strain Index (PSI) (Moran, Shitzer & Pandolf, 1998). The PSI is calculated based on Heart Rate (HR) and T_c, and describes the combined cardiovascular and thermal strain on a scale of 0-10. Several studies have supported the validity of the PSI in its ability to distinguish between different levels of exercise intensity, including one that differentiates between the levels of physiological strain on firefighters working in personal protective equipment (Petruzzello et al., 2009).

At present, accurate and continuous measurement of T_c is possible via mainly invasive approaches, e.g. rectal or oesophageal probes, or ingested telemetry capsules. However, the invasive monitoring of T_c is often impractical for a host of reasons, including acceptance, invasiveness, and cost. While surrogate and non-invasive measurements that estimate T_c, such as tympanic, aural, forehead, or axilla temperature, may be suitable for field deployment, associations between these estimates and T_c are poor and erratic (Ganio et al., 2009). In addition, these approaches provide T_c measurements that are observable by the individual only. As a consequence, remote monitoring of a team of trainees by the commander, instructor, or medic is not feasible.

To provide a viable alternative to invasive approaches for monitoring of T_c and PSI, DSO National Laboratories is developing a non-invasive physiological status monitoring system (Heat Strain Monitor, HSM) for real-time continuous prediction of thermo-physiological strain on soldiers. This article discusses the key components behind the HSM, its anticipated impact and role in assessing physiological strain and enhancing the performance of firefighters using wearable technology.

The Heat Strain Monitor (HSM) System

The HSM is a networked system comprising wearable sensors. It has a predictive analysis algorithm that calculates T_c from sequential heart rate (HR) and surface skin temperature (T_{sk}) measurements available online from each user's wearable sensor, a wireless data link, and local and remote monitoring stations to inform the thermo-physiological strain on personnel (see Figure 1).

Figure 1. Overall architecture of the Heat Strain Monitor (HSM)

Sensing

Firefighters with wearable sensors

Productive Analytics

Tc and PSI

Real-time prediction

Monitoring

Display, monitor and control
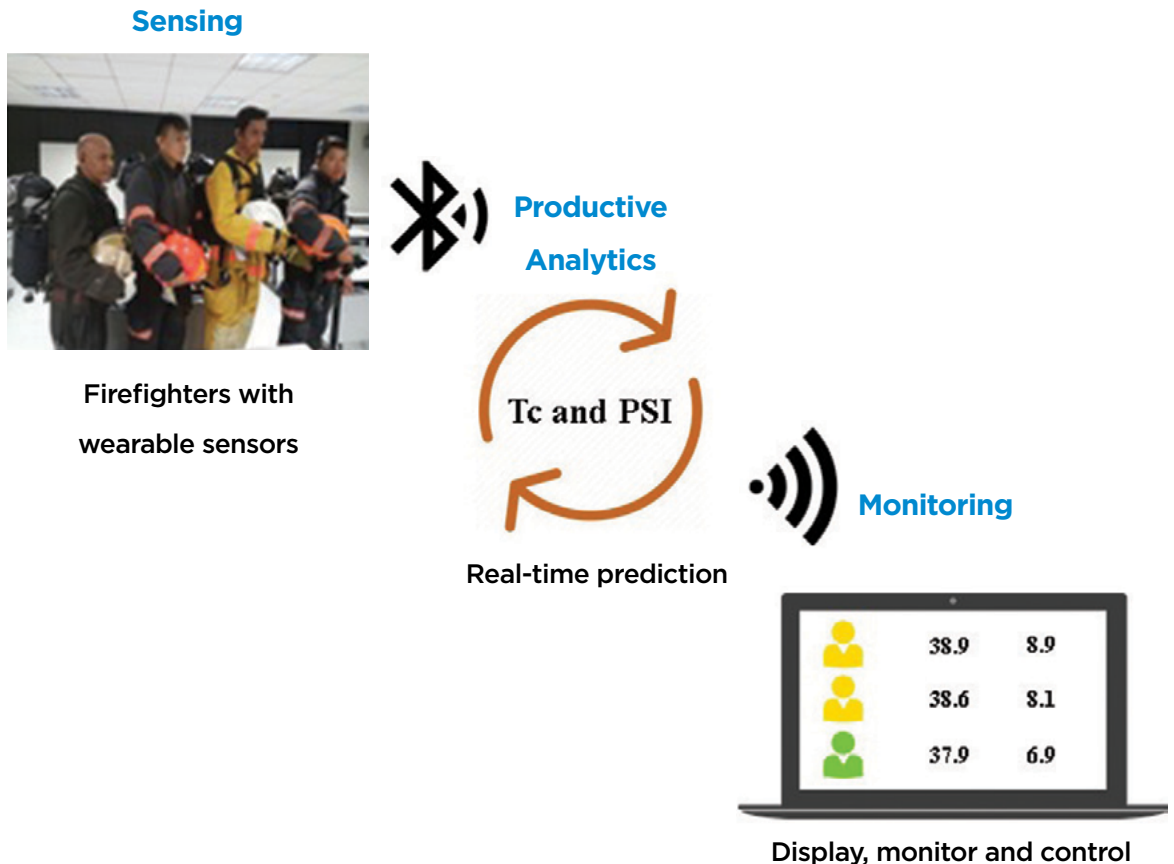
Wearable Body Sensor

To use the HSM, each trainee puts on a wearable body sensor that is capable of sensing and transmitting HR and T_{sk} continuously. In physiological terms, both HR and T_{sk} are closely related to work and heat stress, and therefore may be analysed to estimate T_c. Serial HR measurements contain information about heat production (Fick, 1995) and heat transfer since HR is related to skin perfusion (Richmond et al, 2015), which is the delivery of blood through the blood vessels in the skin. Similarly, because heat can be conducted from the deep tissues to the skin, an increase in T_c can lead to an elevation of T_{sk} over time (Yamakage & Namiki, 2003). While the HSM is currently being developed for integration with the Equival EQ02 LifeMonitor sensor suite (Hidalgo Ltd, Cambridge, UK), it is flexible enough for interfacing with other commercially available wearable measurements.

Predictive Analytics Algorithm

The predictive analytics algorithm uses time series observations of HR and T_{sk} to 'track' T_c over time (Seng et al., 2016). In particular, the algorithm calculates T_c by understanding how T_c changes over time, and the most likely T_c for a given set of HR and T_{sk} observations. HR and T_{sk} are physiologically meaningful and convenient observations of the expected T_c since they contain information about heat production and heat transfer, and can be measured easily using wearable sensors. When tested against T_c measured during military high-intensity foot march tasks, the algorithm produced a small mean bias (0.03°C) and root mean square error (0.24 °C). Figure 2 shows individualised comparisons between T_c measured using an ingestible thermometer capsule and T_c calculated using the predictive analytics algorithm.

Figure 2. Comparison between T_c measured using an ingestible thermometer capsule and T_c calculated using the predictive algorithm in nine military subjects across a route march (up to 16km) in full battle order configuration
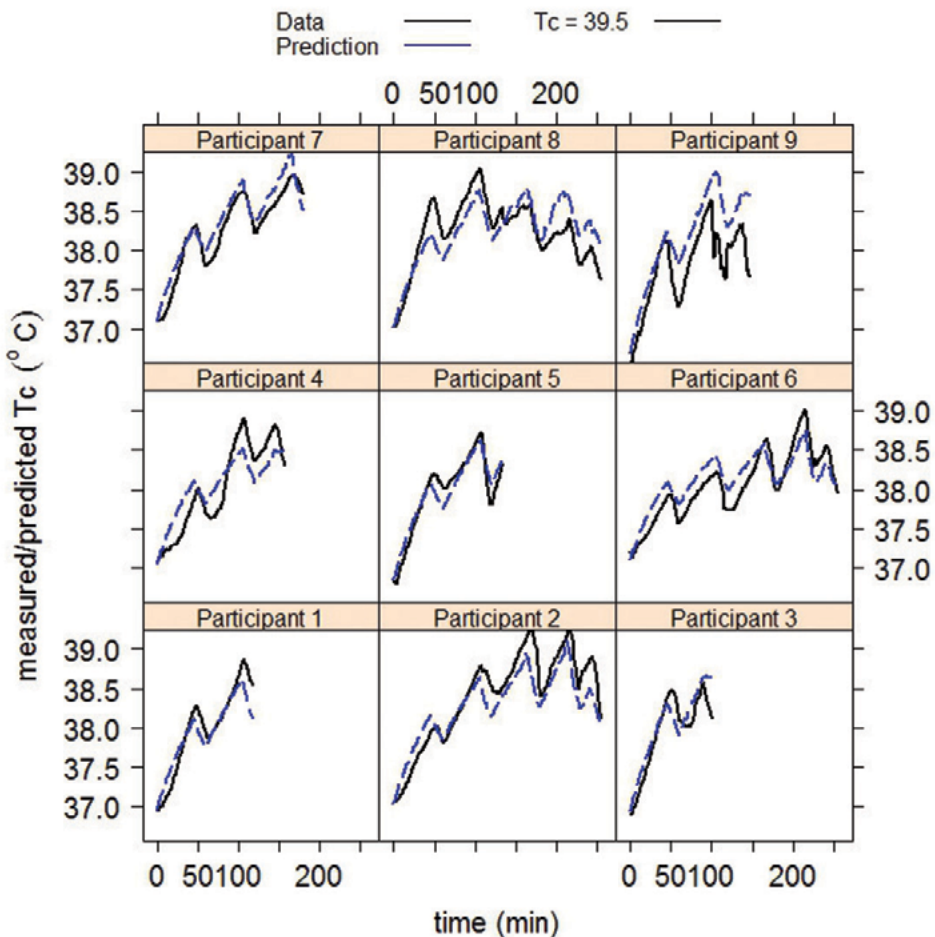
Local and Remote Monitoring Stations

Continuous time values of the predicted T_c and PSI are displayed on the local (smartphone) and remote (commander dashboard) monitoring stations, with each user's local station transmitting physiological strain data wirelessly to the remote station. T_c values obtained can be compared against a clinically accepted threshold for heat injury (Goldman, 2001), e.g. 39.5°

Celsius, in order to determine a user's likelihood for heat illness in real time. In the HSM, thermo-physiological monitoring is implemented using a 'traffic stop light' system, with 'green', 'yellow', and 'red' indicating that he is operating at below, near, and above the safe T_c threshold. Figure 3 illustrates representative screenshots of the local and remote monitoring software with both T_c and PSI displayed.

**Figure 3. Screenshots of (A) local and (B) remote monitoring software
with assessment of individualised thermal strain**

Note: For remote monitoring, alerts for individuals in the 'yellow' or 'red' zone will be heightened for greater emphasis to the commander, instructor, or medic.

Application of HSM

The HSM is well-suited for assessing thermo-physiological strain levels of firefighters in operational and training settings. Encapsulated firefighter suits, which offer protection, have the unintended consequence of allowing firefighters to operate for longer time periods than advisable. Current metrics for the amount of safe working time in firefighting operations is based on estimates of ambient temperature, workload, and exposure, which are prone to estimation bias as it ignores the between-trooper variability in physiology and physical fitness level. On the other hand, the HSM, by monitoring the T_c and PSI of every firefighter on the fireground, provides objective information that empowers individual firefighter to make his or her own judgment to either stay or exit a fireground. Besides allowing the individual trooper access to thermo-physiological strain information, leadership and medical staff can, with the right network connections, also have remote access to the physiological status of deployed personnel in real time. Furthermore, the HSM may also be useful in guiding the implementation of additional fireground strategies, such as shift tasks and rehabilitation. Overall, the HSM holds out the promise of reducing heat-related illness, and aims to enhance operational outcomes on the fireground.

The HSM system can also be a valuable tool for the training of firefighters. Due to the high intensity nature of training drills and self-imposed psychological pressure to push one's limits even when one is feeling unwell, trainee firefighters may ignore early signs of heat-related illness. Therefore, a system that provides real-time data on the T_c of each trainee allows supervisors to be alerted to situations of heat stress and overexertion during training. Additionally, PSI values depict how hard an individual is working during training. Such information can be used by instructors to adjust training intensities and maximise training returns. In the same light, T_c and PSI profiles that are accrued over multiple cohorts of trainees can progressively guide the implementation of training optimisation strategies and revision of work-rest cycle standards. This means training effectiveness can be safely increased over time. Lastly, by quantifying the level of physiological strain that trainees can expect to experience during training and in actual fire service duties, they will have a better awareness of the importance of physical conditioning. Such data may motivate trainees to train harder and improve fitness levels, which translates to less training injury, reduced academy attrition rates, and enhanced training outcomes.

Two immediate tasks, however, need to be undertaken before the HSM is ready for deployment. First, the predictive analytics algorithm has to be adapted to calculate T_c and PSI in firefighters. Adaptation of the algorithm will require representative sets of thermal work strain data to be measured from firefighter trainees in appropriate training exercises. Second, field testing of the HSM needs to be conducted in relevant training exercises. These trials must validate the wearability of the HSM as well as the functionality of its sensors, signal, and programming.

Wearables for Training Optimisation

In order to meet the unique physical demands of firefighting and to perform firefighting in a safe manner, firefighters must be physically fit. At present, trainees undergo a standard programme in order to attain the desired fitness level for completing the course, and for passing the required proficiency tests, e.g. the Individual Physical Proficiency Test. However, due to between-subject differences in physical fitness and motivation levels, trainees may respond and adapt differently to the training programme even if they undertake the same activities. This implies that not all trainees will experience the same level of training stress and require the same amount of recovery time. As a consequence, trainees may experience multiple episodes of under- or over-training, which could lead to suboptimal training and overuse injuries.

Besides quantifying thermal work strain, wearable technologies can be used to monitor physical fitness and enhance training returns. Indeed, wearable activity trackers have become an increasingly popular method for users to assess their daily physical activity and energy expenditure. These wearables typically measure and convert physiological data, e.g. heart rate variability, into actionable information needed by the user to monitor or change daily workout intensity in order to attain a fitness target more rapidly, push performance envelopes, or reduce the likelihood of overuse injuries. With the increase in popularity, such wearable-based behavioural change interventions are becoming more prevalent (Coughlin & Stewart, 2016). In the same manner, wearable-based technologies can also be incorporated into firefighting training in order to strengthen current training systems, and derive more optimal training outcomes amongst trainees. One potential approach to implementing wearables-guided training is illustrated in Figure 4.

Figure 4. Wearables-guided training for optimised training returns in academy training
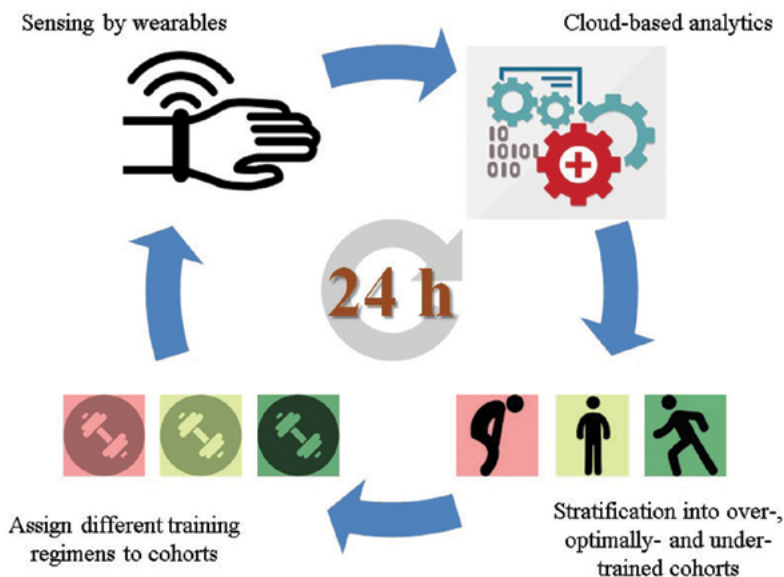
Under this framework, each trainee wears a wearable device, e.g. smart watch, which senses and logs his physiological responses to training and rest (including sleep) accrued during each day of training. Upon reveille the following day, all wearable devices are synced via data beacons, e.g. personal smartphones, to a cloud-based data analytics server that will determine the readiness-to-train level of every trainee. Such data will be channelled onto a trainer's dashboard software, which will categorise trainees into three groups: undertrained, optimally trained, and overtrained. Trainees in each group will receive dedicated physical training programmes for the day. For instance, undertrained trainees will partake in more physically intensive workouts to maximise their training potential, while trainees belonging to the overtrained group will receive a less physically intensive workout to reduce the likelihood of overuse injury. This cycle of events will occur on a daily basis throughout the training period. Such a progressive training strategy is expected to enhance physical fitness and performance levels in trainees, which translates into superior protection against environmental hazards and improved execution of job-specific duties.

Conclusion

Physiological status monitoring and wearable technologies have the potential to positively transform training and operations. Timely acquisition of individualised T_c and PSI data can be used to enforce thermal safety measures, and therefore reduce the risk of heat illness and improve work sustainability. To this end, DSO's HSM system offers a workable solution to realise this goal. Meanwhile, pending the deployment of the HSM system, we propose a framework using wearable activity trackers to allow academy trainers to monitor individual-specific training load on a continuous basis and thus develop training schedules that optimise training outcomes while minimising the risk of injury.

About the Authors

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Through A Glass Darkly:
Some Insights On Crisis Communications

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Abstract. Crisis information management has taken on new dimensions in recent years in the face of challenges posed by social media and a fractured media environment. Much has been done to establish a sound system of command & control in crisis management, to improve professional training and equipping of personnel, and to hold regular contingency exercises. But there are areas in crisis communications which can be developed further – and this includes nurturing able, articulate spokespersons willing to confront the international broadcast media. We need also to be nimble and willing to employ elements of spin for tactical advantage in media coverage without sacrificing our key concerns for integrity and honest governance. In the realm of technology, we must be prepared to employ innovative tools and software now available to reach out to our various target audiences. Finally, we have to find ways to go beyond our smallness as a city-state and exploit our unique system and qualities for maximum gains.

Not Rocket Science

SARS hit Singapore in early March 2003 even before it acquired its name. At the height of the crisis, then Senior Minister Lee Kuan Yew, responding to harsh criticism in the foreign media regarding Singapore's "draconian quarantine measures" taken to contain the disease, remarked, "Let's produce results. Then the public relations will look after itself" (Sadasivan, 2004). Those of us involved in managing SARS took this advice, circulated to us in a private email, to heart. Above all, we understood well enough that we had to be honest with our own citizens, and our responsibility for the protection of lives and public health overrode all other considerations. Mr Lee's pithy comment crystallized in a few words, the fundamental objectives of any crisis management in Singapore.

Crisis communications is by no means rocket science. It calls for lots of common sense, intuition, planning, experience, and luck. There is no such thing as a standard crisis with standard solutions. We found that out for ourselves with the Y2K computer bug which promised something akin to an apocalypse after midnight on December 31, 1999. I participated in the main committee chaired by a Permanent Secretary which met many times over 1999, tasked to look at every conceivable facet of the looming crisis and to find solutions. Working groups were formed to look at the challenge of Y2K to air traffic control systems, transportation networks, banking, finance and the health sector. But the dawn of the new millennium came and went, not with a bang but a whimper.

All crises are unique but usually follow some kind of pattern. The first response is always critical, and research has shown that when organisations or governments were unprepared or slow to respond, issues or crises invariably tended to last about 2.5 times longer (Wu & Dai, 2001; Wimmer, 1999). The objectives of crisis communications are universal and many best practices during incidents across the world follow common principles.

Good crisis communications is based on a system already in place. When a crisis crops up, you tighten it up and make it better. You bring in all your key players and you share resources. You never tell more than you know, and you constantly update the media. In risk communications, the classic dilemma is that you want your citizenry to be aware of the risk but not to be so paralysed by fear that they suspend their normal lives. Over the course of four decades in the Civil Service, I have had the dubious privilege of being involved in some way or other in managing information flow in a range of crisis situations and gained much from the

experience. In this essay, I have extracted some key observations and insights which may be of interest.

The Joys of Spin

In one of Machiavelli's more controversial comments in his 16th century treatise, *The Prince*, he argued that lying (or spinning) is sometimes justified by reference to the higher needs of political statecraft, and sometimes by the claim that the state, as the embodiment of the public good, represents a higher level of morality (James, 2011). Massaging the truth has been eternally appealing to many governments and organisations alike in the course of managing their relations with the media and the public. David Greenberg (2016) has traced the origins of spin from Plato's diatribes against rhetoric (which he derided as the persuasion of ignorant masses using flattery akin to cookery that masks the undesirability of unhealthy food by making it taste good), through propaganda, public relations, psychological warfare, branding, framing, messaging, strategic communications, to today's "spin".

In the early years, spin was viewed with much distaste in Singapore Government circles – it was seen as a euphemism for deceit and manipulation and something only undertaken by shady organisations, some western governments and banana republics. It was to be diligently avoided at the best of times. But what do you do when confronted with crisis situations where external actors are consumed only with spinning yarns against Singapore? The Michael Fay crisis is a case in point.

Michael Fay (1994)

A simple criminal case of vandalism involving an American teenager resident in Singapore, Michael Fay's conviction and sentencing to six strokes of the cane caught the attention of the highest levels of the US administration. Against the backdrop of a domestic US law and order debate, the US media took the story to white hot intensity fuelled by emotional comments by the Fay family and lawyer. Fake news was rampant, and included widely published pictures of "public caning" with the victim tied to a wooden cross and whipped in front of the public, reportedly in the vicinity of "Tekka Market". (That picture is believed to have originated in Saudi Arabia.) US media coverage turned into a feeding frenzy after

Fay's appeal for clemency was turned down but the Singapore President decided to half his strokes. By this time, half-truths had become gospel truth and the issue had turned seemingly into a clash of civilizations. All previous unhappiness with Singapore's approach to governance – the Internal Security Act, the ban on importing chewing gum, an allegedly biased judiciary – were highlighted in a ritual stoning of Singapore. Spin became the norm and the Fay family took pains to be constantly available to the media, with Mrs Fay cutting a sympathetic figure as a caring mother concerned for her child. Fay's father, then based in the US, appeared on US national TV networks frequently, highlighting his own parents' origins and painful experience of the Nazi holocaust.

The Fay incident vividly highlighted the impotence of a small city-state facing the onslaught of very powerful Western media organisations. The Singapore side of the story struggled for attention. A number of reasons readily come to mind: instant responses were difficult because of our rigid system of clearing replies, with silence often considered a better response. The absence of able spokespersons and the practice of releasing written statements were inadequate for broadcast media. I recall my own role in drafting endless replies on a daily basis first thing every morning, refuting stories that appeared in major US newspapers, especially the New York Times (NYT) and Washington Post (WP), none of which would carry our letters, forcing us to flag them for the attention of the domestic media. Our attempts to purchase full page advertisements in these very newspapers to carry our rebuttals were likewise not entertained.

At one point, I recall proposing that a Singapore Broadcasting Corporation (now MediaCorp) team be engaged to do a quick half-hour expose of the fact that some of Fay's own teachers at the school he was attending apparently regarded him as a vandal and rascal, and staffers had privately expressed the view that he deserved to be disciplined. Even this feeble attempt to "spin" the story to our tactical advantage was predictably dismissed. Spin was just not the "done thing".

Indonesian Tsunami (2004)

Soon after the Indian Ocean earthquake and tsunami hit Indonesia in late December 2004, the US Carrier Strike Group 9 was dispatched to the coast of Sumatra led by the aircraft carrier USS Abraham Lincoln. As

is the practice for such deployments, US Defence Attaches in the region promptly and efficiently provided detailed publicity materials and briefings for the international media, including pictures of the carrier's deck stacked with crates of water bottles, tents, food and other disaster relief supplies. These pictures were featured prominently in regional publications and on TV channels. Indonesian public opinion of the US reportedly improved in the year after the tsunami, according to polls (Ballen, 2006).

In contrast, Singapore downplayed the Singapore military's massive Operation Flying Eagle rescue and relief mission to Medan, Banda Aceh and Meulaboh as well as to Phuket, Thailand. It was the largest SAF humanitarian operation, involving three Landing Ships Tank (LSTs), some 1500 personnel and helicopters and aircraft. It was downplayed seemingly because of concerns that we not annoy the Indonesian Government.

Indeed, it was several days into the deployment, and following a Ministerial intervention to overrule objections, that arrangements were quickly made for the deployment of selected foreign media on one of our landing ships, RSS Endurance, as it sailed to Meulaboh. The deployment and beachhead established by the SAF gained prominent coverage soon after in the then Asian Wall Street journal (AWSJ), International Herald Tribune (IHT) and other international media.

For the US Armed Forces, spinning is an essential tool and very much a Standard Operating Procedure (SOP) to be exploited readily, especially for deployments for humanitarian relief and rescue which potentially allow the US diplomatic advantage in longer term bilateral relations with the recipient country, in this instance, Indonesia. Singapore, however, was slow to exploit this advantage, a function no doubt of our smallness (which governs a worldview that for some means placing the concerns of our neighbours first) and a reluctance to engage in "spin". Fortunately, bureaucratic timidity was subsequently overruled.

Vietnamese Refugees (1996)

Singapore maintained a refugee camp for the "Vietnamese Boat people" at Hawkins Road in Sembawang for close to two decades. More than 5000 Vietnamese refugees came to Singapore on commercial ships or were picked up in the open seas between 1975 and 1979. Hawkins Camp, set up in 1978, could house no more than 150 at any point in time and many were sent away to other countries. Hawkins was considered one of the more humane refugee camps in the region (Yuen, 2016). Horrific stories of the treatment of Vietnamese refugees in camps in other Southeast Asian countries were common. In mid-1996, the Hawkins Camp was closed after the last batch of 99 Vietnamese were voluntarily repatriated to a more politically stable Vietnam.

Our communications plan for the repatriation was based on the premise that as we had provided what was evident to all – one of the few really humane camps in the region where refugees were gainfully employed, had comfortable accommodation & facilities and several children were born at the camp – we had every right to spin the story to our own advantage. In short we proposed to "milk the story" for positive coverage in the international media. The plan was readily approved at the highest levels within the Communications Ministry and at initial meetings at the Ministry of Home Affairs (MHA). However, when I presented it to MHA's Executive Group (EG) and Ministers, the Ops Plan had changed radically overnight in light of rioting earlier at the refugee camp on Bidong island off Trengganu on the Malaysian East Coast. A new plan was hastily put in place which did away with any kind of publicity or "spin" and the refugees appeared only on the day of repatriation at Changi Airport in a bus, where they were then promptly and quietly repatriated. Predictably, our plan was dismissed with much disdain during its presentation.

Together with a certain abhorrence for employing "spin", in this instance, it was clear we had to synchronize our operations and communications plans. It was a good lesson on the fact that communications plans can at best only supplement and affirm operational plans and cannot exist *in vacuo*. Spin must and will invariably take second place.

Nonetheless attitudes have changed within the Singapore Government over the years. There is now willingness to employ some measure of spin in information management, without sacrificing core principles of integrity and honesty on which our governance is based. But how much spin is tolerable in this age of instant updates and fake news? Should we not also have the instinct and ability to respond to the media and to play the same game in managing information flow?

The Spokesman Saga

Barings Bank (1995)

In February 1995, Nick Leeson, a "rogue" trader for Barings Bank, UK, single-handedly caused the financial collapse of a venerable bank that had been in existence for hundreds of years. Leeson was dealing in risky financial derivatives in the Singapore office of Barings. In April 1995, then Finance Minister Dr Richard Hu observed that complaints directed during a MAS press conference on the Barings Bank debacle showed a lack of practice or confidence amongst our senior civil servants, who he felt performed poorly at press conferences.

In contrast, Nick Leeson's lawyers and the head of Barings public relations were available at all times to provide their versions of the story. Fake news included prominent stories in the British media on the horrors of prison life in Singapore and brutal methods used against foreign criminals, as well as questions about the independence of the Singapore judiciary. I recall vividly my own experience, together with the Press Secretary to Prime Minister, as we coaxed one senior official to make a short statement, following the Singapore Inspector's Report on Barings, to a BBC TV crew at the lobby of PSA building. After three excruciating failed attempts, the TV crew called it a day. As the case was going to the then Subordinate Courts, officials were predictably wary that it would be *sub judice* – saying something that would cause offence to the case.

Several other incidents where spokesmanship was visibly absent and we relied largely on anodyne press releases and Ministerial statements come to mind. Two incidents called for senior officials to expound clearly on technical issues dealing with pathology, forensics and law but were instead escalated to Ministerial levels. In 1994, Johannes Van Damme, a Dutch engineer and businessman was the first European drug trafficker to be hanged in Singapore since independence. The incident predictably attracted much international attention and I recall that our response was largely muted in the absence of senior officials willing to speak, especially on television.

Likewise, the hanging in 1995 of Flor Contemplacion, a Filipino domestic worker executed in Singapore for the murder of another Filipino domestic worker and a three-year-old boy in 1991. Contemplacion never retracted her confession to the crime and the Philippines Embassy in Singapore deemed her confession credible. However, Philippines politicians had a field day with numerous interviews and rebuttals on television. Her execution severely strained relations between Singapore and the Philippines, and caused many Filipinos to take to the streets in the Philippines to vent their frustrations over the plight of overseas Filipino workers. I recall my own reading that this crisis was in many ways an absurd response by Filipinos who should have been venting their frustrations with their own government. The Singapore story did not receive much mileage at all.

Another instance, not quite a crisis *per se*, was when then World Bank President Paul Wolfowitz slammed Singapore's banning of 22 of the 27 activists who were planning to disrupt the Annual Meetings of the IMF and World Bank hosted by Singapore in September 2006, with this tart comment: "Enormous damage has been done and a lot of that damage is done to Singapore and self-inflicted" (Wolfowitz, 2006). Apart from a terse press release, there was only a deafening silence from the Singapore Government.

The absence of spokesmen is a long and convoluted saga. Indeed, it was only after watching Scotland Yard Commissioner Ian Blair and his deputy Alan Clark speak authoritatively on BBC after the London underground bombing of 7 July 2005 that instructions were given to this effect to Home Team departments: "The heads of professional services, Commissioner SPF and SCDF will come out to speak as soon as possible in the aftermath of an incident – to reassure and to show we retain control of situation. Heads of other services will jointly or individually provide updates at press conferences thereafter. The additional level of spokesmanship will be at political/ministerial level."

Much has undoubtedly been done since. In 1995, then Ministry for Information and the Arts (MITA) employed a seasoned consultant Ms Greenwood to train a number of Political Office Holders (POH) and officials. Subsequently, several batches of senior Directors and Deputy Secretaries underwent training courses at TCS (now MediaCorp) Training School in Caldecott Hill with BBC instructors. Key Ministries also appointed senior journalists to head their public affairs teams. In 1995 the Public Relations Academy

at MITA took over the training of some 140 official spokespersons. The programme was put on hold when most of the identified spokespersons had been trained.

Some of our senior civil servants have since shown considerable promise and there have been more open press conferences. As a general rule, senior officers are able and competent in managing "technical" issues at press conferences and even in one-on-one interviews with foreign media. The difficulty arises most often when it involves any number of subtle, political and legal nuances. In 2001, when I presented the inter-Ministry Public Relations (PR) 21 report at the Committee of Permanent Secretaries (COPs) meeting where we recommended that select officers be identified to take on the role of spokesman, I recall the then Head of Civil Service and his colleagues chuckling in unison when I was asked: "Who did you have in mind?" Then Deputy Prime Minister Lee Hsien Loong also made a similar observation that whilst the Civil Service could boast of having a directory of official spokesmen, few if any had shown promise of being forthcoming in responding to media requests, especially from the broadcast media.

However, lest it be misunderstood, let me say that the Singapore system has its own unique strengths and we need not rush to ape countries in the West. Ministers are obliged to explain policies. Explanations invite questions, questions invite argument, and government policies are often controversial. A civil servant has no power of his own; everything he says or does is in the name of a Minister. To preserve the political impartiality of the Civil Service, civil servants should be anonymous. Anonymity is very much a virtue for civil servants – not a weakness. The Prime Minister put it succinctly at the Administrative Service promotion ceremony and dinner in April 2017:

> It's inherent in the role of the civil service, to work with and work for political leaders, in a political environment, and yet maintain a certain detachment from politics. It is a fine balance which has always been required and which we must continue to maintain (Chew, 2016).

And observations made by foreign correspondents to me on many occasions affirm that whilst our officials are overly cautious and slow in responding, the correspondents did appreciate the fact that our press releases and statements represented Government thinking on any issue, given the elaborate checks and balances in place. In contrast the cacophony of noise and confusion encountered in countries in the region made the job of reporting a lot more difficult.

But the question remains whether this state of affairs is tenable in the age of 24 hour news cycles, instant sound bytes and an environment aptly described by former UK Prime Minister Tony Blair as one where the media now hunts in a pack: "… it is like a feral beast, just tearing people and reputations to bits but no one dares miss out" (Blair, 2007). However, should or can we rely on political office holders in every instant? Increasingly the onus must be on senior officers to take a stand and to explain, because it is sometimes advantageous tactically for political office holders to remain in the shadows. The world has moved on from faxes, telegrams and telephone calls to Facebook, Instagram and Snapchat. Do we not need to keep in step?

The Burden of Smallness

MI 185 (1997)

SARS (2003)

Boxing Day Tsunami (2004)

Avian Flu H5N1 (2005)

Much has been written and said about the limitations of small state participation in world affairs. We occasionally boast of and are praised for "punching above our weight" but the hard reality of realpolitik demands that we move with caution, with an eye on negative reactions, especially from our neighbours during crises. During the 2004 Boxing Day Tsunami, we saw how concerns about overplaying or publicising our role in the humanitarian effort and antagonizing or upsetting our bigger neighbour, Indonesia, obliged us to limit international media coverage.

A similar concern not to annoy the Indonesians was evident during the MI 185 air crash disaster in 1997. The instruction given to me at the start of the incident was to convey to the domestic media that the incident occurred in a foreign jurisdiction and we needed Indonesia's full cooperation. It would not do for our domestic media to highlight negative instances or lapses on the part of Indonesia or overplay Singapore's role, the military's deployments of naval ships, aircraft and personnel to Palembang, and the deployment of

superior assets. Indeed, we sought the media's help to highlight the opposite, i.e., Indonesia's support and professionalism.

The press releases issued by the Civil Aviation Authority of Singapore (CAAS) & Silk Air were deliberately anodyne, carried few substantive details and downplayed the sheer numbers of Singapore Armed Forces (SAF) personnel deployed. However, it was subsequently felt by the Crisis Management Committee (CMC) that perhaps the editors of the local press had taken our instructions too much to heart and it was time to highlight and play up Singapore's efforts in the search and recovery effort. We subsequently coordinated with the Ministry of Defence to allow greater access and facilitated TV coverage and interviews.

Indonesian concerns were evident also during the first press conference held in Palembang on 23rd December 1997 helmed by the Singapore Communications Minister Mah Bow Tan and his Indonesian counterpart. The Indonesian national TV station Televisi Republik Indonesia (TVRI) carried the Indonesian Minister's remarks but studiously ignored the Singapore Minister's comments – no doubt to emphasise for the domestic audience that Indonesia was in charge and managing the disaster on its own sovereign territory.

Another example that comes to mind is Singapore's decision to ban the import of eggs from Malaysia following the detection of the deadly H5N1 virus in Kelantan. I recall it was made with much caution for fear of upsetting our neighbours. There were also lengthy discussions on any decision taken to limit travel across the causeway in the event of a pandemic. Even then, at a subsequent International Conference on Management of Information Pertaining to Health Crisis held in Kuala Lumpur from 3 to 4 May 2007, Malaysian veterinarians present accused me (i.e. Singapore) of "paranoia and overreaction". My attempts to explain the differences in the scale of threat posed to a highly urbanized, dense city state like Singapore as opposed to a large country like Malaysia with its rural heartlands, fell on deaf ears.

At another conference on Effective Public Health Communication in an Interconnected World that I attended in Bellagio, Italy, in October 2016, the participants applauded Singapore's quarantine measures and other innovative tools used to prevent the spread of SARS in 2003. But in the same breadth, a participant made clear that Singapore's experience was unique and impossible to duplicate in the West. Our measures were "extraordinary" and unappetizing in robust democracies like the UK and EU. Also Singapore's success in curbing SARS was very much a function of its "smallness", a uniquely compliant citizenry and the absence of a rural continuum.

Indeed, this uniqueness was also surfaced by PM Lee at an Administrative Service dinner on 24 March 2005. He noted: "A strong, stable government and a professional civil service inherited from over a hundred years of British colonial rule ensured exceptionally rigorous standards of honesty and efficiency and many intervening layers of authority, which prevented "fuzzy" data from surfacing. This legacy of a professional civil service differentiated Singapore from Taiwan and China" (Lee, H.L, 2005). It was precisely these "laboratory conditions" which made possible the speedy amendment of the Infectious Diseases Act to give more teeth to enforcement action against quarantine breakers, the acquisition of thermal scanners for use at all border points and key premises, contingency accommodation and compensation for quarantined persons, the mass purchase of masks, gowns and thermometers and other equipment for hospitals, and the deployment of Ministry of Defence personnel to assist in contact tracing and devising software for enforcing quarantine orders (Menon, 2006).

The Promise of Technology

Managing information flow during a crisis demands that one crafts the right message to be delivered by the most efficient means possible to the audience one has in mind. This basic principle has not changed much even with the advance of social media. But social media has made it possible for faster and rapid two-way communication compared to traditional methods. Today bad news circulates minutes after it happens and we no longer have the luxury of waiting a few hours to respond. The public expects and demands information immediately. But the message still needs to be carefully crafted, as mistakes on social media can haunt one forever. It might be useful to look at examples from the past to explore how those incidents might have benefitted from the availability of social media and new technological aids.

During the SARS crisis, we launched a SARS dedicated TV channel through MediaCorp. It was set up quickly over a few days with generous support from NTUC and DBS and the channel carried only SARS programmes for a fixed number of hours daily, especially in the afternoon. I was engaged in a small committee overseeing the looping (repeat broadcasting) of documentaries and other features on this channel with MediaCorp. Ratings were predictably low and there were critics who charged that it was a case of "overkill", observing that countries like China and Taiwan did not see the need for a similar measure in spite of the wider spread of the disease there (Cheong, F. 2003). The channel was made available on the principle that we needed to employ every platform available to reach out to our populace. Today, of course, with the online YouTube platform and the possibility of going viral with video clips, we can achieve the same effect as a TV channel fairly quickly, to a larger audience and at a fraction of what it cost us in 2003. Indeed, several Ministries now have the capacity to produce their own video clips quickly. The idea of a dedicated TV channel has been reduced to irrelevance.

Access to satellite transmission overseas used to hamper local TV coverage. When Communications Minister Mah Bow Tan's remarks at a joint press conference in Palembang held four days after the MI 185 air crash in 1997 were ignored by TVRI and other Indonesian stations, the absence of a satellite uplink facility in Palembang forced us to seek the assistance of the Singapore Air Force to convey MediaCorp's physical tapes of the press conference to Singapore via the regular evening Charlie C-130 flights from Palembang. My staff from the Ministry then collected the tapes from Paya Lebar Airport and delivered them directly to Caldecott Hill for transmission on the 8.30 pm English news! This primitive, somewhat comical, roundabout way was critical as MediaCorp did not have any other capacity to transmit its story from Palembang. MediaCorp explained to us that a portable satellite link kit (e.g., the suitcase kit used first by CNN correspondent Peter Arnett on the roof of the Al Rashid hotel in Baghdad during the 1991 Gulf War) was just not available because of high costs. Today, cost is not an issue with online transmission via wi-fi & cable/broadband freely available in most cities around the world.

Similarly, in 2003, during the "Water Talks" crisis with Malaysia, whilst we did have a website to push across our side of the story online, innovations like Facebook, YouTube and Instagram were then still in their infancy. These social media applications would have made a significant difference had they been as widely used then. Today, of course, we now have a range of software and systems in place to issue immediate alerts with wider reach. We have come a long way from our first attempt to alert Singaporeans via their smart phones to look out for the escaped Jemaah Islamiyah detainee Mas Selamat Kestari in 2008; that episode proved embarrassing when the system collapsed under the strain. There is now also software for data mining and pinpointing of residents' needs and problems in any crisis, allowing for more substantive assessments.

It's Really About Psychological Defence

Crisis information management is also about managing societal expectations and boosting morale. In that sense, of all the innovations in crisis information management we have employed over the years, I think the Infrared Fever Scanning System ranks at the top. Indeed, TIME magazine hailed it as one of the coolest inventions of 2003. Better known as thermal scanners, the system was jointly developed by the DSTA and Singapore Technologies Electronics and put together within a week or so. During the SARS outbreak, Singapore was the first to deploy thermal scanners, which gave a major psychological boost to public morale and the sense that the disease could be stopped at our key border points of entry.

However, there were sceptics who questioned the scientific effectiveness of such systems. I participated in a WHO Expert Consultation on Outbreak Communications Conference in Singapore in September 2004 where Canadian officials pointedly commented that Singapore's widespread use of the instrument had prompted the Canadian public to exert pressure on its officials to introduce the instrument at Canadian border checkpoints. The Canadians, however, were persuaded by their own engineers that it had only limited value and accused me (Singapore) of "overdoing" our act.

Indeed, subsequent research appears to affirm this view. During the 2009 H1N1 pandemic, our response was as dramatic as that of Hong Kong and the

National Influenza Pandemic Readiness and Response Plan was activated promptly a day after WHO raised its alert level from 3 to 4. The strategy called for Containment and Mitigation with a range of non-pharmaceutical interventions like school closures, border screening with thermal scanners, quarantine, and social distancing measures used during SARS and the Avian Flu pandemic. Thermal scanners at the border picked up 25% of returned travellers with H1N1 whilst the other infected 75% slipped through the borders as they had no symptoms on arrival (Gan, K.Y., 2010). Studies in Hong Kong on similar non-pharmaceutical interventions showed that it helped facilitate some delay in local transmission but not by much (Cowling, et al, 2010). In short, the jury is still out on the actual cost effectiveness and resource allocation of such measures.

Be that as it may, this debate misses the larger point. My view is that we were well aware of the limitations of the thermal scanners but understood the key role it played in psychological defence. Managing a crisis is really all about managing public perceptions and influencing social behaviour. The scanner, with all its limitations, persuaded many Singaporeans that we had effective controls in place to limit the entry of the virus. Our success in handling SARS, Avian Flu and H1N1 and other crises, however, places a heavy burden on the government to respond visibly in the same fashion each time even when evidence shows it may well be a drain on our resources for limited ends. One critic has perhaps aptly compared these actions with that of a witch-doctor performing his dance "not because he believed it would bring rain, but because he believed the tribe expects it from the witch doctor" (Lee, 2009).

There are probably no direct measures of successful outbreak communications and few ways of determining whether we got it right. We may never know if all the efforts taken during the Sars, Avian Flu and H1N1 crises to build confidence in our populace amounted to anything. But we do know that there are obvious indicators of poor communications, as seen in the subsequent political instability affecting the highest offices in some countries and the economic cost and high level of public unhappiness there.

About the Author

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Menon has an Honours degree in Social Anthropology from Victoria University of Wellington, New Zealand, where he later earned a PhD in Political Science. He also has a BA in Communications & Media Management from the University of South Australia and a Master of Arts in Political Science from Monash University, Melbourne. He published several articles in political science journals & monographs during his term at ISEAS. In recent years he has focussed his attention on issues of Public Health/Risk Communications and contributed articles to the *Journal of Communications Management* (London), *Annals of the Academy of Medicine* (Singapore), RSIS *Working Papers* (NTU), and on the zika virus in *The Lancet* (Feb 2016). He has presented papers & original research at various conferences – in Taipei (IFRI), Phnom Penh (ASEAN), Oslo (ASEF), Bellagio (Rockefeller Foundation), Brunei, Kuala Lumpur and in Singapore. He is a member of the World Health Organisation (WHO) International Health Regulations Emergency Committee and was recently engaged at meetings on the zika virus. He retired in 2011 but continues to be engaged full-time by MCI. He is also an Associate Trainer with the Civil Service College and lectures occasionally at NTU & SMU.

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Fake News: Five Key Things Home Team Officers Should Know

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Abstract. While the spread of fake news is not new, recent technological developments have accelerated the production, dissemination, reach, and realism of fake news to unprecedented levels, posing a significant challenge for law enforcement agencies. For the Home Team, fake news is a concern due to its impact on emergency response, and more importantly, Singapore's communal harmony. There is thus a need to consider the destructive impact that fake news can have on individuals, organisations, and nations, and to explore ways to combat them. This article shares five key points about fake news of relevance to the Home Team.

Introduction

There is an increasing trend of fake news being circulated around the world, with an intent to undermine public institutions, incite social tensions, and interfere with political processes. While the spread of fake news is not new, recent technological developments have accelerated the production, dissemination, reach and realism of fake news to unprecedented levels, posing a significant challenge for government agencies.

In Singapore, various agencies and organisations have recognised the threat of fake news, and measures have been taken to deal with this issue. For example, a Select Committee comprising Members of Parliament was formed to explore and make recommendations on combatting online falsehoods in Singapore. For the Home Team, fake news is a concern due to its impact on emergency response, and more importantly, Singapore's communal harmony. There is thus a need to consider the destructive impact that fake news can have on individuals, organisations and nations, and explore ways to combat them.

This article addresses five key questions about fake news:

1. What is fake news?
2. Is fake news a new phenomenon?
3. What are the consequences of fake news?
4. How does fake news spread?
5. What can be done about it?

What is Fake News?

As the term suggests, fake news refers to stories concerning current events that are factually inaccurate, misleading, or fabricated. While the word "news" is traditionally used to indicate news stories published and circulated by news organisations, the term "fake news" is a new catch-all to describe a broad assortment of existing phenomena such as hoaxes, rumours, memes and propaganda. In short, fake news has been widely referred to as content that contains inaccurate, misleading or fabricated information, and is being distributed through different channels of communication such as print, broadcast, text messaging or social media. In Singapore, the Select

Committee on Deliberate Online Falsehoods has noted that while there is no formal definition of what constitutes a deliberate online falsehood, it should not be conflated with the freedom of speech. Its 2018 report stated:

> … falsehoods are capable of being defined. The law has historically done so, and the Courts regularly do so. Falsehoods concern provable facts, not opinions, philosophical notions of truth, or moral notions of right and wrong (Select Committee on Deliberate Online Falsehoods, 2018, p. 117).

Distinguishing between Different Types of Fake News

There are three main approaches to defining fake news. Firstly, fake news can be differentiated based on the degree to which the facts are being tampered with (Tandoc, Lim & Ling, 2018; Wardle, 2017). In cases with a low degree of fact-tampering, the fake news articles tend to be characterised by minor factual inaccuracies or clickbait headlines. For fake news with a high degree of fact-tampering, the articles cherry-pick facts to suit the story created, for which they may even doctor pictures in misleading ways to justify their arguments (Jack, 2017). It should be noted that the degree of fact-tampering is not necessarily linked to the deceptive intent of the fake news. A piece of satire, for example, may fabricate facts to entertain an audience. A piece of violent extremist propaganda, on the other hand, may only distort a selected number of facts to change public opinion on an issue.

Fake news can also be distinguished based on a spectrum of deceptive intent (Tandoc et al., 2018; Wardle, 2017). Fake news with low deceptive intent is commonly known as misinformation, while fake news with high deceptive intent is known as disinformation. Misinformation refers to fake news stories that are unintentionally disseminated or where the motive for dissemination is not to cause harm. Some examples of misinformation include hoaxes, scares and errors in reporting. In contrast, disinformation is the deliberate spread of fake news stories by those who are motivated to cause harm or division within the society. Some examples include state disinformation or violent extremist propaganda. The middle of this spectrum is occupied by those motivated to persuade people to support their agenda via the spread of fake news, albeit the lack of intention to cause harm. Examples include deceptive advertising by companies or biased media that publish information aimed at promoting their own agendas.

Table 1. Types of Fake News

Types of Fake News	Intention to Deceive	Fact Tampering	National Security Threat
Violent extremist propaganda	High	High	High
State disinformation campaigns	High	High	High
Scams	High	High	Mid
Biased news	Mid	Mid	Mid
Deceptive advertising	Mid	Mid	Low
Hoaxes / scares	Low	Mid	Low
Satire / parody	Low	High	Low
Reporting mistakes	Low	Low	Low

Lastly, there is a difference regarding the threat that fake news poses to national security (Tan & Ang, 2017). Society can be resilient to hoaxes or scares because such fake news can be easily debunked by fact-checkers. On the other hand, fake news can also threaten the stability of the nation or community, especially if it succeeds in manipulating local political processes, inflaming racial or religious tensions, or radicalising individuals. It should be noted that the threat of fake news on national security may not necessarily be linked to the deceptive intent or the degree of fact-tampering. To illustrate, a rumour that Orchard Road is being targeted by violent extremists could easily create mass panic among the population. In contrast, propaganda messages are intended to subtly shape people's attitudes over time, and they may not have the visible effect that a hoax might have. Table 1 maps out the different types of fake news along the three definitional approaches:

Is Fake News a New Phenomenon?

The idea of fake news is not new as its origins can be traced back to ancient times. This section will provide a brief snapshot of the evolution of fake news, from ancient history to modern times, and how technology has played a role in accelerating the spread of fake news.

In ancient Rome, fake news was used as a method to consolidate political power. Most famously, during a power struggle for the Roman Empire in 32 BC between rivals Octavian and Mark Anthony, Octavian illegally acquired and read out Anthony's will to the Roman Senate as proof that Anthony had betrayed the Roman people, and that he was a puppet of the Egyptian queen Cleopatra (Johnson, 1978). To date, scholars still debate the degree to which Octavian tampered with the contents of the will before reading it out to the Senate (Sirianni, 1984). Nevertheless, history showed that it succeeded in turning the people of Rome against Anthony (MacDonald, 2017).

Following the invention of the printing press in the 1400s, fake news became easier to disseminate in large quantities, distributed in the form of pamphlets discussing sensationalist topics of "unusual occurrence" and "monstrous beasts", including incredible tales such as a woman who was able to live for 14 years without eating or drinking, and monsters that had several heads and arms (Standage, 2017).

By the 1800s modern newspapers had emerged, and some newspapers engaged in yellow journalism where they would stretch the truth or fabricate details to make their stories as interesting as possible to the reader (Woolf, 2016). Historians have argued that the spread of fake news caused the outbreak of the 1898 Spanish-American War, where the press blamed the Spanish for the sinking of a US Navy battleship, driving public opinion to support the war even though the cause of the sinking ship was unknown (Woolf, 2016).

The spread of fake news further evolved with the rise of radio and television. During WWII, both the Axis and the Allied powers used the radio as a means to demoralise the enemy population, by spreading defeatist messages or messages aimed at eroding support for the government (Liburd, 2017; Shaer, 2017). More recently, during the 2013 Crimean War, Russian state television broadcasted a news story alleging that the Ukrainian military had tortured and crucified a 3-year-old as part of its propaganda campaign against the Ukrainian military (Demirjian, 2015). The story could not be independently verified, leading most to conclude that it might be fake.

The advent of the Internet revolutionised the spread of fake news in many ways. An individual armed with a laptop or a mobile phone can create and disseminate fake news to a large global audience in mere minutes. Additionally, automated posting and sharing of information through bots have enabled fake news to go viral quickly – these bots can act as a coordinated network to swarm the social media space with fake news in an attempt to influence public opinion (Ferrara, Varol, Davis, Menczer & Flammini, 2016).

The Future of Fake News

New technological developments on the horizon can change how fake news is created and disseminated. Advances in video and voice manipulation techniques have enabled researchers to create highly realistic – but fake – videos of politicians making public statements (Solon, 2017). In future, fake news can only become increasingly realistic and sophisticated, making it difficult for humans to distinguish fake news from the real ones.

What are the Consequences of Fake News?

Recent incidents around the world have shown that the unchecked spread of fake news can escalate into a security incident, interfere with local politics, incite hatred between groups, and spread fear.

Escalation into Violence

During the US elections in 2016, a false rumour alleging that presidential candidate Hillary Clinton was operating a child-sex ring out of a pizza restaurant escalated into a nationwide discussion. In what is now known as the Pizzagate incident, the rumour was constantly pushed and propagated by fake news sites (Aisch, Huang & Kang, 2016), culminating in an active shooter incident when a man entered the pizza restaurant with a rifle to save the children (Fisher et al., 2017). While no one was hurt during the incident, it showed how fake news can be used to incite and escalate outrage and anger in people to the point of violence.

In Singapore, the Maria Hertogh riots in 1950 is often cited as an illustration of how newspapers can fuel violence by giving drastically different narratives about an event (Lee, 2016; Tan, 2009). Maria Huberdina Hertogh, also known as Nadra or Bertha, was the focus of a controversial custody battle between her Malay-Muslim foster mother Aminah binte Mohamed, and her Dutch-Catholic parents, the Hertoghs (Tan, 2009). A protest by outraged Muslims escalated into a riot when images were published showing Maria Hertogh kneeling before a statue of the Virgin Mary (Lee, 2016; "Maria Hertogh riots", 2014). *The Singapore Standard* published the photo under the headline, "Bertha knelt before Virgin Mary Statue", while *Melayu Raya* published a picture of Hertogh caught between a mosque and a church (Riot Commission Report, 1951). *The Utusan Melayu* ran pictures of Hertogh with the headline, "I am very miserable – forced to wear a gown", while *The Straits Times* published photos of a smiling and happy Hertogh posing with Catholic nuns (Riot Commission Report, 1951).

The distortion of facts by the newspapers exacerbated hostilities between the Malay-Muslim population and the European/Eurasian communities, eventually leading to a riot that lasted more than three days. The death count stood at 18 and another 173 people were injured (Tan, 2009).

Interference with Local Politics

Fake news can be used to create interference and influence public opinion during critical periods such as elections. The US 2016 presidential election was a breeding ground for a wide variety of fake news stories concerning both candidates, such as a claim that the Pope had endorsed Donald Trump and that Hilary Clinton was involved in a paedophile sex ring (Allcott & Gentzkow, 2017).

In Singapore, there were previous attempts by foreign agents to influence Singapore's domestic politics through the use of media. In the 1970s, the Singapore Herald and the Eastern Sun were accused of being involved in "black operations" to subvert and destabilise Singapore through the use of misinformation and biased news (Chng, 2018; Ng, 2018). The Singapore Herald was a foreign-owned newspaper whose publishing license was suspended by the Singapore government on May 28, 1971. The paper's sources of funding were murky, but some known investors were the former Chief Minister of Sabah, a Hong Kong businesswoman, and a foreign bank. The Singapore Government accused it of regularly publishing editorials to incite anger against the government (Chng, 2018), and of attempting to stir up sentiments against National Service through biased news designed to mislead the public (Ministry of Communications and Information and Ministry of Law, 2018). The Eastern Sun closed down in 1971, following the Singapore Government's revelation that it had received HK\$3 million from a Communist intelligence agency in Hong Kong. In return for loans at a low interest rate of 0.1%, the newspaper had agreed not to oppose the donor country's agenda on major issues ("Paper in Singapore Ceases", 1971).

Inciting Hatred Against Other Groups

In 2017, there was a growing stream of anti-Rohingya rhetoric on social media in India and Myanmar during the Rohingya refugee crisis. Fake narratives were spun around photographs of unrelated incidents as evidence of atrocities; stories were also fabricated insinuating that the Rohingya engaged in immoral practices (Rebelo, 2017), and that they were pretending to be victims (Head, 2017). The dissemination of such false information was intended to evoke hatred against the Rohingya.

Fake news that exploit racial and religious fault lines is also a concern for Singapore, given its racial and religious diversity. In 2015, the now-defunct website "The Real Singapore" claimed that a Filipino family had complained to the police about a Thaipusam festival, causing the procession to be disrupted (Loh, 2016). The claims were untrue, and no Filipino family was found to have made any report to the police on the matter. The editors were eventually charged with seven counts of sedition for promoting feelings of ill-will and hostility between ethnic Indians and Filipino nationals in Singapore.

Spreading Fear Among the Public

In 2016, an alternative news site, "All Singapore Stuff", posted a photograph that appeared to show a collapsed HDB rooftop (Channel NewsAsia, 2017). It was later found that the report was a hoax, and that the photograph was just an optical illusion (Lim, 2016). However, the police and civil defence forces were activated to respond to the report (Lim, 2016), highlighting how fake news can cause public resources to be diverted away from legitimate crises. One concern is that if there are too many false alarms to respond to, emergency first responders may not be able to respond to a real incident when the need arises.

How Does Fake News Spread?

There are several underlying human psychological underpinnings that contribute to the spread of fake news. One prominent way is through the arousal of emotions in individuals, where news that incite strong negative emotions such as fear are more likely to prompt people to accept and share such information (Berger, 2011; Fessler, Pisor & Navarrete, 2014). Because people act on their emotions, perpetrators can easily utilise people as a medium to spread misinformation by tapping into the specific fears and hopes of their target audience. Interestingly, the arousal of prosocial – positive – emotions in individuals can similarly encourage the spread of fake news, especially in individuals who wish to do something for the unfortunate individuals. When a crisis such as a terrorist attack occurs, for instance, malevolent actors have been known to set up purported fundraising campaigns for victims, which people then not only shared on their social media but also donated to the fake platforms.

Fake news can also spread because of one's perceived sense of closeness or similarity to the person who sent the message (Belch & Belch, 2009). The persuasiveness of a message – and even misinformation – can simply be strengthened by making the supposed source resemble the target audience on various fronts, such as age, gender, education, and social status (Lu, 2013; Prisbell & Anderson, 1980). People who are homogenous to one another are likely to share comparable cognitions, which in turn reduces one's need to deliberate on the usefulness or relevance of a piece of news to the self (Boutyline & Willer, 2017; Nekmat, 2012). Fake news creators consequently tend to fabricate and present a false representation of their identity (Berghel, 2017), in order to allow for a more effective reach and spread of their messages.

Messages that are particularly prominent and prevalent in volume and frequency are more likely to spread as well. The underlying psychological tactic to this is availability heuristics, whereby people tend to attend to information that are easily or immediately accessible to them when evaluating a certain topic (Tversky & Kahneman, 1973). Messages that often surface are more likely to be remembered by people. Furthermore, the constant exposure to the same piece of (fake) news can prompt the illusion of truth (i.e., perceived accuracy of these messages), leading people to believe them and share them with their family and friends.

The following case study shows how fast fake news can spread in the immediate aftermath of a traumatic event, and how difficult they can be to counter.

Case Study: Spread of Fake News After the 2018 Surabaya Bomb Attacks

Indonesia's second largest city, Surabaya, experienced a series of suicide bombings over two consecutive days in May 2018, with the first wave of attacks occurring at several churches on 13 May (Soeriaatmadja, 2018a), and then at the police headquarters the next day on 14 May (Soeriaatmadja, 2018b). In the wake of the attacks, hoaxes, misinformation, and conspiracy theories spread throughout Indonesia, some of which resulted in negative consequences for the local community.

Bomb Hoaxes

One prominent case was the Duren Sawit bomb hoax. A 25-year-old man, identified by the police as MIA, was alleged to have contacted the authorities several times to report a suspicious black-coloured backpack that was thrown out of a car into a church in Duren Sawit, East Jakarta (Hadi, 2018). During the three phone calls made to the authorities, MIA impersonated both a church security guard as well as a police officer. Subsequently, news about the suspicious backpack was circulated via the messaging platform WhatsApp ("East Jakarta church bomb hoax", 2018). Although MIA claimed that his actions were driven by his desire to see how the public would respond to such a threat (Hadi, 2018a; "I did it for fun", 2018), it was reported that he did not intend the false information to gain traction and be widely disseminated within the community ("East Jakarta church bomb hoax", 2018).

Following the phone calls, local authorities activated a bomb squad to rush to the church and discovered that the suspicious backpack in question did not exist (Hadi, 2018b).

There were in fact several other bomb hoaxes in Surabaya during this period, often spread through social media and instant messaging. One of these hoaxes was made in relation to a bomb that allegedly detonated at the Surabaya Police's driving licence administration office. According to Arnani (2018), a bomb explosion video was uploaded by multiple YouTube users, with titles such as "Bom Colombo [Colombo Bomb]". In response to the hoax and video, the East Java police clarified that the information was false. While the explosion depicted in the video was an actual detonation, it was of the bomb attack that had occurred earlier at GKI Diponegoro Church.

Figure 1. A WhatsApp Message about a Suspicious Veiled Woman in Bali

Translation:

Top message: "The street in front of RSU [Public Hospital] Puri Raharja is sterile [empty], there was a suspicious person wearing a veil, fled when approached, is now surrounded by the police."

Bottom message: "Latest info, there was a person who entered the Kreneng police dormitory, now Supratman Street is fully closed, the police are combing the alleys, please be cautious."

Similar to this incident was another hoax claiming that there was a bomb in Surabaya's Pasar Atom Shopping Mall. One of the messages disseminated through WhatsApp detailed: "Atom has just been closed because there was a van that didn't want to be checked when entering, the alarm was immediately sounded, all were asked to close their shops." YouTube user Nana Gabrielle also uploaded a video titled "Bomb menghampiri Pasar Atom Surabaya [Bomb at Pasar Atom Surabaya]" showing panicking visitors in a mall, which its spokesperson subsequently refuted ("[Fakta atau Hoax] Benarkah", 2018).

A chain message in the name of Indonesia's State Intelligence Agency (Badan Intelijen Negara) and Detachment 88 anti-terror police was also circulated through WhatsApp and Twitter, warning the public to stay away from 15 shopping malls in Jakarta and five malls in Surabaya. The message was reported to have caused a commotion among social media users and affected their decision to go to these malls ("[Fakta atau Hoax] Benarkah", 2018). The Jakarta Metropolitan Police subsequently declared the information to be untrue.

Misinformation

In Bali, following the Surabaya attacks, messages on WhatsApp were disseminated informing people to be cautious of a certain suspicious individual (see figure 1; "[Fakta atau hoax]," 2018). Local authorities subsequently stated that they did speak with a veiled female suspect to investigate the claims, but she was found to have no ties to terrorism ("Polda Bali Sempat", 2018).

Conspiracy theories

Several conspiracy theories emerged after the attacks. For instance, a lecturer at the North Sumatra University was arrested for alleging, via a social media post, that the attack was intended to divert attention from the 2019 Presidential election in Indonesia. According to Jakarta Post, she had posted "What a perfect attention-diverting scenario. #2019GantiPresiden [2019ChangePresident]" on the day of the attack. The lecturer was reported to have written the post amidst feelings of disappointment with the local government. She was then charged under the Information and Electronic Transactions (ITE) law for stirring hate speech (Gunawan & Andapita, 2018).

Learning from the Surabaya attacks

Fake news can and will arise in the event of violent extremist attacks. Those with malevolent intentions are likely to take advantage of the fear and uncertainty in the aftermath of these events, as well as the virality of any information related to the attack. More importantly, fake news can and have been observed to further aggravate the impact of a terrorist attack, both in the aspects of national security and social harmony.

Furthermore, the fear of further terrorist threats can make people – both the public and law enforcers – easily susceptible to any threat-related reports. It is unfortunately difficult to take chances particularly when security is at stake, which means that police has to respond to almost all reports, tying up valuable emergency resources.

What Can Be Done About Fake News?

From a behavioural sciences perspective, there are some measures that can be adopted to counteract the spread of fake news.

Building up Credible and Consistent Sources of Information

If a fake news incident occurs in Singapore, the public would be more likely to look to the government to respond to it. In an analysis of local fake news incidents (i.e., collated from open source information from 2013 to 2018) by Chen and colleagues (2018), local government agencies were found to be more involved in the response to fake news than other groups. This finding underlines the importance of building up credible sources of information that the public can turn to during crises, since these outlets can mitigate the spread of fake news. In other words, public affairs departments have to maintain constant engagement and relationship-building with the public during peacetimes, to establish a regular pattern of communication (Tan et al., 2017), and ultimately credibility and trustworthiness in the eyes of the community. The information put out should also be consistent, since they are more likely to be noticed, heard, and trusted in comparison to inconsistent messages (Chess & Clarke, 2007; Robinson & Newstetter, 2003).

Defending against Emotional Arousal

Studies suggest that inciting high-arousal emotional states such as fear or hatred in readers is an easy tactic to both enable one's message to go viral (Holiday, 2013), as well as to induce desired behaviours in one's target audience (Gneezy & Imas, 2014; Lerner, Li, Valdesolo & Kassam, 2015). Additionally, high-arousal emotional states can prompt people to be more likely to accept fake stories (Fessler, Pisor & Navarrete, 2014).

Commentators such as Craig Silverman, a media editor for Buzzfeed and a fake news researcher, have argued that there is a need to practise emotional scepticism (On the Media, 2017). Existing cyber-wellness efforts in Singapore, such as campaigns by the Media Literacy Council, provide tips, amongst others, on how people can better navigate the online space and to stop and think about the implications of what one is posting (Media Literacy Council, n.d.). The rationale is that by urging people to slow down and be cognisant of their emotional reactions to the news, it may help to reduce the spread of misinformation (Waldrop, 2017).

There are some techniques that individuals can employ to resist the effects of emotional arousal on their decisions to propagate fake news. For example, using cognitive reappraisal techniques such as thinking about a topic in a cold and detached manner has shown promising results regarding its effects on decision-making. Halperin et al. (2013) studied the responses of Israelis to a Palestinian bid for United Nations recognition, and found that those who were trained in cognitive reappraisal not only experienced a reduction in negative emotions towards the Palestinians, but also expressed more support for conciliatory policies and less support for aggressive policies.

Priming Scepticism

Inducing a state of healthy scepticism in individuals can help to counter the effects of fake news (Chan, Jones, Hall Jamieson & Albarracín, 2017). If people are encouraged to be sceptical and fact-check information, they are more inclined to detect and hence reject fake news, if any.

There are a variety of ways to promote healthy scepticism, and one of the means to do so is through behavioural nudging. Reddit has collaborated with MIT researchers to get users to fact-check a story by posting a sticky comment informing people to countercheck a piece of news (Matias, 2017). Interestingly, they found that prompting people to fact-check potentially misleading or sensationalist stories could lead to the posts being pushed down the page. Online users also engaged in fact-checking behaviour to debunk the misinformation by posting evidence in the comments section.

Another method is to encourage the public to verify any sources of information that are unfamiliar to them. A study on how people determined the credibility of a website showed that professional fact-checkers were able to arrive at an accurate assessment quicker than others, because they "understood the web as a maze filled with trap doors and blind alleys, where things are not always what they seem" (Wineburg & McGrew, 2017, p. 15). The fact-checker's immediate reaction is to first confirm the source of information by opening additional tabs in their browsers and searching for more details before making their evaluation (Wineburg & McGrew, 2017). It is clear that if people are primed to be sceptical of incoming information, they would be more likely to engage in adaptive behaviours to ensure the accuracy of, and hence be less likely to succumb to fake news.

Conclusion

The spread of fake news in Singapore is a protean security threat for the Home Team, because it can be appropriated for a variety of purposes such as stoking communal tensions or inducing panic in the population. Thus, this article has sought to address five key things that the Home Team should be aware of regarding fake news.

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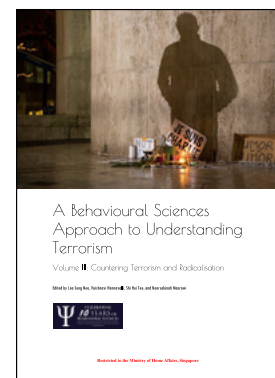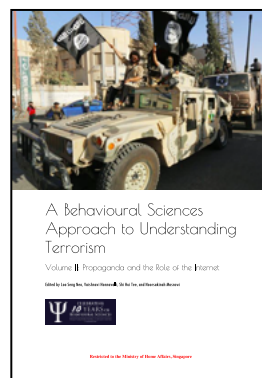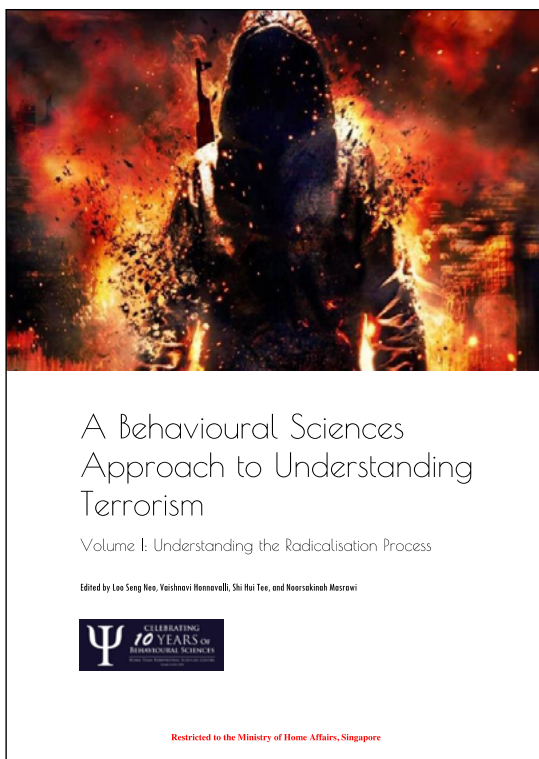
Recent Publications by Home Team Officers

Books

A Psychological Approach to Understanding Terrorism (Volumes 1 – 4)

Edited by Neo Loo Seng, Vaishnavi Honnavalli, Tee Shi Hui & Noorsakinah Masrawi

Home Team Behavioural Sciences Centre, 2017, 820 pages

Available on request from HTBSC

A Behavioural Sciences Approach to Understanding Terrorism

Volume I: Understanding the Radicalisation Process

Edited by Loo Seng Neo, Vaishnavi Honnavalli, Shi Hui Tee, and Noorsakinah Masrawi

Restricted to the Ministry of Home Affairs, Singapore

A Behavioural Sciences Approach to Understanding Terrorism

Volume II: Propaganda and the Role of the Internet

Edited by Loo Seng Neo, Vaishnavi Honnavalli, Shi Hui Tee, and Noorsakinah Masrawi

Restricted to the Ministry of Home Affairs, Singapore

A Behavioural Sciences Approach to Understanding Terrorism

Volume III: Countering Terrorism and Radicalisation

Edited by Loo Seng Neo, Vaishnavi Honnavalli, Shi Hui Tee, and Noorsakinah Masrawi

Restricted to the Ministry of Home Affairs, Singapore

A Behavioural Sciences Approach to Understanding Terrorism

Volume IV: Future Trajectories and Building Resilience

Edited by Loo Seng Neo, Vaishnavi Honnavalli, Shi Hui Tee, and Noorsakinah Masrawi

Restricted to the Ministry of Home Affairs, Singapore

To celebrate its tenth anniversary in 2017, the Home Team Behavioural Sciences Centre decided to chronicle the terrorism research it had carried out over the years. This compendium features selected research reports organised broadly into several themes in four volumes, viz,

- Volume I: Understanding the Radicalisation Process
- Volume II: Propaganda and the Role of the Internet
- Volume III: Countering Terrorism and Radicalisation
- Volume IV: Future Trajectories and Building Resilience.

Collectively the volumes showcase the depth and breadth of terrorism research by the HTBSC and mark its key milestones over the years. It also brings to life the hard work, dedication and passion of the researchers and psychologists who have contributed to the research.

Combating Violent Extremism and Radicalisation in the Digital Era

Edited by Majeed Khader, Neo Loo Seng, Gabriel Ong, Eunice Tan & Jeffery Chin

IGI Global, 2016, 582 pages, $152

Available in National Library and HTA Library

The use of the internet by violent extremists demands the attention of law enforcement agencies across the world. Violent extremists have exploited this technological advancement to transform the way they operate on a historically unprecedented scale. It is therefore important to assess the real threat posed by violent extremists online, keeping in mind that the internet is clearly changing the landscape of counter extremism endeavours. Drawing on the best evidence available from the social and behavioural sciences, this book has been written for practitioners and policy makers who wish to have a better understanding of how the internet has been used as a tool to radicalise potential violent extremists.

The book contains these chapters by officers from the Home Team Behavioural Sciences Centre:

- Chapter 1: "Understanding the psychology of persuasive violent extremist online platforms" by Neo Loo Seng, Leevia Dillon, Priscilla Shi, Jethro Tan, Wang Yingmin & Danielle Gomes

- Chapter 8: "Why is ISIS so psychologically attractive?" by Neo Loo Seng, Priscilla Shi, Leevia Dillon, Jethro Tan, Wang Yingmin & Danielle Gomes

- Chapter 11: "An Internet-mediated Pathway for Online Radicalisation: RECRO" by Neo Loo Seng

- Chapter 15: "Building National Resilience in the Digital Era of Violent Extremism: Systems and People" by Jethro Tan, Wang Yingmin & Danielle Gomes

- Chapter 20: "A Supplementary Intervention to Deradicalisation: CBT-based Online Forum" by Priscilla Shi

- Chapter 21: "Cyberterrorism: Using the Internet as a weapon of destruction" by Leevia Dillon

- Chapter 22: "Death by Hacking: The Emerging Threat of Kinetic Cyber" by Penelope Wang

- Chapter 24: "What We Know and What Else We Need To Do To Address The Problem Of Violent Extremism Online: Concluding Chapter" by Majeed Khader

Learning from Violent Extremist Attacks: Behavioural Sciences Insights for Practitioners and Policymakers

Edited by Majeed Khader, Neo Loo Seng, Jethro Tan, Damien D Cheong & Jeffery Chin

World Scientific Press, 2019, 560 pages, $279

How can we use psychology and the behavioural sciences to aid law enforcement to better identify violent extremists? What can we learn from past attacks to ensure that our society is more prepared? How can societies deal with tension after these attacks? Violent extremists are evolving, constantly honing their strategies to out-manoeuvre the 'good guys'. Faced with the quandary, and the challenges and responsibilities of ensuring the safety of society, practitioners and policymakers have to take decisive steps to respond to and mitigate the impact of an attack. However, the daunting task of countering violent extremism is still plagued by the lack of basic understanding of the phenomenon. This book attempts to fill a gap in the extant literature by offering a behavioural sciences approach to integrate our understanding of the threat of violent extremism, with knowledge drawn from diverse fields such as psychology, sociology, history, political science, technology and communications to identify the lessons learned and provide scientifically defensible interventions and approaches for both practitioners and policymakers.
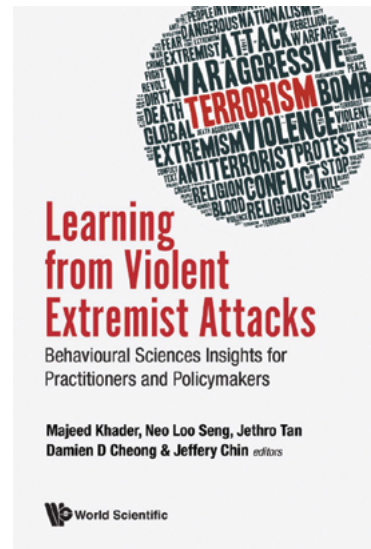
The book contains these chapters by officers from the Home Team Behavioural Sciences Centre:

- Chapter 4: "Threat Assessment of Violent Extremism: Considerations and Applications" by Whistine Chai

- Chapter 7: "Five Things to know about Assessment Tools for Violent Extremism" by Vaishnavi Honnavalli

- Chapter 8: "Lone Wolf Violent Extremism and Mental Illness: Learning Lessons from an Asian Perspective" by Tee Shi Hui

- Chapter 10: "Bystander Intervention to Prevent Radicalisation" by Neo Loo Seng, Joyce S. Pang & Jeffery Chin

- Chapter 16: "Preparing for the Day After Terror: Five Things to Do to Build National Resilience" by Jethro Tan, Jane Quek & Gabriel Ong

- Chapter 18: "Responding to a Violent Extremist Attack: Insights from the 2016 Orlando Shooting Incident" by Tee Shi Hui

- Chapter 19: "Against the Norm: The Act of Helping During Violent Extremist Attacks" by Pamela Goh

- Chapter 23: "Fake News After a Terror Attack: Psychological Vulnerabilities Exploited by Fake News Creators" by Ken Chen Xingyu

- Chapter 25: "The Looming, the Creeping, and the Black Swan: Modern Crises and Recommendations for Building Resilience" by Sheryl Chua, Majeed Khader & Eunice Tan

- Chapter 28: "The Effects of Religious Fundamentalism on Communal Harmony" by Verity Er

- Chapter 29: "How Can Right-Wing Extremism Exacerbate Islamophobia After a Jihadi Attack? Insights from Europe" by Nur Aisyah Abdul Rahman

- Chapter 30: "Islamophobia and its Aftermath: Strategies to Manage Islamophobia" by Nur Elissa Ruzzi'eanne Bte Rafi'ee

The Ostrich, The Ah Long, The Con Woman, and The Creepy Guy

By Susan Sim and Majeed Khader

Marshall Cavendish Editions, 2017, 175 pages, $25

Available in National Library and HTA Library

Since the National Crime Prevention Council (NCPC) was first established in 1981, it has played a valuable role in keeping Singapore safe. Yet what exactly is crime prevention? What are the theories and behavioural insights that inform the island-wide, multi-platform campaigns rolled out by NCPC? Indeed, as the authors Susan Sim and Majeed Khader ask in the book, 'What is the Ostrich doing on a Crime Prevention Poster?" This fascinating and eminently-readable study of the art and science of crime prevention interrogates these questions, and more. Through focused analyses of the anatomy of some of the NCPC's most notable campaigns, we learn what the NCPC does, why it does it, and the lessons it has learned along the way.
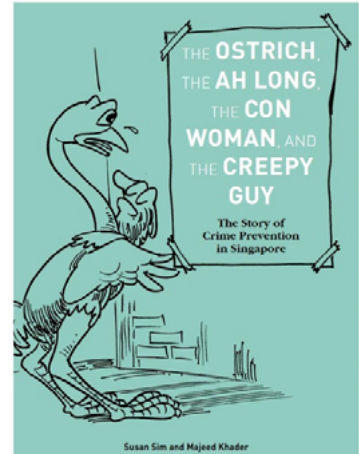
Book Chapters

The Application of Psychology to Singapore Prison Service
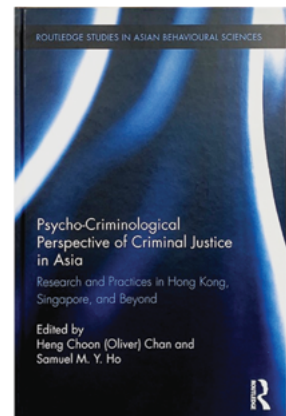
by Timothy Leo Hee Sun

The Psychology of Violent Extremism: What We Know and What Else We Need to Do

by Leevia Dillon, Neo Loo Seng & Majeed Khader

In *Psycho-Criminological Perspective of Criminal Justice in Asia: Research and Practices in Hong Kong, Singapore, and Beyond,*

Edited by Heng Choon (Oliver) Chan & Samuel H.Y. Ho.

Routledge, 2017

Timothy Leo's chapter focuses on how psychology has played a game-changing role for the Singapore Prison Service (SPS) in its transformation from a largely custodial prison service to a correctional service employing the use of cutting-edge psychological practice methods. Using the empirically validated Principles of Effective Rehabilitation derived from the Psychology of Criminal Conduct, the SPS has been able to achieve significant reductions in offender recidivism. It has also gained international reputation for the use of evidence-based rehabilitation. Psychological practice is buttressed by a cadre of psychologists, correctional rehabilitation specialists, research and programme evaluation capabilities. Through the impartation of psychological knowledge and skills to all correctional staff, the force multiplier effect of psychology is achieved. Psychology is used for the safe management of prisoners, offender rehabilitation, the supervision and aftercare support of offenders in the community, enhancement of staff mental resilience and the provision of psychological crisis support in critical incidents. Combined with strong leadership and organisational support, the SPS has been able to transform the lives of offenders to become law-abiding and contributing citizens in Singapore.

As a relatively new field of research within the context of violent extremism, the scientific discipline of psychology has introduced new insights and ways of analysing the phenomenon. The chapter by Dillon, Neo & Khader therefore seeks to articulate the nature and direction of current psychological research on violent extremism from 2011 to 2015 and, in doing so, explore ways in which psychology might inform and improve our current understanding of violent extremism.

## Understanding Violent Extremism and Child Abuse: A Psychological Analysis

By Vaishnavi Honnavalli, Neo Loo Seng, Ruth Gan, Shi Hui Tee,

Majeed Khader & Jeffery Chin

In *Child Abuse and Neglect: Forensic Issues in Evidence, Impact, and Management,* edited by India Bryce, Yolande Robinson & Wayne Petherick

Routledge Academic (forthcoming)

Children have long been a blind spot for academics and practitioners in relation to the growing threat of violent extremism. While often assumed to be passive agents, children have in fact been involved in many violent extremist groups and the increasing number of children involved in recent conflicts presents a cause for concern. Thus, this chapter focuses on the involvement of children in violent extremism and explores the concept of 'child abuse' using the World Health Organisation's classification. Two case studies (the Islamic State of Iraq and Syria [ISIS], and the Liberation Tigers of Tamil Eelam [LTTE]) are used to illustrate the psychological physiognomies of child abuse in the context of violent extremism. Implications for academics and practitioners are also discussed.
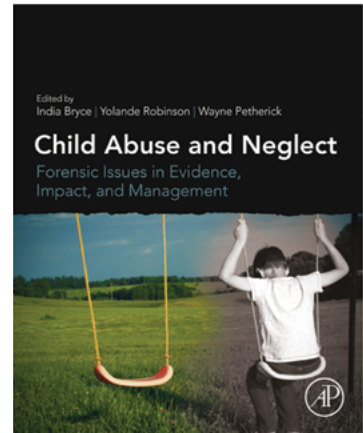
Journal Articles

'4-4-3' Gender-Responsive Guidelines for Working with Female Offenders in Singapore

by Kok Tsz Wing, April Lin Liangyu & Gabriel Ong

Advancing Corrections: Journal of the International Corrections & Prisons Association, 5 (2018)

With growing awareness and increased efforts to incorporate gender-responsive approaches in correctional practices, it is an opportune time to examine the current progress of gender-responsive practices in the Singapore Prison Service (SPS). This paper considers overseas gender-responsive literature on female offending and reviews local research and evidence-based practices. From there, integration of the findings is used to develop the '4-4-3' guidelines for working with female offenders in Singapore.

Agency, Social Relationships, and Desistance

by Carl Yeo, Doris Chia, The Wen Lin, Zaakira M. S. H., April Lin Liangyu & Gabriel Ong

Advancing Corrections: Journal of the International Corrections & Prisons Association, 4 (2017)

To understand the mechanism of agency and social relationships on desisters in Singapore, 38 males with an average desistance period of 6.40 years (range 1 to 30 years) were interviewed. Deductive thematic analysis found that agency and social relationships were present in the majority of participants' desistance journeys. In-depth analysis revealed three aspects of agency: affect, cognition, and behaviour. Social relationship had two aspects: triggering change and maintaining change. The findings suggest that intervention programmes instead of treatment programmes should include all three aspects of agency and highlights that desistance is a process of repeated events that triggers and maintains change.

Change is the Only Constant: The Evolving Role of Women in the Islamic State in Iraq and Syria (ISIS)

by Ruth Gan, Neo Loo Seng, Jeffery Chin & Majeed Khader

Women & Criminal Justice (forthcoming, 2019)

In the past, women in the Islamic State in Iraq and Syria (ISIS) were known to serve as homemakers (i.e., wives, mothers). However, in recent times there has been a shift in their roles, as more women are starting to emerge on the front lines as suicide bombers, recruiters or a part of ISIS' official women police brigade. This paper investigates this phenomenon by performing a thematic analysis on open source material, namely research reports, media reports and propaganda material produced by ISIS. In doing so, it presents the evolution of the roles of women in ISIS from past to present and highlights key reasons that motivate women to join ISIS, which include ideology, alienation, romance, peer influence and a sense of security.
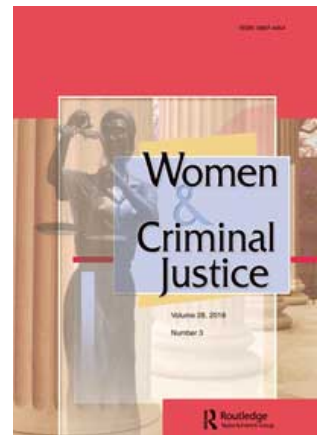
Developing an Early Screening Guide for Jihadi Terrorism: A Behavioural Analysis of 30 Terror Attacks

by Neo Loo Seng, Majeed Khader, Jansen Ang, Gabriel Ong & Eunice Tan

Security Journal, 30(1), 227-246. (2017)

This study seeks to develop a screening guide for jihadi terrorism with the intention of streamlining the huge amounts of raw intelligence into smaller amounts of data for further analysis. On the basis of the authors' collective experience in dealing with terrorists, and a review of the literature and pre-attack indicators developed by law enforcement agencies worldwide, 53 features of jihadi terrorism belonging to three domains (behaviour ideology, group psychology and operational preparatory) were identified. These features were then mapped against 30 jihadi attacks from different parts of the world. The frequency distribution of each feature across the 30 attacks were analysed using Pearson's χ^2 test. Three significant features were identified: (i) individuals pushing for terrorist ideals through violence; (ii) individuals showing a desire for revenge; and (iii) the presence of a leader figure who espouses terrorist ideology. Results further revealed that features from the behaviour-ideology domain had higher prevalence estimates across the 30 attacks. Recommendations are made for operationalising these features as a potential early screening guide for the interpretation of data.

Effective Rehabilitation through Evidence-Based Corrections

by April Lin Liangyu, Carl Yeo, Loh Eng Hao, Doris Chia, Gabriel Ong & Jasmin Kaur

Practice: The New Zealand Corrections Journal, 6(1). (2018)

The Singapore Prison Service (SPS) adopts correctional research as a key strategy to inform policy and practice through Evidence-Based Corrections. Local research is critical in contextualising overseas research findings for effective application by taking into consideration sociocultural and legislative differences between Singapore and other countries. In this paper, we share two examples of how correctional research aligns with the SPS's key strategies and guides correctional practices. The first study examines factors contributing to desistance from crime while the second study explores barriers that ex-offenders experience upon their re-entry into the community. The two studies showed that quality pro-social support is important in the reintegration and desistance journey of offenders. Furthermore, self-efficacy is needed for successful desistance, while a lack of employment was a key barrier for reintegration. Findings from such studies act as "feedback loops" that ground SPS's correctional practices in empirical evidence. This serves to ensure efficient resource allocation through targeted intervention, and enhance rehabilitation and reintegration efforts.

Identifying Individuals at Risk of Being Radicalised via the Internet

by Neo Loo Seng, Leevia Dillon & Majeed Khader

Security Journal, 30(4), 1112-1133. (2017)

In an effort to better understand the risk of individuals being radicalised via the internet, this paper re-examines the phenomenon of online radicalisation by focusing on four considerations of interest: individual, online environment, interactions between individual and the online environment, and protective elements. A key premise of the discussion presented is that the different theoretical assumptions and linkages underlying each consideration are not only reconcilable but that together they provide a more comprehensive understanding of assessing risk of radicalisation via the internet than any perspective by itself. Implications for operationalising these four considerations and their associated factors to identify individuals at risk of being radicalised via the internet are also discussed.

Intervention Needs of High-Risk Sexual Offenders in Singapore

by Joylynn Quek, Priyathanaa Kalyanasundram & Ng Kend Tuck

Advancing Corrections: Journal of the International Corrections & Prisons Association, 5 (2018)

As etiological theories of sexual offending and research on treatment for sexual offenders are primarily founded in Western literature, this study aims to elucidate the intervention needs of sexual offenders in Singapore, as well as to investigate if they are consistent with offenders in a Western culture. A mixed-methods research study was undertaken to identify the intervention needs of high-risk sexual offenders in Singapore (n=34). While results confirmed that high-risk sexual offenders in Singapore presented with similar intervention needs as in Western countries, the cultural distinctions surrounding these factors are discussed. Findings from this study were used to enhance the effectiveness of sexual offender interventions in the Singapore Prison Service.

Pathological Personality and Violence Re-Offending: Findings and Applications from a Singapore perspective

by Yasmin Ahamed, Paul Yong, Rashida Binte Mohamed Zain & Natasha Lim

Advancing Corrections: Journal of the International Corrections & Prisons Association, 5 (2018)

While there is extensive information available on personality pathology and violent individuals, there is a need to understand the impact of personality traits on violence re-offending among the local correctional population. Hence, a study was conducted to explore which personality constructs, as operationalised by the 14 MCMI-III personality scales, were most associated with violent re-offending among Singaporean male offenders with past violence convictions. The study found that collectively the Aggressive (Sadistic) and Antisocial personality scales were significantly associated with the risk of future violence convictions. The findings from the study were then used to develop a guide to be used during risk assessments to help psychologists from the Singapore Prison Service identify and integrate personality pathology into the violence risk assessment.

## Book Published by the Singapore Police Force

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Everyday Guardians

By Koh Buck Song

Marshall Cavendish, 2017, 148 pages

Available in National Library and HTA Library

Since 1967, National Service officers of the Singapore Police Force and Singapore Civil Defence Force have more than stepped up to the call to serve alongside regular officers – on the ground and in senior appointments at all levels. This book, Everyday Guardians, captures a brief history of National Service and the key highlights in the five decades since.
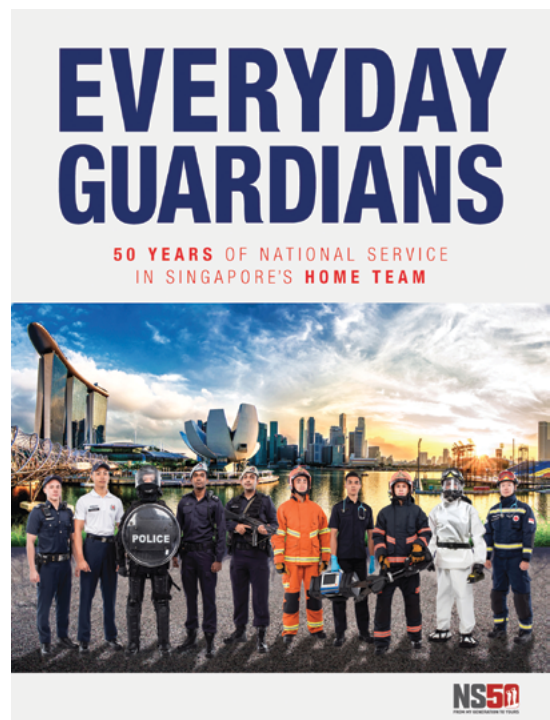
The Home Team comprises 10 agencies:

Ministry of Home Affairs Headquarters • Singapore Police Force • Internal Security Department • Singapore Civil Defence Force • Immigration & Checkpoints Authority • Singapore Prison Service • Central Narcotics Bureau • Home Team Academy • Casino Regulatory Authority • Singapore Corporation of Rehabilitative Enterprises

All Home Team departments and agencies work together as one, in close partnership with the community, to keep Singapore safe and secure.

The Home Team Academy's mission, as the corporate university of the Home Team, is to empower learning and growth, and enable a united and successful Home Team. It aspires to be a leading corporate university in homefront safety and security.