

Nothing but fear itself

Parental fear as a determinant impacting on
child physical activity and independent mobility

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Executive summary

Background

Over the past decade we have seen declining rates in child engagement in physical activity with escalating health problems ensuing. In responding to this, VicHealth has focused on increasing child physical activity with specific focus on walking to and from school. Through this work, parental fear as a barrier to child independent mobility has been identified.

Following discussion by the VicHealth Board it was agreed that some exploratory work would take place to investigate 1) the extent to which parental fear is indeed a barrier to child physical activity including child independent mobility, and 2) what strategies could be put in place to address this phenomenon.

Given the complex nature of this issue, a review of the evidence was commissioned from a group of national experts with backgrounds in child development, physical activity, the built environment, health promotion and public health. This document is a result of their work.

Is parental fear a determinant of child physical activity and independent mobility?

To what extent does parental fear for the security of their children limit the level of physical activity and independent mobility of their children? The assertion that parental fear has increased from the 1960s onward, and that this increase in fear is a (part) determinant of declines in child physical activity and independent mobility, is the central subject of this paper. The scope of this review is limited to parental fears about the safety and security of children as it concerns strangers and changes in the collective efficacy of neighbourhoods and communities to create environments encouraging physical activity and independent mobility. As such, this review is centred upon the more generalised anxieties of parents and, where these take the form of a specific object, fears parents have about strangers and threats to their child's security.

The evidence addressing this issue is mixed. Evidence for fundamental changes showing increases in levels of parental fear for the security of their children over time needs further development. There is no evidence to indicate any fundamental change over time of threats to children as measured by actual crimes of abduction, robbery, assault and homicide committed against them *by strangers*.

Widening the context to consider studies measuring community trust and collective efficacy over time, while extremely scant, produces highly variable evidence. Some studies show actual increases in levels of community trust with others suggest definitive decline over time.

A number of research reports found significant numbers of parents identify 'stranger danger' as a barrier to children's independent mobility within their community; however, there is a dearth of Australian data tracking such trends over time. A recent survey by VicHealth (2009, unpublished data) found significant concerns about risks to children posed by strangers reflected in the responses of parents, primary school aged children and the general community.

There is certainly a range of qualitative evidence and circumstantial detail suggesting a real restriction to children's geographical or area-based range of independent mobility. There is also a reasonable case to be made that initiatives put in place to address community and personal safety have had the unintended consequence of heightening parental caution and increasing vigilance, if not actual fear and anxiety. By far though, the evidence shows there have been substantial changes in Australian family life linked to work, employment, the extension of the lifespan, the lowering of the age range for early childhood education and the need for care outside of the home. These factors, and exerting inexorable forces upon the shape of daily activity and routine, impart clear restrictions on where children can be left unsupervised, who can supervise them, the rules for transferring duty of care, and general tolerance for children having a 'freer range' of independent mobility.

On the balance of current evidence, the causal relationships between parental fear of strangers as an explicit cause of reductions in overall child physical activity and independent mobility raises more questions than it answers. Face validity of this claim is high, interest in it broadly popular, but firm estimates of effect are absent. Qualitative studies generally proliferate, with many being of very good quality. Quantitative studies explicitly examining this causal relationship are absent. Instead, only portions of this causal pathway are on view; specifically, estimates of changes in child physical activity and estimates of changes in levels of community cohesion and social capital – although these latter estimates are not always in the direction supportive of a causal relationship.

What can be said is that parental fear of strangers as a motive restricting child independent mobility and activity has several potential sources. Very importantly, even where actuarial estimates of risk yield excessively low probabilities of harm or threat to children by strangers, effectively making parental fear of strangers irrational, it is unlikely any appeal to this logic would persuade parents to believe, much less behave, otherwise. Simply put, there is no turning the clock back to the 1950s. Nonetheless, there are some broad conclusions highlighted here.

The broader contextual drivers of parental fear for their child's security are at the societal and community level rather than the individual level. These contextual drivers arise from fundamental changes to the form and pattern of family life. Requirements and desires for two incomes, demands for extended saving for later life, and aspirations for a higher standard of living have resulted in fundamental changes to where children spend time and under whose care they spend it.

There are counterproductive messages driving community awareness about strangers and security when these are considered along with messages to be developed to target parental fear of strangers.

Significant opportunities are needed to engage in community discussions and problem solving about the issue of parental fear for the security of children and the impact this fear has upon child activity and independent mobility.

We know very little about what children think or want regarding their mobility, and even less about their fears.

To address these knowledge gaps we need commissioned research including:

- qualitative studies of parental beliefs and attitudes about fear of strangers where this pertains to the safety of their children and restrictions in their independent mobility and activity;
- specific consultations with parents and community leaders about the nature of this problem and their views about what would effectively address aspects of this;
- routine survey monitoring of parental fear and associated behaviours along with measures of actual activity levels and physical and mental health markers in children.

The existing (and slender) evidence base suggests investments may be appropriate in the following areas:

- building community cohesion;
- addressing safety concerns in the built environment;
- planning built environments to promote proactive engagement;
- transport initiatives to promote walking; empowering parents to be less fearful; promoting parent and carer education of the benefits of children's independent mobility;
- social marketing campaigns which address parental fear and increase rates of children's physical activity
- Commissioned research including

While more robust evidence of an association between parental fear and child independent mobility and activity is needed, we do not believe that what is available is of such poor quality to effectively halt any action. What is now needed is leadership in this area. Accordingly we encourage VicHealth to proceed to work on an evidence-based framework and associated resource to enable some of the above investments to take place.

Introduction

Background

Over the past decade we have seen declining rates in child engagement in physical activity with escalating health problems ensuing. In responding to this, VicHealth has focused on increasing child physical activity with specific focus on walking to and from school. Through this work parental fear as a barrier to child independent mobility has been identified.

Through discussion undertaken by the VicHealth Board it was agreed some exploratory work would take place to investigate 1) the extent to which parental fear is a barrier to child physical activity including child independent mobility, and 2) what strategies could be put in place to address this phenomenon.

Given the complex nature of this issue, a review of the evidence was commissioned from a group of national experts with backgrounds in child development, physical activity, the built environment, health promotion and public health. The following document is a result of this work.

Is parental fear a determinant of child physical activity and independent mobility?

From baby-snatching and sudden infant death syndrome, through paedophilia, internet porn and mobile phone theft, to curfews and surveillance of children in public space, concern about dangers to children and children as a danger to others are becoming increasingly embedded in the consciousness and cultures of Western societies. Discourses of children 'at risk' are various and contradictory. The statistically much rarer threats to children's safety which make headlines in the West, most notably abduction and murder by strangers, tend to overshadow a malaise of more common risks such as abuse and neglect within the family, educational underachievement, the detention of young asylum seekers, poverty and social exclusion (Pain, 2004).

This discouraging reflection by Pain (2004) sets the stage for this paper in which we ask; to what extent is parental fear a determinant of child physical activity and independent mobility – or more pointedly – a determinant that *reduces* the physical activity and independent mobility of children?

There are several issues entangled with this question.

Levels of physical activity in children are declining

Relative to times gone before, the broad assertion that today's children are less physically active and less independently mobile would appear to be true. Numerous studies have documented a decline in child physical activity and independent mobility over recent decades. Meta-analyses found a marked global decline in the aerobic fitness of children and adolescents over the past half a century (Tomkinson & Olds, 2007b). In Australia, it is estimated that children's aerobic fitness has declined at a rate of around 4% each decade since the 1970s (Tomkinson & Olds, 2007a). Concurrent with this is an increase, within developed countries and increasingly in developing countries in the prevalence of childhood obesity, asthma and allergy, and some mental health problems – all of which are claimed to have at least a partial causal basis in the reduction in time children spend being physically active and being outdoors, both alone and with others. This has given rise to the formulation of minimum recommendations for levels of physical activity.

Recently endorsed physical activity recommendations for Australian children and youth call for at least 60 minutes of daily moderate to vigorous intensity physical activities (MVPA) (Commonwealth Department of Health and Ageing, 2006). However, research suggests many young Australians are insufficiently active to achieve health benefit (Humbert et al., 2006). For example, the most recent national survey of physical activity and nutrition in Australian children, found that one in three children aged 9 to 16 years failed to meet MVPA activity guidelines (Commonwealth Scientific Industrial Research Organisation (CSIRO) Preventative Health National Research Flagship, 2008). In the same study, pedometer data showed that on average both boys and girls fell around 2000 steps short of achieving the estimated number of steps required to avoid overweight and obesity (i.e., 12000 steps/day for girls and 15000 steps/day for boys (Tudor-Locke et al., 2004). Furthermore, the proportion of children meeting the daily step guidelines decreased with age, with only 13% of boys and 16% of girls aged 14 to 16 years reaching the steps/day threshold. These results suggest many children may not be maximising opportunities to be active and are not meeting suggested levels of physical activity to prevent being overweight or obese. Increasingly, physical activity is a health priority for governments (National Public Health Partnership, 2001; USDHHS, 1996). Physically active children are at a reduced risk of experiencing chronic disease risk factors (Boreham, 2001), are likely to have enhanced mental and emotional wellbeing (Biddle, Gorely, & Stensel, 2004; Vlachopoulos, Biddle, & Fox,

1997), and are more likely to remain active throughout adolescence and possibly into adulthood (Malina, 1996).

It is pertinent to note that child and adolescent physical activity can occur in a number of different domains including school-based activity (formal and informal); participation in organised sport and recreation; active transport (walking or cycling to school or other destinations); and unstructured activity and play that can occur in backyard, park, open space and other community settings.

Physical activity is beneficial to the health and development of children

The causal link between increasing levels of physical inactivity and increasing rates of obesity is under considerable epidemiological scrutiny. Current estimates indicate approximately 1 in 4 Australian 2 to 16 year olds are overweight or obese (CSIRO, 2008) – a 3% increase since 2000 (Australian Institute of Health and Welfare, 2002). Physical inactivity is likely to be one important contributing factor to childhood obesity (Trost, Kerr, Ward, & Pate, 2001). Obesity in childhood and adolescence is associated with a range of medical and psychological complications and can predispose individuals to serious health problems in adult life including type 2 diabetes, hypertension, dyslipidaemia and non-alcoholic steatohepatitis (National Health and Medical Research Council, 2003). The future potential burden of disease from increasing numbers of overweight and obese children is high, leading to calls for prevention as an important public health priority (National Obesity Taskforce, 2004).

Few would dispute the physical and mental health benefits of regular physical activity. Physical activity is associated with improved cardiovascular function, decreases in risks for type 2 diabetes, and lower rates of mental health problems, notably depression. In addition, there are obvious social and ensuing health benefits that can arise through greater engagement of individuals with their environment, whether they do this alone or with others. For children, physical activity through collaborative play and organised activities (for example sport, dance or recreation) entails important opportunities for their social development. In many ways, to label these opportunities as physical activity vastly understates their critical importance as determinants of social development and health more broadly. Through these opportunities children 1) learn to regulate their emotions, 2) engage in exploratory behaviour, 3) learn to communicate effectively, 4) become more self-directed, 5) develop greater intellectual flexibility, 6) come to possess some degree of introspection, and 7) develop greater self-efficacy in meeting life's challenges.

Independent mobility is a term used in the literature to refer to children's freedom to move about unaccompanied within their neighbourhood or community. There is general consensus this has declined considerably when compared to previous generations (Tudor-Locke, Ainsworth, & Popkin, 2001). Veitch et al. (2006), for example, found children with limited independent mobility were less likely to access public open space and consequently were dependent on their parents having the time and motivation to take them to places to play. Independent mobility is important for children as it helps develop motor skills and cognitive development and to acquire a sense of identity (Hillman, 1999; Hillman, Adams, & Whitelegg, 1991; Risotto & Giuliani, 2006; Malone, 2007). In addition, children have a greater opportunity to interact with other children when they are not under adult supervision. This fosters independence and responsibility, which in turn builds children's confidence, self esteem and social skills (Hillman, Adams, & Whitelegg, 1991). Conversely, it has been argued that prolonged periods of accompaniment, sometimes referred to in social commentary as 'helicopter parenting' (Guldberg, 2009), hampers children's development of spatial skills. Also, close supervision deprives them of the opportunity to develop local environmental knowledge, take initiative, acquire practical coping skills and develop self-esteem (Sissons-Joshi, MacLean, & Carter, 1999). Again, all of these elements contribute to a solid foundation for health.

The interplay of the forms and contexts of physical activity and mobility on the consequent level of human development are considerable. The cognitive, intellectual and social skills acquired through play and independent mobility are used by individuals across the life course in the form of memberships, affiliations, partnerships, friendships, marriages, agreements, contracts and laws to influence their social and physical environment for their own and others' development. So while there is an important focus on the health and wellbeing benefits of physical activity, there are broader developmental benefits for children (and indeed all individuals) that accrue through physical activity related to affiliation, socialisation, collaborative gain and social cohesion, all of which contribute to health more broadly. Diminishment of these benefits, along with increased risks to individual health and wellbeing, underlie the deeper concern about factors operating to restrict physical activity and independent mobility in children (Prezza, Alparone, Cristallo, & Luigi, 2005). One alleged factor restricting child physical activity and independent mobility is parental fear.

Scope of the evidence review

The assertion that parental fear has increased from the 1960s onward and that this increase in fear is a (part) determinant of declines in child physical activity and independent mobility is the central subject of this paper. Readers will appreciate how a review of parental fear and its basis in perception and reality related to child safety could constitute a substantial and expansive review. Therefore, in setting the scope for this review, some aspects of the nature of parental fear have been deliberately excluded. The scope here is principally upon parental fears about the safety and security of children as this concerns strangers and changes in the collective efficacy of neighbourhoods and communities to create environments that encourage physical activity, engagement and independent mobility. Specific reviews of child injury as they relate to parental fears about environmental and road hazards are only tangentially noted here, as is the vast area of parental fear regarding bullying and victimisation. The major scope of this review is centred upon the more generalised anxieties of parents and, where these take the form of a specific object, fears parents have about strangers and both perceived and real threats to a child's security.

For economy of presentation we address this topic in three broad sections:

- Secular changes in parental fear for the safety of their children
- Parental fear as a determinant of child physical activity and independent mobility
- Putative determinants, suggested actions and gaps in knowledge

Secular changes in parental fear for the safety of their children

Parental fear as a barrier to children's freedom of movement and independence has been noticed in academic circles (e.g. Pain, 2006; Stokes, 2009), the media (e.g. Derbyshire, 2007; The Herald Sun, 2008) and in social commentaries on modern parenting (e.g. Furedi, 2001; Maffly, 2008). In this section we detail what is known about the nature of parental fear for their children. This section has four parts: 1) a summary of the evidence of changes in levels of parental fear, 2) parental fear in the context of society and culture, 3) parental fear in the context of the community environment, and 4) parental fear as an individual experience.

Evidence of changes in levels of parental fear

Any evidence-based review of the association between parental fear and subsequent reductions in child physical activity and independent mobility would want to draw upon high quality quantitative and qualitative studies of the phenomenon. These would be particularly valuable where they were designed to determine the causal nature of this association and the magnitude of this effect. Equally important, if such a causal association between parental fear and declines in physical activity were supported, then good quality studies of the modifiable determinants of parental fear would be especially valuable. However, a careful search of qualitative and quantitative studies, along with a search of policy literature, returns scant work in this area. Qualitative studies, many of which are excellent, are more prevalent – particularly in the area of social geography – while quantitative studies documenting levels of parental fear over time, along with concurrent measures of child physical activity, are very rare indeed. This makes definitive assertions of cause and effect hazardous and, as will be seen below, heightens the possibility of contributing to an already large set of unintended consequences from existing endeavours in areas such as neighbourhood safety and child protection.

Within the relatively meagre body of quantitative research, there are very few longitudinal studies of the trend in parental fear over time and its bearing on children's independent mobility. The most cited study is the work by Hillman et al. (1990) documenting the drastic decline in the proportion of UK children who were permitted to walk to school on their own in 1971 (80% of 7 to 8 year olds) compared with children of the same age in 1990 (9%) (see also Valentine & McKendrick, 1997). This generational trend is also evident in other survey data in which parents report that children's opportunities to play outdoors safely has declined since their own childhood (Clements, 2004; McNeish & Roberts, 1995). Similar to the UK, downward trends in the proportion of children walking to school have been documented in the US (Oellinger, 2002) and Australia (Harten & Olds, 2004). Other Australian research reports a significant number of parents identify 'stranger danger' as a barrier to children's independent mobility within their community (Tandy, 1999; Timperio, Crawford, Telford, & Salmon, 2004; Veitch, Bagley, Ball, & Salmon, 2006), but there is a dearth of Australian data tracking such trends over time.

In a recent survey by VicHealth, 38% of participants agreed there is a high risk a child will be 'abducted by a stranger' if they move to and from places without adult supervision. In the same study, 63% of participants agreed parents should not let primary school age children move to and from places without adult supervision.

A separate study involving primary school students, parents and local residents found that 52% of children were worried about strangers and 73% of parents considered 'to a moderate extent/major extent' that 'stranger danger' was a barrier to their child's physical activity in their community. In addition, 54% of local residents reported that they 'agreed/strongly agreed' there is danger for children presented by strangers.

However, not only are such studies limited by the shortcomings plaguing all cross-sectional studies, they are also limited by a potential bias that reflects the social stigma of choosing responses that might suggest as a parent they are *not* worried about such. This 'social desirability' hypothesis does not appear to have been investigated directly in relation to the framing of questions around fear and safety. Research by Valentine (1997) and colleagues (1997) highlights ways in which social influence and normative expectations among parents can regulate their children's independent mobility or unsupervised play. As observed by Valentine and McKendrick (1997):

Some mothers claimed that they restrict their children's play more than they believe to be necessary, while others give their youngsters greater license than they would ideally like to, in order to fit in with local 'common sense' constructions about what it means to be a 'good' mother.

Of relevance in assessing changes in parental fear over time are trends relating to the broader and more researched notion of fear of crime. De Groof (2008) notes that while many studies have been conducted to examine the predictors of fear of crime among adults, the onward transmission of this fear in the form of

insecurity among children and adolescents has been practically ignored. Fear of crime represents a significant social issue: it has become '...a component of the stresses, strains, and health of contemporary urban life' (Liska & Baccaglioni, 1990). Some of the literature on fear of crime makes a helpful distinction between two different paradigms. The first considers fear of crime as a rational reaction to crime and victimisation; the other is more existential viewing such fear as a representation of general feelings of malaise (Elchardus, Groof, & Smits, 2008).

For the first, the experience of fear is related to perceptions of risk (McCrea, Shyy, Western, & Stimson, 2005) as well as a sense of vulnerability. Vulnerability is reflected in the tendency for women and older people to be more fearful about being a victim of crime (Grabosky, 1995; Johnson, 2005; McCrea, Shyy, Western, & Stimson, 2005), and, even more acutely, in the onward extent to which modern children are 'protected'. The second paradigm pertains to more generalised fears and anxieties about the malaise of modern life, and, in the context of children, is typified in the lengths many parents and community institutions go to protect children from perceived risks or harm, many of which may have been just part of the everyday childhood experience in years gone by (Gill, 2007). Parental concern for children, along with a broader fear of crime, have been described as symptomatic expressions of this more generalised sense of insecurity, precipitated by various uncertainties about the political, social and environmental state of the world (Prezza, Alparone, Cristallo, & Luigi, 2005).

Distinguishing between the two paradigms of fear is important because each has different implications for policy and intervention directions (Elchardus, Groof, & Smits, 2008). For example, in the case of stranger danger anxieties, if these anxieties are largely symptomatic of a broader trend among parents to worry about the world in which their children live, then communications or interventions that focus solely on strangers are likely to be limited in their effect. Studies that combine measures of both more generalised and specific parental anxieties and fears would be informative in this regard, but none were identified in the course of this review.

Despite the general sense from research, media and public discourse that fear and fear of crime has increased, this does not appear to be born out with any consistency by the evidence. Data from the Australian Institute of Criminology (AIC) for example, show how rates of victimisation have decreased and perceptions of personal safety have increased between the 2000 and 2004 surveys (Johnson, 2005). These surveys, however, were limited to adults and their own experiences. The surveys did not capture feelings of safety and perceptions of crime from a parental role nor from the child. It is pertinent to note the AIC survey asked about actual experiences of crime (Johnson, 2005).

By contrast, studies focusing on perception of crime are often plagued by a tendency for people to over-estimate crime rates, with such estimates far in excess of actual risk (Hale, 1996). Tulloch (2004) found 80% of respondents believed crime in Australia was rising, and 50% of respondents believed they were at risk of being personally victimised. Adult anxiety about children becoming a victim of crime was found to be greater than the anxiety adults held for themselves. Respondent parents in Tulloch's study reported a fear for their children's safety, even if the possibility of something happening to their child was low. Parents of young children and adolescents cited extreme examples of crimes against children as justification for their worry. These parents were able to reflect on the relative freedom of movement associated with their own upbringing; however, they dismissed this as a possibility for their own children citing changes in society and neighbourhoods. Yet statistically, the weight of evidence indicates the likelihood of a child being abducted, murdered or harmed by a stranger is exceedingly low (Shutt, Miller, Schreck, & Brown, 2004). As noted in the recent feature in *The Weekend Australian* newspaper on the consequences of over-protective parenting, the overwhelming majority of child abductions, kidnappings and murders are by people known to the child, rather than the stereotypical 'stranger' (Jackman, 2009). What has increased however is public and media fixation with the relatively rare incidents in which children are victims at the hands of strangers, along with a rise in risk aversion and protectiveness; points discussed more fully below.

Mirroring concerns about heightened levels of fear (both specific to strangers and more generalised) are concerns about declining levels of trust, a recurrent theme in the burgeoning body of social capital literature (Li, Pickles, & Savage, 2005; Putnam, 1995). Generalised trust refers to the trust of society as a whole and of people we may not know, or who are different to ourselves, and is not gained from direct interactions or experiences (Uslaner, 2002). People in the community are no longer seen as able to protect children but rather seen as a threat to children's safety (Tulloch, 2004). The World Value Survey asks 'Generally speaking, would you say that most people can be trusted?' In an aggregated analysis of responses to this measure across a number of countries over time (1981-2001), there is evidence of a decline in generalised trust (World Values Survey Online Data Analysis). Within Australia, the proportion of people indicating that 'most people can be trusted' decreased from 47.8% in 1981 to 39.9% 1995, and then increased to 46.1% in the 2005 survey (World Values Survey Online Data Analysis). Other empirical evidence of trends in societal

trust is relatively scant, and despite the evidence of volatility in the time trends just cited, the predominant view in the literature and social discourse is that generalised trust has been somewhat eroded, and, moreover, the nature of trust has altered in recent decades. Evidence on how to build or prevent the erosion of social trust is also scant, with multiple interrelated determinants of trust (Welch et al., 2005) rendering it difficult to prescribe 'solutions' or intervention strategies.

Along with a general sense of erosion in levels of trust from some previous (higher) level, are commentaries about changes in generalised helpfulness, collective efficacy or most simply, the likelihood that strangers or the community generally will protect young people from harm. Collective efficacy has been defined by Sampson et al. (1997) as 'social cohesion among neighbours combined with their willingness to intervene on behalf of the common good'. Helpfulness of people in the neighbourhood is one of the factors found to explain some variations in fear of crime (Williams & Dickinson, 1993). While the traditional saying 'it takes a village to raise a child' is an often touted, it is more elusive in the reality of modern Westernised societies. Furedi (2001) argues that in the past people took more collective responsibility for helping to raise and care for children (for example, telling a child off for crossing the road when the light was red, or attending to a crying child in a public place). Instead, there has been a breakdown in adult solidarity; a loss of adult responsibility to those not yet adults to provide nurturing, guidance and, if required, protection.

This adult solidarity and collective responsibility has been in part eroded by parents who are 'paranoid' about stranger danger with many adults now less experienced and more uncomfortable in the presence of children (Furedi, 2002). Furedi (2002) cites a British study of adults who reported being hesitant to engage with other people's children because they fear their actions will be misunderstood. By contrast, parents in Germany were more likely to expect other adults to help keep an eye on their children, and have a more relaxed attitude towards independent mobility as a result. In turn, German children reported feeling they were watched over by the adult world (Furedi, 2002).

A lack of both familial control and community control has been explored in the social disorganisation literature. Changes in societal structure, and an increasingly transient society, have been blamed for a breakdown of informal societal controls. For example, Taylor and Covington (1993) postulated that adults in these transient societies were less likely to intervene if they saw young people misbehaving because they were strangers to the children's parents, did not want to be seen as nosy or interfering, or feared retaliation. A lack of common values within the society, or a lack of knowledge of people's values, has been linked to the decline in intervention by adults in the community when children misbehave.

Broadly then, good quality empirical evidence for fundamental changes showing increases in the level of parental fear for the security of their children over time is lacking. When the general inferential context is widened to include time trends in specific crimes affecting children and time trends in levels of trust and collective efficacy the evidence is broadly non-supportive. Threats to children as measured by actual crimes of abduction, robbery, assault and homicide committed against them *by strangers* suggest no fundamental change over time. Also, levels of measured community trust and collective efficacy over time, while extremely scant, are highly variable: some studies show actual increases in levels of community trust, while others suggest definitive decline over time. Yet parental concerns for the security of their children persist and remain subject to continued scrutiny and claim.

Parental fear as a determinant of child physical activity and independent mobility

If definitive statements about changes in parental fear where the safety of children is concerned are sparse, then, by extension, the relationship between underlying changes in parental fear and onward restrictions to child activity and independent mobility is tenuous. Existing evidence about parental fear as a determinant can be aligned into three broad contextual areas: societal and cultural, community and individual contexts.

Parental fear in the context of society and culture

At the outset it should be noted that parental fear for the safety of their children has a basis in both the rational and irrational. The potential divergence between perception and reality is a recurrent theme in the literature relating to public safety, crime and personal threat (Grabosky, 1995), and applies equally to issues of parental fear for children and stranger danger. As noted by Stokes (2009), societal fear is socially constructed. It entails the power to shape perceptions that in turn become reality. The extent to which this happens is simply unknown.

Parents' fears for a child's safety are rational because children are not born with and only gradually acquire the physical, perceptual, cognitive and social skills to protect themselves from immediate threat or danger. Explicit statements about the amount and nature of parental supervision are rarely made. Most parents are left to apply common sense or customary practice in determining how much is enough for their child or children.¹ Societal expectations generally require very high levels of adult supervision for infants and toddlers. In Australia, expectations of high levels of adult supervision remains high for young children aged 4 to 7 years, while for children aged 8-10 years changes in the expected standard of parental supervision vary considerably with location, the presence of other siblings, the child's gender, general level of maturity and sense of responsibility, and parental work circumstances. Beyond age 10 there is increasing variability in societal expectation about suitable levels of parental supervision, although it is safe to say the latent message is parents are always responsible for the supervision of their child and for the actions of their child. Notwithstanding this very legitimate remit of parents and society to care for and protect their young, it has been argued that today's children are seen both as increasingly 'valuable' (as reflected in greater child-centricity in families) and increasingly 'vulnerable' (Sutterby, 2009), resulting in considerable stifling of more traditional notions of childhood freedom.

Parental fears for a child's safety, however, are not always logical or rational. This is because notions of safety are inextricably tied to assessments of risk. And parental assessment of risk (with the associated likelihood of harm) becomes increasingly varied and subjective as the child grows older. As Scott and B'Ackett-Milburn (1998, p. 690) noted over a decade ago:

risk anxiety...is a more constant and pervasive feature of everyday consciousness, managed through everyday practices; it might be fuelled by public discussions of risk, but individuals are left to find their own ways of coping with the uncertainty it engenders.

Indeed, Australian parents are steadily bombarded by children 'at risk' strategies, the establishment of 'child protection' legislations and government departments, and a pervasive duty of care by public and private institutions, agencies and the law. Duty of care within agencies brings with it the spectre of failure to do so and the fear of resultant litigation, thus heightening the demand for clear boundaries and rules regarding responsibilities for supervision and the circumstances governing the transfers of this responsibility as the child moves from one setting to another. Certainly some of this represents a rational response by society to real needs, to regulate services and to identify accountabilities. However, the unintended consequence is undoubtedly an exaggeration of perceived risk by parents, carers and by and within the agencies where children regularly appear, and a heightening of fear of litigation among all parties.

It is not surprising then, that much of the unstated societal expectation about standards of parental supervision, particularly of older children, and the emergence of the modern 'risk and protection' rhetoric, gets transferred into notions of what constitutes being a 'good parent' and 'good parenting'. Parenting practices in Australia have been the subject of extensive and recent research (Zubrick, Smith, Nicholson, Sanson, & Jackiewicz, 2008). In the Longitudinal Study of Australian Children the vast majority of Australian parents feel that they are doing a good job of parenting and report high levels of satisfaction in their parenting role. Further results show the principal threats to the role of parenting are: 1) work – and the

¹ See, however, the National Child Care Accreditation Council principal statement on Effective Supervision (http://www.ncac.gov.au/factsheets/oshcqa_factsheet2.pdf) to see the nuances involved in deciding on the nature of child supervision in more formal settings.

resultant disruption in predictable patterns of care for children, where parents must balance their needs for and choices to work with their family responsibilities; 2) declining levels of social support, particularly as these relate to proximity and availability of family relatives (particularly grandparents) in the infancy to early toddlerhood period; 3) the availability of wider friendships and community supports as their child moves out of the home; and 4) relationship difficulties within the couple family (Zubrick, Smith, Nicholson, Sanson, & Jackiewicz, 2008).

It is ironic that despite high levels of satisfaction by parents in their role as parents, parental beliefs about 'good parenting' (as opposed to 'good enough' parenting) appear to have widened to encompass expectations of high levels of parental supervision of older children and a belief that you're not a good parent if your child independently makes their way to school or to other venues or returns home to await the arrival of working parents (i.e. 'latch-key' children). This dynamic is hard on all parties, both parents and children. Changing patterns of expectations about parenting are also driven by large demographic forces, most of which have been out of the control of parents. In the past 30 years there has been a decline in Australian male labour force participation, increases in work participation by women, a general shift towards part-time work and larger proportions of men and women in casual work. For those in full-time work, more than a quarter are working more than 48 hours a week (Richardson, 2005). This gives force to the meaning of 'time poor' where meeting obligations of the workplace and parenting are concerned. The consequence here is an exhausted workforce and exhausted parents. The latter are increasingly over-extended in the demands to secure dependable, good quality child care and arrange for their child's transport needs to and from a variety of care and other (notably school) activities.

Society has, of course, had a long tradition of expectations about child rearing practices that are gendered and part of the established Australian post-war culture. In this, much of the discussion of work and its impact upon children has been with reference to women returning to work and the necessity to place children into care other than that of the mother (Belsky & Eggebeen, 1991; Goldberg, Prause, Lucas-Thompson, & Himsel, 2008; Harvey, 1999). As Zubrick et al. (2008, p. 117) note:

in the face of changes in levels of labour force participation, and in the presence of social policies that increasingly require work for social benefits and the demand to secure income through paid labour for use later in life, this past debate has now been over-run by an emergent reality: fewer families have a choice about whether a parent will stay at home to undertake child-rearing, and fewer families are making such a choice. Indeed, the emergent skills shortage in Australia is being accompanied by an encouragement of older employed people to remain in the workforce, so, at a population level it is feasible to envisage fewer grandparent hours available across the generation gap to support younger families.

None of this is assisted by the rigidity of the workplace and of school systems to modify their workplace regulations and practices to accommodate the lives of modern families.

Not surprisingly, the obvious changes in the form and pattern of contemporary family life have given rise to concerns about fundamental changes to community life. Sense of community and related concepts such as neighbourhood cohesion have emerged as a potential mitigating circumstance of parental fear and some of its consequences for children and their independent mobility. For example, children whose parents have greater networks and social integration within their neighbourhood have been found to have greater independent mobility (Hüttenmoser, 1995; Prezza, Alparone, Cristallo, & Luigi, 2005). Moreover, lower levels of perceived social danger among parents have been associated with stronger sense of community (Prezza, Alparone, Cristallo, & Luigi, 2005). Social connections can also affect a community's stock of trust (Palmer, Ziersch, Arthurson, & Baum, 2005), with trust being a common component to measure sense of community and social capital (Wood & Giles-Corti, 2008).

Conversely, Furedi (2002) notes how community perceptions of a decline in adult solidarity render parents less likely to feel they can trust that strangers and people will look out for their child. Sense of community and neighbourhood attachment have both been positively associated with lower fear of crime (Brown, Perkins, & Brown, 2003; Farrell, Aubry, & Coulombe, 2004), while by contrast, fear of crime has been reported to be higher where there is a lack of neighbourhood cohesion and feelings that neighbours won't help (Grabosky, 1995). Moreover, incivilities associated with increased fear of crime (such as graffiti, litter, vandalism or the presence of vagrants) and perceptions a neighbourhood is 'out of control' (Grabosky, 1995) have also been shown to be detrimental to sense of community (Wood & Giles-Corti, 2008). A persistent high level of fear can become a part of a neighbourhood or a city's culture, thereby constraining and altering its patterns of social life (Skogan & Maxfield, 1981), and, by plausible extrapolation, the social freedoms and movement of children.

While these relationships have a certain face validity and popular attraction, the underlying mechanisms remain subject to intense scientific study and debate. Central to this is the relationship between socioeconomic status, social class and onward social capital or social cohesion. This debate highlights the complex way in which such psychosocial factors are implicated in health and the difficulty of mapping with certainty the associated causal pathways. Wilkinson (1997, 1999), for example, has presented evidence suggesting higher income inequality leads to lowered social cohesion, which in turn produces poorer health status. This has, however, spawned a number of commentaries and countering responses (see, for example, Muntaner and Lynch, 1999; Coburn, 2000). Coburn (2000) contends insufficient attention has been paid to the social context of income inequality, and there are market and political forces that may simultaneously produce higher income inequality and lowered social cohesion. Not dissimilarly, Muntaner and Lynch (1999) suggest that Wilkinson's view on the evidence overlooks the role of social class as a determinant of variations in both social inequalities and social cohesion.

Much of this debate is seen in emerging studies seeking to understand the relationship between socioeconomic status, social capital and health. Drukker et al. (2003) showed how neighbourhood socioeconomic status and social capital were indeed associated with socio-economic deprivation, with social capital being non-specifically associated with children's general health and satisfaction, independent of possible individual level confounders. However, children's mental health and behaviour were specifically associated with one aspect of social capital: chiefly, the degree of informal social control in the neighbourhood. All of this is by way of illustrating that the explicit relationship between specific forms of social capital, socioeconomic status and selected health outcomes largely remains opaque (Zubrick, 2007).

Parental fear in the context of the community environment

A striking feature of modern political rhetoric transmitted into community planning is the notion of 'safer communities.' One can only wonder, when did so many Australian communities become so 'unsafe'?

Certainly, a great proportion of the safer community focus is squarely aimed at issues to do with injury and hazard reduction. No one would fault the great benefits arising from making environments, sporting facilities, homes, farms, playgrounds, community spaces and worksites safe from hazards. Coupled with the promotion of and education about safe practices, the achievement of reductions in physical injury and death through promotion, legislation and regulation are indeed impressive.

There are however unintended consequences. The use of the 'safer community' descriptor becomes entangled with the notion that responsible governments deliver 'law and order'. This in turn is fuelled by media and public opinion about the delivery of justice to wrong-doers. Thus, part of the focus of the notion of safer communities is upon the wider threats – real and perceived – to the personal security and safety of community members, and, within this, vulnerable groups including children, women and the elderly. It is not only parents who are carriers of this fear. Schools are becoming progressively more risk-adverse (Guldberg, 2009). Thus 'safer community' policy and activity may include, but not be restricted to:

- neighbourhood watch programs
- surveillance cameras in public and private spaces
- walled or gated communities
- working with children legislation and clearance
- safety house or safety assist programs
- 'crocodile' walking
- stranger danger education, and
- interventions to deter or move adolescents on from public places and the streets.

Public education about personal safety and steps to deal with threats to personal safety also form part of the wider program of interventions in homes, shops, community spaces and schools.

It is almost obligatory to comment that some of these other interventions are good things and have indeed had a positive impact on health and wellbeing outcomes. However, programs such as safety houses or working with children checks may have unintended consequences, particularly when viewed through children's eyes. For example, some neighbourhoods may only have a few designated safety houses (typically denoted by a symbol on the mailbox), most likely a reflection of the resourcing and promotion of the initiative and the somewhat onerous application process, but should not convey to children that most homes are by default unsafe. Similarly, the instigation of compulsory checks and vetting approvals for adults who work with or come into contact with children is well intentioned, but, as expressed by Gill (2007, p. 48), such attempts to regulate the contact between adults and children can 'undermine the very bonds of mutual trust

that make communities welcoming, safe places for children'. Given the majority of adults do not intend to harm children they do not know (Gill, 2007), it can be counterproductive to inculcate children with a fear of all strangers (Guldborg, 2009). Most adults, including strangers, are in fact a 'largely dependable source of help for children if things go wrong' (Gill, 2007, p. 453). Many industrialised societies seem to have lost sight of this, and this can effect children's future capacity to trust in others (Guldborg, 2009).

Contradictions and unintended consequences have also borne out of government youth work policies and programs which are often aimed at 'getting children off the streets' in the name of preventing or combating anti-social behaviour, when ironically the public domain is where children learn to be social in the first place (Guldborg, 2009). Teenagers in particular are often dissuaded from congregating or socialising in public spaces (Owens, 2002), with shopping centres, malls² and public parks among spaces where teenagers are sometimes 'moved on from' or discouraged. While this may seem at first tangential to this paper's focus on parental fear, it is pertinent to note policy and planning decisions that are not child-friendly, or that discourage the presence of adolescents, contribute to societal norms about children and their movement and place in the public realm. More pointedly, it is important to note some of the elements of parental fear are actually derived from fear of children and particularly young people (the pejorative use of 'juveniles' signals this) themselves. This is particularly with reference to fear of the consequences of actions taken by children and young people who are left unsupervised individually or in groups.

Precautions implemented in the name of safety within the built environment can also have unintended consequences. The proliferation of surveillance cameras and the emergence of the walled or gated community is a case in point. A major portion of the focus of these initiatives has is on 'target hardening': steps taken to protect property and belongings, reduce the impact of vandalism, robbery, and graffiti and the like. While well intended, they have come with a restriction in personal liberty and imposed barriers to physical mobility or ease of movement in the environment. In some instances, these well intended actions such as the creation of hardened and/or high property walls and fences actually operate to increase the likelihood that vandalism will not be detected or seen. For example, children at play and moving about in these settings are not as easily seen as children in more open residential areas, nor are they necessarily subject to collective supervision. Increased or overtly visible security precautions in residential areas may introduce visual cues that unintentionally intensify concerns about neighbourhood crime (Foster & Giles-Corti, 2008), while in public places obvious security measures (such as observation cameras) may signal to pedestrians that the area is not safe and to minimise their engagement (Painter, 1996).

Inevitably there has been considerable work undertaken in understanding the relationship between individual and collective safety and features in the built environment. However much of this work has focused on the nexus between the built environment and adult or whole community experiences of fear and safety (Grabosky, 1995), and less so on children specifically (albeit with some exceptions, particularly in relation to traffic related safety). In Australia, extensive work has been undertaken through the Australian Healthy Spaces and Places initiative (<http://www.healthyplaces.org.au/site/>). This work brings together an integrated approach to the design of environments via ten design principles seeking to keep individuals active. These principles are applied to achieve and encourage physical activity through:

- active transport
- aesthetics
- connectivity
- environments for all people
- mixed density
- mixed land use
- parks and open space
- safety and surveillance
- social inclusion, and
- supporting infrastructure.

In the UK, the Office of the Deputy Prime Minister has published *Safer places: the planning system and crime prevention*, a guide for planners, developers, architects to make safe streets, public parks and

² Readers should note that while the public certainly may be found at the local shopping mall, a shopping mall is not a publicly owned space in the sense that the main street of a city or town is a public space. In fact, a shopping mall is a *privately* owned space in which certain functions are highly regulated, access is highly controlled, and the range and forms of expected behaviours within them are socially sanctioned and collectively understood.

neighbourhoods (Office of the Deputy Prime Minister, 2004). This guide identifies seven attributes of the built environment that contribute to preventing crime within a community, including:

- access and movement: places with well defined routes, spaces and entrances providing convenient movement without compromising security
- structure: places that are structured so different uses do not cause conflict
- surveillance: places where all publicly accessible spaces are overlooked
- ownership: places that promote a sense of ownership, respect, territorial responsibility and community
- physical protection: places with necessary, well designed security features
- activity: places where the level of human activity is appropriate to the location and creates a reduced risk of crime and a sense of safety at all times, and
- management and maintenance: places designed with management and maintenance in mind, to discourage crime in the present and the future.

In the literature and research relating to children more specifically, the built environment is among the factors identified as influencing independent mobility, although this is most often expounded in relation to parental fears and concerns about safety from traffic and pedestrian harm and, to a lesser extent, in relation to the walkability of destinations for children and young people (Lorenc, Brunton, Oliver, Oliver, & Oakley, 2008). Observations about the deterring effect of visual incivilities or the protective effect of natural surveillance in the public domain arise in some of the literature relating to children's use of parks and open space. Parental fear in this context may not be limited to 'strangers' but also relates to the risks of encountering dangers of a physical (such as syringes or broken glass) or social form, such as bullying and antisocial behaviour from teenagers (Trayers et al., 2006; Veitch, Bagley, Ball, & Salmon, 2006). 'Eyes on the street' is a term coined to refer to the way in which the presence of people out and about and interacting within a community can enhance safety, and to the informal surveillance afforded by greater visibility of the public realm. While less researched in relation to children specifically, the notion of 'eyes on the street' has been positively associated not only with children's perceptions of safety, but also with greater levels of physical activity. In a US study, younger children were more likely to walk to school if at least 50% of homes passed en route had windows facing the street (McMillan, 2007). In a study of adolescent girls, those who were physically active were more likely than their inactive counterparts to perceive their neighbourhood to be safe, to have a low crime rate and to have good surveillance because of other visible walkers and joggers in the area. The more physically active girls were also less concerned than their inactive counterparts with antisocial behaviour. Therefore, changes to the built environment may have positive effects on parental perceptions of neighbourhood safety and in turn, encourage them to allow their children to engage in physical activity, independent mobility and active play.

Perceptions of unsafe road environments and traffic also register as parental concerns (Veitch, Bagley, Ball, & Salmon, 2006). Parental perceptions of an unsafe road environment have been negatively associated with cycling and walking in 10 to 12 year olds (Timperio, Crawford, Telford, & Salmon, 2004) and among adolescents (Carver, Timperio, & Crawford, 2008). While the focus of this paper is on parental fear as it relates to strangers rather than traffic, the two cannot be totally separated as it can be the cumulative concerns of parents that lead to restrictions on children's independent mobility. Moreover, the relative contribution of stranger versus other safety concerns on physical activity and independent mobility is difficult to ascertain. A recent Australian study suggested road safety is more of a concern than stranger danger (Carver, Timperio, & Crawford, 2008), while in other research, parents rated the risk of abduction as more likely than a traffic accident, despite the actual odds being to the contrary (Stickler, Slater, Broughton, & Alario, 1991).

Although the notion of 'designing out' crime or reasons for fear has been less explored in relation to children, their movement and accessing of spaces, many of the elements of the built environment modified to improve safety generally can be extrapolated to children's circumstances. This includes:

- improving the natural surveillance of parks, walking and cycling paths and playgrounds (Kelty, Giles-Corti, & Zubrick, 2008) (such as being visible to nearby houses and not out of sight behind bushes)
- improving safety of roads and walkways in order to access parks and to increase the safety of children at play, cyclists and pedestrians (Carver, Timperio, & Crawford, 2008)
- lighting within neighbourhoods (Evenson, Scott, Cohen, & Voorhees, 2007) and in parks (Kelty, Giles-Corti, & Zubrick, 2008), and
- maintenance and upkeep of park amenities (Bedimo-Rung, Mowen, & Cohen, 2005) and playgrounds to address vandalism and graffiti which can 'signal' an area is unsafe.

For the purposes of this review, the role of the built environment should not be confined only to crime and safety considerations or the designing out of these. Broader efforts to create more child friendly cities and neighbourhoods are also relevant. Not only because it can influence the visible presence of other 'eyes on the street' but, at a deeper level, child friendly cities can contribute to a greater awareness of young people, and an evoking of the type of collective care and responsibility for children that has become somewhat lost in modern communities (Furedi, 2001).

Parental fear as an individual experience

We have left our review of parental fear for the security and safety of their children and its consequent effects on levels of physical activity and independent mobility in their children until last. Fear and anxiety, as psychological states, comprise an enormous literature spanning normal development as well as psychopathology in infants, children and adults. It is not our intent to discuss fear and anxiety as clinical states.

Individuals in context

Individuals are, of course, nested in their families, neighbourhoods, communities and wider society. We have drawn obvious connections between factors operating at the societal, cultural and community levels that significantly shape adult attitudes about, and their capacities to deal with, their children's levels of physical activity and personal mobility. There are several significant points that need to be emphasised in this section:

- Fundamental changes in societal expectations about employment, work and individual aspirations for high standards of living have reshaped modern family life.
- Fewer families have a choice about whether both partners will work; where this exists women particularly prefer to combine part time work with child rearing.
- Expansion of the lifespan, with generally stable population growth, now requires a longer period in employment – involving both parents – to achieve security of income in late life.
- Infants and very young children are increasingly placed into a variety of child care arrangements, both formal and informal and with short and long hours.
- The age at which children 'leave' home and commence kindergarten is approximately aged 4 and, in many jurisdictions, qualifying birth dates mean that children as young as three and a half partake in these opportunities.
- Transfer of duty of care in these arrangements has become explicit, particularly where movement in and out of formal care (day care, long care, and kindergarten, preschool and school) is concerned.
- Infants and very young children are moved from one environment and setting to another and in these settings they are 'watched' (or supervised); supervision favours a restricted range of activities and more stationary activities.
- As children become older, there has been an upward extension of this supervisory model, complete with orchestrated transfer of the child from one setting to another.
- High levels of independent mobility and physical activity in middle aged and older children are not conducive to high levels of supervision and maintenance of duty of care. In effect, the general zeitgeist favours greater sedentary activity and a small, restricted geographic range for roaming.
- Unsettled by the vast plethora of global and more local anxieties and perceived risks, monitoring of children and their whereabouts has become increasingly normalised. Described by Guldberg (2009) as a surveillance society, this encompasses webcam monitoring systems in childcare centres and schools and, in adolescence, to the screening of online teen interactions and the deployment of mobile phones as means of 'keeping tabs' on whereabouts.

Fear and anxiety in individuals

Turning now to some specific features of fear in the context of individuals, there is evidence that social anxiety and generalised fear, including a fear of crime or victimisation, can be transmitted from parent to child (Murray, 2009). A socially anxious child observes the behaviour of their parent in social situations and models this behaviour. Children also pick on their parents anxieties and fears through a parent's direct reference to this fear. The effect of a parent, who tries to limit their child's interaction or exposure to the object of their fear, is the reinforcement of this fear in the child (Murray, 2009; Rubin, Hastings, Stewart, Henderson, & Chen, 1997). Social anxieties in children were shown to emerge as early as 10 to 14 months of age in Taylor and Covington's 1993 study that looked at the transmission of social anxiety from mother to child. A fearful parent is more likely to have a fearful child. Fear is detrimental to individuals due to its effect on their psychology and perceptions. Fear can restrict a person's activities, such as their movement within their society (McCrea, Shyy, Western, & Stimson, 2005), and can have a negative impact on the person's perceptions of their neighbourhood. Therefore, it could be argued that when a parent is fearful of crime in the

neighbourhood or of their child becoming a victim in the neighbourhood, this fear is picked up by the child. If fear has been found to negatively impact on adults' movements and interactions within the neighbourhood, then this could be mirrored in children.

Gender, age, race and culture

Individual demographic characteristics are significant in substantially shaping the nature of parental fears for the security of their children and the effect this has on child physical activity and independent mobility. These demographic characteristics interact between the adult and other adults in their family, community and society. They also interact between the adults and their children.

With respect to demographic interactions between adults and their children, as we have already noted independent mobility increases with age (Blakely, 1994; Prezza, Alparone, Cristallo, & Luigi, 2005). It is also differentiated for gender with evidence demonstrating that males are given more freedom than females (Hillman, Adams, & Whitelegg, 1991; Spencer & Woolley, 2000). These factors interact with parental assessments of their child's maturation and the progression of cognition and judgment as this permits independent movement. Parents' beliefs about the ages at which children should be able to cope with autonomous environmental experiences also depend strongly upon their cultural context (Hillman, 1997; Sauvage & Gauvain, 1998).

Broadly, individual contexts of fear and the specific demographic characteristics of individuals' fear or insecurity about safety is undoubtedly a factor influencing parental judgements about the level of physical activity and independent mobility they allow their children. However, elements in the wider societal, cultural and community setting are likely to be far more salient determinants of parental fear.

Some counterfactual examples

Where might we look for counterfactual outcomes to this prevailing zeitgeist? There are actually some surprising circumstances.

For example, in Western Australia, Perth families with young children have traditionally vied for holiday accommodation at Rottnest Island, which is 11 nautical miles off the metropolitan coast. In Victoria, a similar coastal environment that regularly attracts families is Wilson's Promontory. Both settings are characterised by dozens of small beaches and ocean bays; both are set in demanding coastal environments with dangerous seas and seasonal breezes. In both of these settings the general expectation is one that permits high levels of physical activity and independent mobility of all children, considerably lower levels of parental supervision, particularly for children aged 10 years and above, and a collective efficacy broadly operates to protect children and, indeed, young people. These settings, whether island or mainland, coastal, mountain, or bush, are undoubtedly a feature of Australian life across the country. What is it about them that countermands parental fear and anxiety so strikingly? How is it that children are deemed any less at risk in these settings? Certainly they are characterised by parental supervision and the absence of the family work routine. But at a basic level, are children in these settings more secure or safe than they would be in their own neighbourhood or in moving to and from school?

Another example is in the oft heard barbeque conversation in which parents living in rural or regional areas of Australia note their community is 'a good place for children to grow up'. At least until it is time for them to start high school. Anecdotal examination of this claim suggests that 'a good place' for children to grow up is one where these children have considerable personal freedom; parents 'know where they are', and or 'others know who we are', and there is a range of things to do. Many of these places are not necessarily small coastal hamlets; they can be, and are, large regional centres. These two examples offer counterfactual circumstances pointing to contextual variations that militate against fearfulness.

Putative determinants, suggested actions and gaps in knowledge

On the basis of the material reviewed here there is some quantitative evidence to support the specification of candidate determinants of parental fear that in turn reduces the overall physical activity and independent mobility of children. There is certainly a range of qualitative evidence and circumstantial detail suggesting a real restriction to children's geographical or area-based range of independent mobility. There is also a reasonable case to be made that the initiatives put in place to address community and personal safety have had the unintended consequence of heightening parental caution and increasing vigilance if not actual fear and anxiety. By far though, there have been substantial changes in Australian family life linked to work, employment, the extension of the lifespan, the lowering of the age range for early childhood education, and the need for care outside of the home. These factors, and exerting inexorable forces upon the shape of daily activity and routine, impart clear restrictions on where children can be left unsupervised, who can supervise them, the rules for transferring duty of care, and general tolerance for children having a 'freer range' of independent mobility. For this reason we have labelled the determinants in this section as 'putative.'

Possible actions have been organised with reference to key settings. The primary candidate settings for action include: the community sector, education, local government, sport and recreation, and the media. There is some scope for actions in the transport section. The literature is relatively silent on the possible role of cyberspace although as a medium of communication it should not be overlooked. Naturally there is significant overlap in these sectors. We have tried to indicate where this is so.

Community sector determinants and suggested actions

Building community cohesion to create enabling environments

If building social capital and trust can sometimes seem a nebulous remit, there are some helpful insights in the literature to the potential pathways to greater community trust that may serve as intervention points. Li and colleagues (2005), for example, found the informal social networks, and in particular, neighbourly relations, fostered greater trust than formal civic engagement and, conversely, trust has been observed as an important by-product of community based initiatives to strengthen the social fabric of modern neighbourhoods (Walljasper, 2007). There are various 'real world' examples of community building and neighbourhood cohesion projects instigated internationally and within Australia (for example, Streets Alive), although these are far less common in the published literature to date. There is merit in building more of an evidence base in this area, particularly with regard to the potential flow on benefits for trust, collective responsibility and parental fear.

The built form of communities can also be proactively designed, planned and used to enhance social capital and sense of community. For example, a more walkable environment and street network design has been found to promote neighbourly interactions and the development of social capital [Leyden, 2003 #91] and the frequency of walking trips within neighbourhoods has been positively associated with unplanned interactions with neighbours (Lund, 2002) and sense of community (Lund, 2003).

Strengthening the sense of community and increasing levels of social capital may offer some means of addressing levels of fear and anxiety in communities. On the face of it, where race relationships are poor and discrimination is high it's hard to fathom how these would act to produce effective levels of cooperation and trust. Similarly, as levels of human capital diminish, it is likely that the capability to participate socially, civically and economically will also decline. Broadly, there are multiple ways in which this can be tackled. Building a sense of community and social capital are relevant to VicHealth's broader remit and strategic plan, and this can also play an important part of reshaping the community norms and perceptions that contribute to parental fear.

Addressing known safety concerns in the built environment

We have placed safety concerns in the built environment within the community sector, keeping in mind that addressing the safety concerns in the built environment spans multiple sectors, including transport, local government, and sport and recreation.

While the scoping of this review has intentionally focused on parental fear as it relates to the social environment and strangers, rather than road safety and traffic, it warrants noting these two domains of parental concern cannot be totally separated:

A downward spiral of fear can be created in response to road safety fears in which reductions in play, cycling and walking activities among children and young people can diminish the general social activities levels of an area which can heighten fears of stranger danger (Mullen, 2003, p352).

As such, interventions specifically focusing on parental fear as it pertains to children may be limited in their effectiveness, to the extent that broader, more generalised fear and adults own levels of fear are among the mix of causal determinants. By the same token, interventions targeting a reduction in fear among adults may have a positive effect in reducing parental fear.

Planning built environments that promote proactive engagement

A promising area of action is to design built environments that promote proactive engagement activity, and use of public and neighbourhood spaces. A number of evidence-based strategies already inform local government and planning and design sector activity in how people perceive environments with respect to personal safety. This work has led to the design of public environments entailing:

- improved natural surveillance of streets, parks and open space (such as visibility to road, lighting and placement of play areas within park)
- deterrence and removal of incivilities (such as graffiti or vandalism)
- community 'ownership' of parks (such as adopt a park programs)
- designing and promoting walkability through the layout and connectivity of streets; the presence, location and proximity of destinations (such as retail areas, parks or community centres); the presence of footpaths and walkable surfaces; and neighbourhood aesthetics, and
- provision of public spaces in which adolescents can meet, socialise and recreate as a counter to the premise that teens engage in antisocial behaviour that may intimidate younger children in the absence of things to do and places in which they can just 'be'.

These modifications have brought greater human presence with social activities and attendant social cohesion into built environments. A particular philosophical shift has also occurred in planning methodologies entailing moving town planning beyond a focus on the physical spaces, materials, uses and arrangements, and extended into the notion of cultural planning. This refers more directly to people in places and the way in which neighbourhoods, cities and towns are planned, designed, built and maintained. As Australian research on opportunity structures (Baum & Palmer, 2002) highlights, there needs to be relevant infrastructure and opportunities for community involvement to occur. This could include planning or advocacy for the development or maintenance of community infrastructure (such as a local library, cinema, youth activity centre), and public amenities (such as parks with playground, picnic areas). The types of programs and community events available within a community also contribute to its social fabric and, as discussed earlier in this review, this in turn has positive effect for trust, community cohesion and other factors that are emerging as mitigators of parental fear. There are likely to be synergies with many currently funded community based arts, recreational, sports or community initiatives in this regard. For example, a significant current VicHealth program, the *Localities Enhancing Arts Participation (LEAP)* program, is aimed at increasing participation in arts-related programs and ultimately bringing individuals together as a community.

Transport sector determinants and suggested actions

Encouraging walking to school

Encouraging walking to school is an area where there has been much evidence gathered, and a demonstration of the greatest intervention effort. Various walk to school initiatives have been set up in both Australia and overseas to encourage active transport to and from school. There is evidence supporting the continuation of these interventions; however, it needs to be noted their effectiveness can still be hindered if broader issues such as parental fear are not concurrently addressed.

One US based initiative *Safe routes to school* aims to modify the built environment around schools to increase pedestrian and cyclist safety and to encourage more physical activity (MCBC, 2009). This initiative focuses primarily on altering the built environment and does not seem to consider the broader issues of parental fear (MCBC, 2009). These actions may alleviate fear to some extent through creating a safer traffic environment for children conducive to increasing independent mobility.

There are also a number of Australian based initiatives including *Make tracks to school* – a walking and cycling program for students in years 5 to 7 developed by the Western Australian Department of Transport, the Physical Activity Taskforce and the Heart Foundation. The program aims to encourage students and their families to walk or cycle to school more often over four weeks (Heart Foundation, 2009). There are also broader initiatives such as the general promotion of 'walk to school' days around Australia. *National Walk Safely to School Day* (Diabetes Australia, 2009) is sponsored by the Australian government and supported by all states and territories.

Similarly, there are a number of Victorian initiatives. VicHealth has funded *Walk to School Day* held as part of the Walktober events in October. The aim of these initiatives is to encourage physical activity and to promote walking to school as a form of improving health, wellbeing and the environment. *TravelSmart*, conducted by the Department of Transport, is a travel planning process designed to support changes toward more sustainable travel for the journey to and from school. *Go for your life* is a school-focused initiative to encourage an increase in active transport, and Bicycle Victoria's *Ride2School* program works with schools to support growth in walking and cycling to school.

VicHealth has supported the establishment of a new, independent walking-for-transport health promotion body, Victoria Walks. Its aim is to promote the health of all Victorians by increasing the number of people who walk as a means of transport. A key focus of Victoria Walks is supporting communities to change their neighbourhoods into walk-friendly environments and encouraging the establishment of local Walking Action Groups.

While independent mobility for children and adolescents should not be confined to the context of walking or cycling to and from school, most of the interventions to address independent mobility have focused on movement to and from the school setting. VicHealth's *Streets Ahead* project is, however, an exception, with its focus on the broader local area in which to develop children's confidence and security to negotiate their neighbourhood streets and spaces.

In the UK, the government has responded more directly to parental safety concerns by funding school travel coordinators to provide expert, site-specific advice on the development and implementation of a school travel plan (Department for Education and Skills, 2006). The travel plan comprises a written document detailing measures to improve safety and reduce car use, backed by a partnership involving the school, education and local authority transport officers, the police and the health authority (Department of the Environment, 1999). It is based on consultation with teachers, parents, pupils and governors and other local people and may, for example, include mapping safe routes to school; organising walk and bike to school days, walking buses, and cycle and road safety training; and helping children to be 'streetwise'.

Finally, a European project, *The Children's City* has instigated a *Let's go to school on our own* project enabling children from the age of six on to travel along the home-school itinerary without being accompanied by adults. In present day Italian culture this is considered quite radical (even though what it promotes was considered a normal experience for children thirty years ago), hence the project was multifaceted, targeting families, schools, local government and children themselves. The project sought to engage children in planning their routes to school and identify safety concerns to be referred to local government for action. Strong school involvement and Town Hall commitment were identified as important factors in attaining an increase in autonomy from 12% to over 50% at the end of the first year (<http://www.lacittadeibambini.org>).

Local government sector determinants and suggested actions

Partnering initiatives

There are some large scale policy and implementation frameworks that seek to establish intersectoral partnerships to support and enable child friendly environments.

Child-Friendly Cities is a participatory planning and local governance initiative to enforce children's rights (including right to enjoy public space) being tried in 650 cities (UNICEF, 2009). It recognises the importance of independent movement and children's access to public space (UNICEF, 2009), though unfortunately policy and health impacts remain largely unstudied, along with the impacts on children's independent mobility (Whitzman, 2007). Along with the UNICEF initiative, UNESCO research from its *Growing Up in Cities* (GUIC) program has developed and promoted a set of indicators of the quality of life of children (Chawla, 2002; Trantor and Malone, 2008).

Another project *The Children's City* brings to city administration a new philosophy for governing in which children are selected as the prototype citizens. In this project children are given their say, their needs are listened to and their proposals taken into account. It encourages adoption of proper urban planning strategies and changes to adult behaviour in order to restore to children the possibility of walking through the streets of their city on their own (Tonucci & Rissotto, 2001). Dozens of cities in Italy, Spain and Argentina have participated in this project. The Italian National Research Council (CNR) has set up a coordinating and support group for the cities which, in collaboration with other research organisations, has launched programs to study the changes occurring in the cities implementing the project.

Empowering parents to be less fearful

Parents are important mediators in children's physical activity and mobility behaviour. Helping parents recognise fear and its possible unintended consequences, and encouraging them to allow children more independent mobility and activity, is implicit in much of the literature framing the issues. However, far less is documented about how to go about this effectively, and even rarer, evaluated examples of initiatives that have been tried. Interviews with Swedish parents suggest initiatives that build a strong sense of community or social network in the neighbourhood could increase children's independence (Johansson, 2003). Prezza et al. (2005) found parents with a high amount of neighbourhood relations were more likely to grant their child autonomy, although there was no relationship between children's independent mobility and the Italian sense of community scale. Johansson (2006) suggests parental attitudes towards 'chauffeuring' and independent travel are based on different grounds. This study concluded that parental attitudes towards independent travel are largely related to characteristics of the child, such as age and maturity, and individual parental factors of trust and the perceived need to protect their child. In contrast, parental attitudes towards 'chauffeuring' draw on the parent's perception of environmental factors. The results of this study imply that planners and policy-makers should focus on improvements in the built environment and the promotion of a favourable attitude towards independent travel in order to decrease car usage and increase children's independent travel.

Within the active transport literature, Kerr and colleagues (2006) found when parents had few safety concerns, children were up to five times more likely to use an active form of transport to school compared with parents who had many concerns. However, they argued a simple interpretation of this association (that is, parental education increases children's active transport), should be resisted as interventions to change parental perceptions about their children's active transport, without ensuring the safety of the commuting environment, may imperil children's safety. By contrast, *Safe Routes to School* programs that improve safety alone (Boarnet, Anderson, Day, McMillan, & Alfonzo, 2005) or in combination with promotion activities (Staunton, Hubsmith, & Kallins, 2003) can be effective agents for independent mobility. Thus, a responsible approach to reducing parental concerns about children's active transport may be to improve the walking and biking infrastructure, provide protection from traffic and improve the aesthetics of routes to schools. Congruent with models for effective health promotion, a multifaceted response can yield greater success; therefore, parental concerns about both personal (for example, stranger danger) and traffic danger may be more effectively targeted through interventions focusing on a combination of the modification of the built environment and parental education about the importance of independent mobility.

Furthermore, adults' predispositions towards safety concerns and fear of strangers or of crime are also implicated in the fear for and associated protection of children. As stated by Rissotto and Tonucci (2001), projects designed to promote children's independent travel are liable to fail if they are not combined with tailored initiatives to allay parental fears and change parents' need to (over) protect their child. In a study in Italy, for example, maternal fear of crime was related to maternal perceptions of social danger for children (Prezza, Alparone, Cristallo, & Luigi, 2005). Work by Alparone et al. (2003) demonstrated parents acknowledged the sometime erroneous transference of their own excessive fears for personal safety to their children, and also described their conscious efforts to curb their own fears and lack of trust so as to not inhibit their children's autonomy and development. Prezza et al. (2005) argue that adult fear for themselves and their fears for the safety of their own children can be predicted by many of the same determinants.

These views are supported by Australian literature suggesting a better understanding of parental concerns and other influences on children's independent activity may guide the development of intervention and policy strategies aimed at promoting physical activity amongst this important target group (Veitch, Bagley, Ball, & Salmon, 2006). It is pertinent to note that independent mobility need not mean children are literally alone. There is some anecdotal evidence to suggest parents are less fearful and more likely to allow their child unsupervised mobility if they are in the company of other children (the notion of safety in numbers), with an older sibling or friend, or even walking the family dog. The relative role of companions as an antidote to parental concerns merits further research. Contactability is another factor that may mediate parental anxieties, with Fotel and Thomsen (2004) noting:

new technology has made it possible to monitor children by e.g. their cellular phones, and some parents use that deliberately in situations where the children are testing the boundaries of where they can go independently.

A child being allowed to walk from school to home provided they call their parent on departure and/or arrival is an example of this (Fotel & Thomsen, 2004).

The local government sector is a natural focus for synergies across sectors. Community safety plans developed by local governments and Kidsafe initiatives, developed through public health relating to play, playgrounds and natural play (Kidsafe, 2009) are pertinent examples. There is also the well recognised

Constable Care in Western Australia, a fictional police figure who promotes a program to identify issues commonly affecting 2 to 12 year olds then creates and runs programs to build knowledge and provide skills to deal with these issues (Constable Care, 2009). Australia-wide there is the safety house program, a police and community based program providing a network of signed houses and businesses within the community operating as safe places for children, the yellow logo highlighting houses as places children can go to if they are in trouble primarily when they are travelling to and from school (Child Safety Australia, 2009).

These initiatives could be used to play a role in addressing parental fear, for example messages and strategies addressing parental fear could be piggybacked onto some of these pre-existing interventions. Embedded issues of parental fear could also be addressed as part of broader parenting initiatives, for example as part of *Generation Next*, a relatively new initiative which features national seminars and resources with the aim of protecting and enhancing the wellbeing of children and teenagers (Generation Next, 2009). The *Triple P positive parenting program* (Prinz et al., 2009) is another example of an established and evidence-based program that may be able to incorporate some dialogue with parents about the consequences of fear and strategies for lessening its impact on children's mobility and freedom. This may be an effective way of addressing a broader range of parents rather than present solely with a focus on fear and mobility with may only engage smaller proportion of parents.

Education sector determinants and suggested actions

Promoting parent and carer education

Helping parents recognise fear and its possible unintended consequences and encouraging them to allow children more independent mobility and activity is implicit in much of the literature framing the issues. However, far less has been documented about how to do this effectively. Evaluated examples of initiatives that have been tried are extremely scarce. It is also important to that note many current community education initiatives are counterproductive in reducing parental fear. Neighbourhood watch and stranger danger programs produce their effects by making parents (and others) aware and alert of potential threats. So, direct education attacks on reducing parental fear operate in the presence of these programs signal competing messages to parents. This creates a 'loose-loose' environment of competing and countermanding messages and intents.

Accentuating the positive

Finally there is some value in shifting the focus away from fear, or at least balancing the approach, by focusing on the positive aspects of child autonomy. This is important because so much less is known about what parents understand to be the benefits of giving their children outdoor autonomy and independent mobility. As much of the concern and focus is on parental fear, there is considerable merit in promoting parental perceptions of the positive benefits of greater outdoor autonomy for children. Prezza et al. (2005) has noted this and developed a scale to measure the 'perception of positive potentiality of outdoor autonomy' as this applies to children.

Media and communications sector determinants and suggested actions

Involving the media proactively

While there is sometimes an overly simplistic tendency to blame the media for inflaming societal problems, the media rarely escapes a mention in the literature relating to the apparent escalation of parental fear of strangers. Journalists make no attempt to hide their derision, or at least their despair, at the standard tabloid and television 'magazine format' news programs that capitalise on the four F's: fear, fat, finance and freaks. News of abducted or abused children can now be transmitted around the country or world with a rapid constancy and visual imagery, both via traditional media and, increasingly, via the internet. The intense media coverage of the disappearance of Madaleine McCann and the murder of JonBenet Ramsey are some of the more commonly mentioned examples in the recent international literature (Stokes, 2009). Closer to home, the murder of an 8 year old schoolgirl in Perth in a suburban shopping centre in 2006 and the murder of two teenage girls in Bega NSW in 1997 are examples of abhorrent incidents whose haunting impact on parents is potentially amplified by the poignant images of the innocent child victims and their grieving families in the news with follow up stories of the lasting effects on family in popular women's and current affair style magazines. As articulated by the US columnist Lenore Skenazy in an interview for the Weekend Australian (Jackman, 2009, p16):

when your brain is saturated with horrifying stories, it's hard to focus on the millions of children who are not murdered... we only know the tragedies – and when we think about whether it's safe to let our child walk to school, we immediately think of them.

A number of parallels of the contextual role of the media in relation to parental fear can be drawn from the broader and more expansive fear of crime literature. Media reporting of crime and victimisation generally

skews the coverage of particular types of crime (such as those involving violence, sex or children) creating a distorted picture of risk exposures and prevalence, which in turn is mirrored in public beliefs and fears (Williams & Dickinson, 1993). The fact that crime is newsworthy and therefore highly reported in the media has been blamed for people over-estimating the risk of being victimised (Grabosky, 1995). In Williams and Dickonson's 1993 empirical study, fear of crime was highest among readers of the newspapers reporting the most crime (particularly involving personal violence) and in the most salient fashion (such as visually and stylistically).

Certainly the existing formula for news reporting and its emphasis of the grim and fearful are not likely to be worthy candidates for intervention. However, the media is a tool to be used. Deliberate strategies to address parental and community fear could include social marketing, targeting the unpaid media, community service and civic journalism, and the specific development of a 'media literacy' approach aimed at improving and balancing reporting and addressing unintended effects.

Beyond this, more reporting of positive messages illustrating how people and communities tackle the 'fear factor' and obtain positive outcomes for child activity and independent mobility would be good to see. Such stories will, however, be fleeting images in the barrage of daily news.

Social marketing

Social marketing might be considered in addressing both parental fear and concerns about falling rates of child activity and independent mobility. Getting the message and call to action correct, and the market segment defined, would be key tasks here (see addressing gaps in knowledge below). A targeted search of the literature and the web did not identify any significant social marketing specifically targeting this issue. The *Free Range Kids* initiative (Skenazy, 2009) addresses some aspects of independent mobility in the context of 'over parenting', but specific social marketing strategies targeting the causal relationship between parental fear and anxiety and restrictions to child activity and independent mobility were not identified. The beyondblue depression initiatives and *Freedom from fear: campaign against domestic violence* are both examples of complex issues tackled effectively through public education and communication strategies. Social media has been used on smaller scale also for a number of related issues including walk to school promotions (run in various states), child friendly communities (see, for example, National Association for Prevention of Child Abuse and Neglect NAPCAN) and the Western Australia's National Heart Foundation's *Unplug and Play* program that, in part, uses radio and distribution of materials to parents through schools to modify home rules and practices relating to hours of TV viewing.

Targeted unpaid media

Often underutilised, targeted unpaid media can be a valuable component of a multifaceted intervention. The proactive generation of unpaid media and publicity to reframe the way in which the community regards mental health is an example (Mentally Healthy WA, 2009). Examples include assisting health, school, parent and other groups to 'localise' press releases and advocacy stories; utilising letters to the editor or talk back radio as avenues for generating public discourse around parental fear and its consequences; positive media coverage of 'good news stories' relating to sense of community and people looking out for children.

Civic journalism

Always vigilant to any encroachment upon their independence or freedom, journalists are notoriously sensitive about initiatives seen to restrict their freedom or range of action. Still, there have been some notable exceptions to this. Codes of conduct do exist and in recent times good progress has been made in increasing journalists' range of reporting in matters to do with suicide (for example, discouraging identification of the means of death, avoiding glorification or romanticisation of the act), vilification (a legal offence), and in mental health more broadly ('has, or suffers from, schizophrenia' as opposed to 'is a schizophrenic'). It may be worthwhile to engage in dialogue with journalists about the nature of the problem of parental fear, community efficacy and the role of the media more widely. To what extent is the media profession aware of the issue and the role it potentially plays in exacerbating such fear? While our internet searching for media commentary on the consequences of parental fear was not able to be exhaustive within the scope of this review, it does appear that there has been a more active media and social commentary discourse (both in media editorial and via web-based and topical book mediums) around the topic in the UK, the US, and within the Australian media.

Sport and recreation sector determinants and suggested actions

Strategies and interventions to reduce parental fear and/or increase children's independent mobility need not have these as their primary objectives to achieve results. The sport and recreation sector offers a natural countervailing opportunity for activity and mobility. Notwithstanding the need for developmentally safe sport and recreation facilities and activities, sport and recreation create critical opportunities and identifiable

destinations for children and young people. Many of these opportunities offer structured and supervised sports and organised social events – these address many of the concerns that underlie parental fear.

Promoting engagement with the natural environment

As noted above, modifications to the built environment occurring for other reasons can nonetheless contribute to these desired outcomes. Similarly, there are a number of campaigns and programs that offer some synergistic opportunities, and may merit supporting or collaborating. One such synergy pertains to the growing interest and activity internationally (for example, the *Children and Nature Network*) and in Australia (such as aspects of healthy parks, healthy people, see Centennial Parklands, 2009) about reconnecting children with nature. Indeed, Richard Louv (2008), who coined the term ‘nature deficit disorder’ in reference to the diminishing contact with nature in modern childhoods, referred to parental fears about strangers as one of the biggest barriers to children’s contact with nature in a recent conference presentation. As Louv acknowledged, there is no easy solution; parental fear is a reality and we can’t ignore or be too dismissive, but rather need to work around this reality.

For instance, few children today will be allowed the same unsupervised freedoms of past generations. There is though, a growing momentum in the US for parents and families to meet up with other families or neighbours at parks or to explore natural settings. Thus, while still accompanied by adults, the presence of other children or more people at the park can prompt some parents to relax, resulting in a semi-structured way to achieve unstructured activity and play. Many of the suggestions in the *Children and Nature Network’s* toolkit for nature clubs (http://www.childrenandnature.org/downloads/NCFF_toolkit.pdf), while focused on nature, are also about normalising outdoor activity and social connections, and may have positive ripple effects for community cohesion and perceptions of collective responsibility and safety.

A final example of an existing intervention domain that has synergies with parental fear reduction and independent mobility are the various iterations of child-friendly places. Internationally this includes *Child-Friendly Cities*, which recognises the importance of independent movement and children’s access to public space (UNICEF, 2009). Unfortunately however, the policy and health impacts of this initiative remain unstudied, and the impacts on children’s independent mobility or on fear and safety perceptions are unknown (Whitzman, 2007). Within Australia, there is some encouraging momentum gaining around child-friendly spaces, including the *Child Friendly by Design* project being implemented as part of *Healthy Cities Illawarra* (<http://www.shellharbourkids.com.au>) and the *Built4Kids* guidelines recently produced by the NSW Children’s Commissioner based on consultation with young people themselves (<http://kids.nsw.gov.au/kids/resources/publications>).

Addressing gaps in knowledge and practice

A steady theme in this work is the call for more research. This includes the need for the development of better measures as well as studies of what parents and children actually think and do.

Measuring and monitoring parental fear

Measures of fear tend to have a high level of social desirability bias and may overestimate the extent of the problem. There is a need for measures that put stranger fear in context of other parental fears and anxieties, and more direct development of knowledge about what will allay parental fears. Certainly there is no consistent time series measurement of trends in parental fear and attitudes and behaviours underpinning these fears, much less the consequences of parental fear. Good quality item development supported by focus group and cognitive testing would be a notable progression.

Addressing parental expectations and beliefs

The most proximal link between parents and their children’s activity is the link between parental expectations and beliefs about the security of their children and the impact this has on parental behaviours to restrict child activity and independent mobility. There is a surprising lack of qualitative and quantitative evidence of parental fear for their children’s security. Moreover, there is no specific work canvassing parents, neighbourhood groups, community organisations and leaders for their views on fear as a restriction of children’s activity and independent mobility. Nor has there been consultation with parents as to whether parents feel this is a problem and, if it is, to canvass solutions or actions to address this. In short, there is a considerable need for parental and community consultation, focus group work, and synthesis about the nature of the problem, to establish whether parents and communities see this issue as a problem.

Including the views and experiences of children

The review of literature identifies factors that facilitate and hamper children’s independent mobility and outdoor autonomy. However, as noted by Prezza et al. (2005), less is known about the positive influences or

processes through which such factors exert their influence. If there is a lack of any direct engagement of parents and communities on the issue of fear as a restriction to child activity and independent mobility, there is almost complete silence on children's reported experiences and their views of what they would like and how this problem might be addressed. Within Australia, some local efforts have been made to consult with children about their experiences of and needs for 'child friendly' spaces (Malone, 2008; 2007; 2006). Both qualitative and quantitative methods directed at children, and involving them at the outset in the design and content, produce relative consensus on what children value with respect to the environments in which they live. This includes: greater quality in the outdoor environments with opportunity to interact with nature and animals; affirmation that parks and playgrounds 'matter' to them; and the assertion that play – creative, physical and passive – was needed and important. Critically, these interviews and survey findings also noted that children expresses uncertainty about why 'they can't go out' or over-generalised concern that they might get 'killed, hurt, or kidnapped' if they were to venture out (Malone, 2008; 2009).

Sustainability studies

Establishing sustainability is one of the challenges in efforts to promote children's active transport. Little is known about how best to recruit and retain walking bus leaders and local champions. There are also gaps in the evidence base relating to the evaluation and relative efficacy of active transport interventions. A 2009 National Institute for Health and Clinical Excellence (NICE) review identified evaluation, implementation fidelity and long-term follow up of outcomes as areas of weakness across the published intervention literature relating to promotion of physical activity in family, educational and community settings. These research and evaluation considerations need, therefore, to be taken into account in any future interventions seeking to allay parental fear and safety concerns as a mechanism for increasing children's mobility.

Summary and conclusions

Current evidence on the causal relationships between parental fear of strangers and reductions in overall child physical activity and independent mobility raises more questions than it answers. Face validity of this claim is high, interest in it broadly popular, but firm estimates of effect are absent. Qualitative studies generally proliferate, many being of very good quality. Quantitative studies examining this causal relationship are absent. Instead, only portions of this causal pathway are on view: specifically, estimates of changes in child physical activity and estimates of changes in levels of community cohesion and social capital – although these latter estimates are not always in the direction supportive of a causal relationship. With this in mind, what can safely be said?

Parental fear of strangers as a motive that restricts child independent mobility and activity has several *potential* sources. Very importantly, even where actuarial estimates of risk yield excessively low probabilities of harm or threat to children by strangers, making parental fear of strangers irrational, it is unlikely any appeal to this logic would persuade parents to believe, much less behave, otherwise. Simply put, there is no turning the clock back to the 1950s. Nonetheless, there are some broad brush conclusions highlighted here.

The broader contextual drivers of parental fear for their child's security are at the societal and community level rather than the individual level. These contextual drivers arise from fundamental changes to the form and pattern of family life. Requirements and desires for two incomes, demands for extended saving for later life, and aspirations for a higher standard of living have resulted in fundamental changes to where children spend time and under whose care they spend it.

There are counterproductive messages driving community awareness about strangers and security when these are considered alongside messages that might be developed to target parental fear of strangers.

Significant opportunities are needed to engage in community discussions and problem solving about the issue of parental fear for the security of their children and the impact this fear has upon child activity and independent mobility.

We know very little about what children think or want regarding their mobility and even less about their fears.

The existing, and slender evidence base suggests *investments may be appropriate in the following areas*:

- Establishing built environment and transport initiatives to support family and community ownership and high use of local walkways, recreational and leisure spaces, and to encourage practical movements between commercial and residential areas (getting people out and about).
- Wider programs to encourage environmental use and engagement with the environment.
- Engagement with local government, sport and recreation, and town planning in which child activity and independent mobility are identified as goals.
- Aligning activity with initiatives designed to build social cohesion.
- Specific commissioned research including 1) qualitative studies of parental beliefs and attitudes about fear of strangers where this pertains to the safety of their children and restrictions in their independent mobility and activity; 2) specific consultations with parents and community leaders about the nature of this problem and their views about what would effectively address aspects of this; 3) routine survey monitoring of parental fear and associated behaviours along with measures of actual activity levels and physical and mental health markers in children.
- Development of a media strategy based upon results from consultations and research and structured through the principles and practices of social marketing.

While more robust evidence of an association between parental fear and child independent mobility and activity is needed, we do not believe that what is available is of such poor quality to effectively halt any action. What is now needed is leadership in this area.

Accordingly we would encourage VicHealth to proceed to work on an evidence based framework and associated resource to enable some of the above investments to take place.

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