

Using walk-recordings and images: How Students experience safety in a city centre

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Abstract

This paper reflects on using self-recorded walk and auto-photo-elicitation as qualitative methodological components in studying students' sense of safety at night in a Central Business District (CBD) area of a regional city in Australia. This paper documents the use and potential of self-recorded walks (SRW) auto-photo-elicitation based on a study on sense of safety at night in a city centre. Fifteen domestic and international students participated in the self-recorded walks, taking photos while they walked alone at night in selected sites. Participants made comments into hand-held voice recorders while walking as well as capturing scenes to express feelings of personal safety about their environment. The paper confirms the value of self-recorded walking and auto-photo-elicitation approaches as tools beyond traditional interviews and surveys to understand feelings of fear or safety associated with environmental and social clues in the urban fabric. The paper also documents achievements and constraints encountered by researchers/investigators in carrying out field research of this kind.

Keywords: CBD, auto-photo-elicitation, self-recorded walk, sense of safety, students

Introduction

Self-recorded walking (SRW) and auto-photo-elicitation both require research participants to record thoughts, feelings and/or visual features into a hand-held recorder or camera as they walk in an area, with the intent of discussing these recordings with the researcher. SRW and auto-photo-elicitation have been employed in empirical studies in the areas of planning, urban design, visual anthropology and visual sociology and these methods have certainly broadened conventional empirical research practice. However, little is known about their usefulness and challenges in real-life urban studies. The aim of this paper is to reflect on using self-recorded walk and auto-photo-elicitation as qualitative methodological components in studying students' sense of safety at night in a Central Business District (CBD) area of a regional city in Australia. This paper informs the use and potential of SRW auto-photo-elicitation to understand of the effect of different environmental features on individuals' perceived safety. The paper also informs achievements and constraints encountered by researchers in carrying out field research of this kind.

Related literature

In the last few decades, participatory research studies such as self-recorded walks, and auto-photo-elicitation have been used to understand social and physical conditions that impact on the daily life of individuals (Harper, 2010; Kaplan, 2001; Nasar and Fisher, 1995; Nasar and Jones, 1997). These methods are associated with phenomenology because SRW comments and photo images attempts to record the immediate subjective experience of people in different places at particular times for later analysis and interpretation (Seamon, 2000). Fear and sense of safety are emotional states contribute to the experience of places, and triggering of these states and experiences are often associated with environmental clues and social determinants. Giving cameras and hand-held voice recorders are only two methods of recording people's experience and perspectives on a given topic such as feelings of individuals' personal safety. There are other methods to investigate people's fear of crime or sense of safety such as surveys and word only interviews. But why tape recorders or images? What are their advantages? Is it possible to capture the nuance of scenes that are associated with feelings of fear? Could the walk-talk recordings and images serve to understand fear generating factors? Likewise many questions arise

when researchers attempt to employ these qualitative methods (Nasar and Jones, 1997; Yates, 2010).

Self-recorded walks can be used as tools to investigate the both subjective and objective ratings of the environmental features, spaces and places in relation to participants 'perceived safety from crime, or alternatively, their perceived pleasure or accessibility of the sites. In SRW, participants usually walk in chosen routes or sites and make comments into a hand-held voice recorder. Participants can be asked to comments on their experience on the walk: like/dislike, enjoy/ do not enjoy, safe/unsafe and how different features influence their environmental experience (i.e., walkability or safety) (Brown, Werner, Amburgey, and Szalay, 2007). Self-recorded walks allow participants to reflect on places and everyday actions as they occur and capture participants' original and immediate feelings about the topic under investigation; this same quality of data which cannot be properly elicited from quantitative methods and interviews. Likewise, a survey cannot properly investigate participants' 'feelings of fear or safety within a place or detailed descriptions of participants' sense of safety or their assessment of the environmental features that generate fear, as surveys are based on memory rather than the 'in-the-movement'. Therefore, the SRW method offers a freedom to feel, think, express as one wishes, and uninterrupted lengthily reflections on topics which participants may find hard to explain or that makes them uncomfortable or embarrassed. Discussions on actual field experiments and photos on a fear of crime study, Warr (1990, p. 905) suggest that 'it is certainly not possible to fully capture variety and nuances of different features of the environmental settings without the use of photographic reproductions of scenes or better yet, actual field measurements.'

In auto-photo-elicitation, participants are asked to take photos and describe photos from their perspective. Generally photo-elicitation studies use photos to represent subjectivities that are embodied through the framing of events that occurred in the life times of participants, and depict intimate dimensions of social life. Furthermore, auto- photo-elicitation have been used to categorise quality of housing (Collier, 1957), to understand how urban residents transform urban neighbourhoods based on their own identities and social locations, to reflect patterns of strategies over the time and changes (Harper, 2002), and to understand culture, memories associated with places and people and meanings of every day actions (Samuels, 2004). In comparison to data gathered from surveys and word-only interviews with the data gathered from auto-photo-elicitations, images produce more 'concrete' information through the material evidence that the photo provides and the discussion it supports. Photos tend to relieve the strain of being questioned, sharpen the interviewee's memory, reduce areas of misunderstanding, and initiate a rich discussion (Collier, 1957). Similar to SRW, auto-photo-elicitation is participatory in nature and therefore it empowers respondents to document and reflect on the phenomena under study.

While it is valuable to highlight the benefits of SRW and auto-photo-elicitation, it is equally important to note technical and practical limitations of these methods. In this regard, Prins (2010) noted that some studies provide few details of the photographic data analysis process and describe a romantic vision of the changes and transformation. SRWs or photo process may lead to outcomes unforeseen or unrelated to the research objectives as participants have the control over it (Lamas and Pascual, 2013). These methods also produce ethical issues about taking photos of sites and persons without consent, personal security and confidence of respondents (Allett, Keightley, and Pickering, 2011). There is an issue of confidence involved for some people when speaking alone to a recorder. It is also important to build rapport with the respondents, communicate fully in advance with them on what they need to do, what would like them to cover, and how to use cameras and voice recorders (Samuels, 2004).

This paper is about the value of SRW and photo-elicitations as qualitative methodological components in studying students' fear of crime or sense of personal security. The next section of the literature will provide a briefly discussion of both environmental clues and social clues as symbolic objects related to fear of crime.

Sense of safety and environmental clues

Environmental clues affect sense of personal security of individuals when walking alone at night in urban settings. Many case studies found that sense of safety or fear of crime is associated with environmental conditions such as enclosure, visibility, lighting, activities, escape routes and density of people (Jorgensen, Ellis, and Ruddell, 2012; Nasar, Fisher, and Grannis, 1993; Nasar and Jones, 1997; Petherick, 2000). The results presented in this paper from a recent research by the author, focuses on Appleton's Prospect and Refuge Theory which analyses the association between environmental clues and fear of crime. In this context, Appleton (1975) assumes that one's ability to see (prospect) without being seen (refuge) increases perceived safety. Based on this theory, Fisher and Nasar (1992) proposed a safety model and they argued that areas of large amount of refuge (concealment for attackers) and minimal prospect would provoke the highest degree of fear among students in a campus setting.

To further the work of Nasar and Fisher (1997), the research participants took their own photos and voice recordings in the author's study, rather than the researcher as occurred in previous studies (Fisher and Nasar, 1992, Jorgenson, Ellis and Ruddell, 2012). The participants recorded their feelings on sense of safety in selected sites in the Bendigo Central Business District (CBD) area in Australia. In the study presented here, it was assumed that students would feel less safe in areas characterised by low degree of prospect, high amount of concealment for attackers and low density of activities and people. However, the study participants were not informed about this assumption prior to the fieldwork.

Research context procedure and analysis of SRW and photo data

This study centred on the Bendigo CBD area. Bendigo CBD is located in the City of Greater Bendigo local government area in central Victoria, Australia (see Figure 1). Greater Bendigo is a major regional service centre within the Loddon region in Victoria about 150 kms North West of Melbourne which is the capital city of Victoria. Past research shows that the incidence of crime within the Bendigo CBD was not particularly high compared to the city of Melbourne, however the perception of Bendigo residents was that the CBD area was unsafe particularly at night (City of Greater Bendigo, 2004). In this study, two field surveys were conducted.

Australia



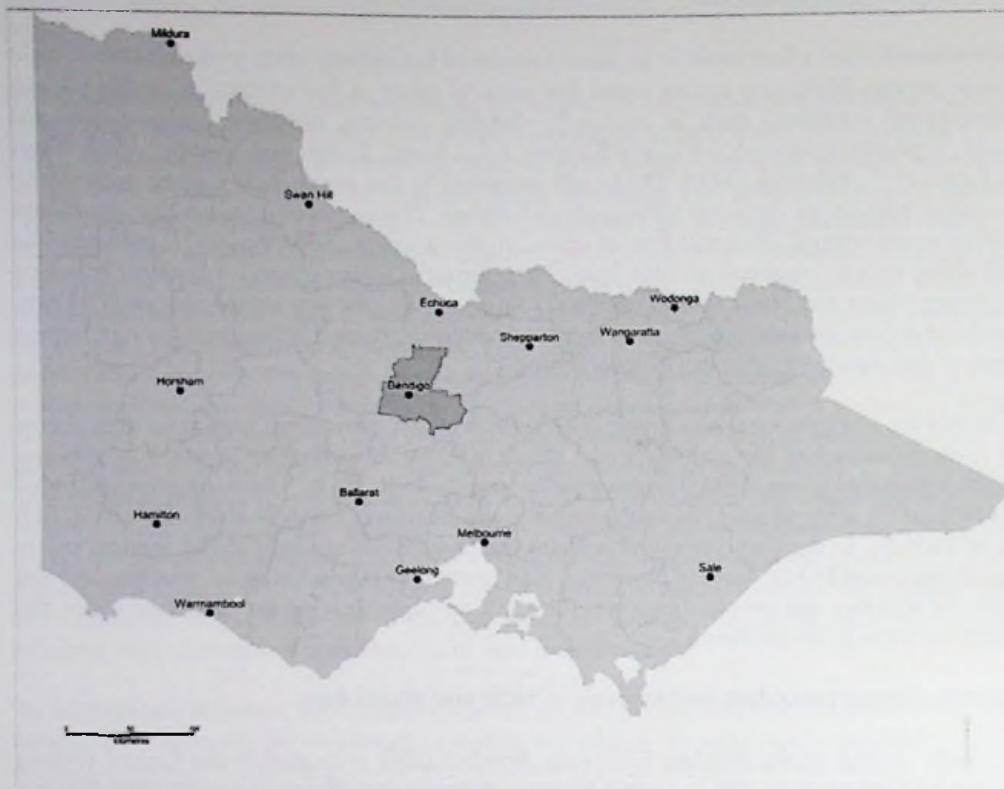


Figure 1: Bendigo in the Regional Context
Source: City of Greater Bendigo, CBD Plan 2005

Field survey stage 1

First, in order to understand the climate of fear or feelings of personal insecurity in the Bendigo city centre area, the study conducted a field study to select areas that provoke fears - 'hots spots of fear'. For this, 12 international Asian students were asked to walk on all the streets in the CBD area at night between 7.30 pm to 10.00 pm on two nights in autumn so it would be dark.

Respondents were given a Bendigo CBD map and asked them to walk alone on CBD streets and circle any sites or areas that they felt to be unsafe. All respondents had spent more than 24 months in the city of Bendigo area and they were familiar with the CBD areas. The Bendigo CBD area is a relatively a small area so that the participants were able to cover the all streets. Prior to the field survey, a training session was organised to explain research expectations, instructions and anticipated security issues while walking alone. The participants were asked to bring their mobile phone as a defensive device in case.

The participants marked areas and sites on the map that they felt unsafe and the location of marked areas were varied. However, by overlapping individual maps on one another and counting frequency of same areas, a fear maps was created with three unsafe areas/sites in the Bendigo CBD area (Nasar et al., 1993). The three unsafe areas were found in St. Andrews' Avenue (Site: A), Hopetoun Street (Site: B) and Edward Street (Site: C). these three areas are shown in Figure 2 and Figure 3.

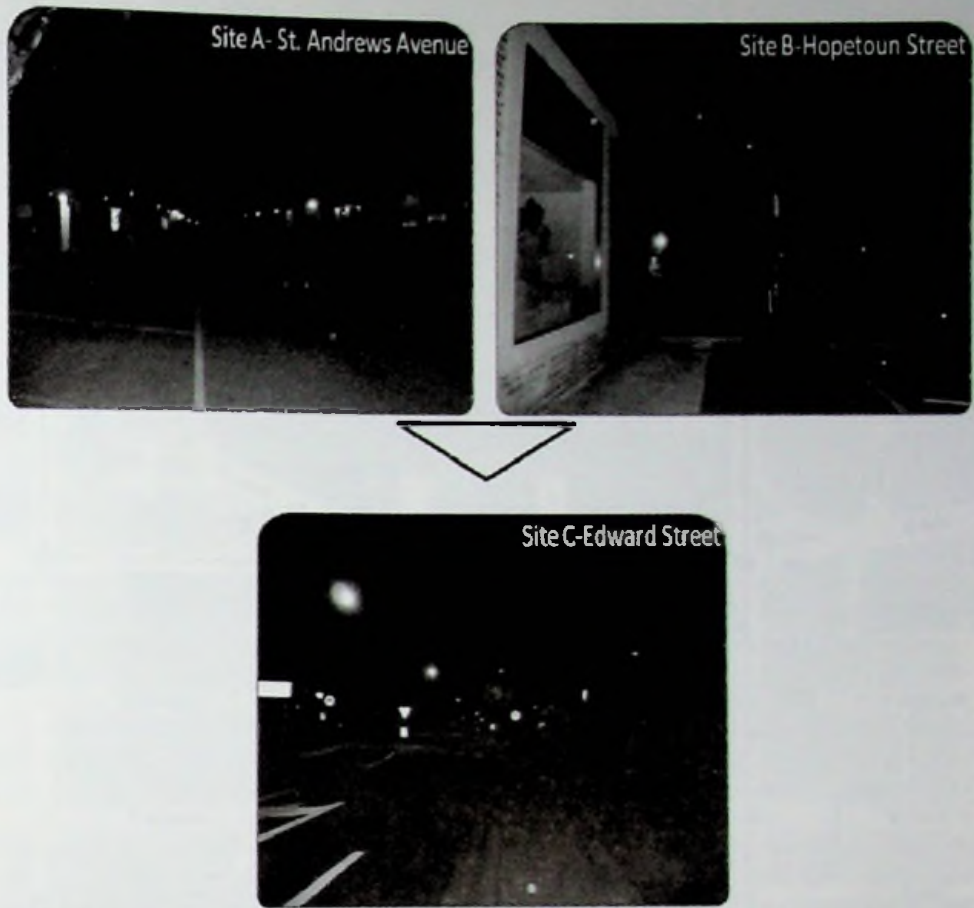


Figure 2: Selected three sites



Figure 3: Selected sites in the Bendigo CBD area

Characteristics of selected sites from the field survey stage 1

Site A: St Andrew's Avenue

This site is positioned in the centre of the Bendigo city area and it is placed in a medium size urban block. St Andrew's Avenue is a wide street with street trees, sidewalks and parking bays. It is a unique area compared to other sites in the CBD as it the majority of the spaces are used for administrative functions. Office buildings, welfare agencies such as Centrelink, Municipal Council building, Bendigo Town Hall and Gold Fields Library are located in this area. These office buildings close after office hours and on weekends, resulting less busy at night. A considerable amount of space is allocated for car parking in this area. These car parks are empty and poorly lit at night. There are no restaurants, retail stores, or any other business activities on this street during the day or at night. These conditions are likely to make some people less secure, anxious, and scared when walking alone at night. Considering planning zones and overlays, this site belongs to Business 1 Zone (B1Z), and the applicable overlays are Design and Development Overlay (DDO5), and Heritage Overlay (HO223). The existing land use and design policies protect open spaces (in the Town Hall area), heritage buildings and ensure the low rise character of the CBD. This area's generous street width makes the city buildings appear relatively low and allows ample sunlight to pavement levels. However, these design policies tend to discourage the construction of slightly higher new buildings (three or four storey).

Site B: Hopetoun Street

This site is also located in the centre of the area under study. The area is not well-lit, lacks street lighting in the middle of the road, and the extensive tree cover makes the street dark. The area also has some unexpected nooks and corners which could be used as hiding places. In relation to land uses, this site is a relatively small urban block with a mix of land use activities. The area comprises service sector activities with government institutions, retail stores and a few houses on one side of the street. The buildings are mostly single storey. Most of the shops are open during the day and close at night. Due to the fact that the office buildings and the shops close after office hours (6.00 pm) and weekends, this street is quiet and less vibrant at night. These conditions are likely to make people feel less comfortable when walking alone at night. The site is positioned in close proximity a residential area and it exhibits transition characteristics. Similar to site A, this site is also located in Business 1 Zone (B1Z) and the key applicable overlays for buildings are Design and Development Overlay (DDO5) and Heritage Overlay (HO223). The land use and design policies indicate that this area will be preserved with existing heritage buildings and character and maintain the role of the area for business activities which support the retail business and residential communities within the city centre area.

Site C- Edwards Street

The site area is generally well-lit at night. However, some areas in the site have nooks and corners, fairly high shrubs and small trees creating darkness and concealment at night. Since the area consists of many car parks, institutional buildings (government offices), and fewer retail shops, the area tends to be quiet and less vibrant at night. In terms of land use activities, the area is predominantly comprised of service sector activities with government institutions and shopping centres. The area (street front) also contains fewer retail shops compared to city Main Street (Pall Mall). A considerable area of land is allocated for car parks. It was observed that this area was used by many pedestrians during the day; however, few used the area at night. Due to the dominance of office buildings, car parks, few retails, and few people, the site area tends to be quiet at night and therefore pedestrians are likely to feel less secure walking at night on this area. Similar to site A and B, this site is also located in Business 1 Zone (B1Z) and the key applicable overlays for buildings are Design and Development Overlay (DDO5) and Heritage Overlay (HO223). The zoning policies indicate that the heritage and existing character (building form and streetscape) of the area is preserved in the future. The policies encourage a mid-height built form that addresses the street frontage and enhances surrounding retail activities in the future.

Field survey stage 2

The second stage of field study involved SRW and auto-photo-elicitations to identify specific environmental features and conditions that participants associated with feelings of unsafety in the sites that were selected in the stage 1. At this stage, an opportunity sample of 15 students was used who volunteered to participate in this study. None of these participants took part in the stage 1 of the field survey. Prior to the field study, a short survey was conducted to obtain participants' personal information. This sample comprised of domestic students (7), international Asian students (8). It also comprised of undergraduates (9) and postgraduates (6), males (8) and females (7), who had spent more than 24 months in the Bendigo city area. None of the participants indicated they had experienced victimisation in the Bendigo CBD area. Each participant was taken to the field on a separate occasion for night-time SRWs and photos.

Even though it was expected to take 45 minutes for each participant to complete SRW on each day, it took about 90 minutes. This is due to some slow walk patterns involved in each site as the participants had to make observations while taking photos. The participants also took many pictures though they were asked to take one photo of each place. Further, auto-photo-elicited interviews were much longer than was anticipated. Nevertheless, SRW and photo comments provided a rich description of what participants considered as unsafe.

In order to prepare the students' SRW and auto-photo-elicited comments for the analysis, the digital recordings pertaining to each site were transcribed word for word immediately after every walk. Participants made a total of 313 comments in relation to all sites. As mentioned previously, instructions were given to respondents to comment on sense of safety of each site and the features that made them safe or unsafe. Content analysis was used to analyse comments to identify variations of safety in relation to the selected three sites. The next section will discuss how these qualitative field methods facilitated to identify spatial variations of safety and environmental features that made participants feel safe and unsafe.

Spatial variations of feelings of safety and environmental features that generated feelings of unsafety

SRW and auto-photo-elicitation methods allow participants to experience the site and provide judgements of different sites in relation to safety. Participants' comments indicate that sense of safety varies according to sites. As shown in the table below, the majority of respondents identified St. Andrews Avenue (80%) and Hopetoun Street (53%) as sites that induced a sense of insecurity or fear. The respondents' comments indicated that a considerable proportion of respondents (33%) felt less safe in Edward Street. Findings also show that both Asian males and Asian female students tended to feel less safe or very unsafe than domestic students. For instance, in St. Andrews Street, as many as 87% of Asian students felt unsafe compared to 71% of domestic students. This analysis shows that the participants were able to make some emotional assessment in relation to safety with these field methods.

Table 1: Level of Safety in Selected Sites in the Bendigo CBD at Night

	Site A Edward Street	Site B Hopetoun Street	Site C St. Andrews Avenue
	%	%	%
Most safe	13.3	0	0
Safe	53.4	46.7	20.0
Less unsafe	33.3	53.3	46.7
Unsafe/Very unsafe	0	0	33.3

Participants' SRW and auto-driven photo-elicited interviews provided judgements of different sites as well as provided rich descriptions with which to understand the specific features that made participants feel unsafe. Descriptions of St Andrews Avenue and Hopetoun Street sites demonstrate, the methods used for this research allow a more nuanced and richer recording of participants' views and experiences of the site in relation to safety. The images allow researchers to examine the space more carefully in the photo, and provide an exact location to revisit for further observation and analyses. For example, as the SRW and photo comments of St Andrews show, participants made descriptions on intertwining aspects of physical and social features such as prospect and concealment, people and activities in relation to safety:

'I can't see any one, this is Bendigo CBD, and I can't see any one even though I am in CBD. So at night this is like a ghost town'. (Asian, male)

'when walking alone this street and specially, I feel uncomfortable may be due to quietness... not many people' ...The quietness is the issue.' (Asian, male)

'I am walking up in St.Andrews Avenue. It is very dark and quiet. As next to the trade link there is a car parking area that is also very dark to or lights, trees in that car park make that very dark and again empty and Not very safe.' (Domestic, male)

'.. there are lots of places where people could jump out. Hope that won't happen today. But still don't feel as walking on my own.' (Domestic, female)

'there is a lot of nooks and corners, lots of trees and bushes, alleyways , gates, even though this just council office just over here, I am not feeling comfortable going here.' (Domestic, male)



'It shows just path. Nothing much you can see. Because less street lights. I feel safer if I use another major street down there.' (Domestic, female, who also took the photo)

Figure 4: This photo shows quietness, darkness and hiding places for potential attackers in St. Andrews Avenue



SRW and photo descriptions facilitated participants to experience site features that made them feel safe or comforting when walking alone at night in the CBD area. As the site descriptions indicate, feelings of safety were associated mainly with a high degree of prospect. The participants' comments also highlight that feelings of safety are associated to a lesser extent with signs of humans (i.e., cars), familiarity and landmarks (i.e., vista). One participants' photo description is presented in figure 5 below:



'Even though it is well lit, still like a ghost town. It's bit creepy. Yeah I do not know how safe here every day and would not come here in the at 2'clock in the morning. But definitely seeing land marks that I know, I feel bit safe. Like sacred heart cathedral, having that in the distance I can see that little spot on the middle, yeah that really comforting, just know where you are then you do not feel like you are getting lost.'(Domestic, male, who also took the photo)

Figure 5: This photo shows a well-lit quiet site in Edward Street, but distance vista/land mark structures make respondent feel safe

The data derived from these field methods indicate that, in addition to prospect, concealment and presence of people, participants made comments related to other environmental clues, albeit not as many. Participants noted certain design features that made them feel safe. When walking alone at night, participants commented on appearance of well-maintained landmark buildings improved their feelings of safety. As the participants indicated, some of the tall iconic buildings such as Bendigo bank and the Sacred Heart Cathedral act as vista. These distanced vistas in the city centre tended to improve spatial confidence of participants as such features enhanced navigation in the city centre at night.

Discussion

Looking at SRW and auto-photo-elicitation comments, it appears that these tools facilitated an understanding of spatial inequalities in relation to feelings of safe or unsafe insecurity in the CBD area. These tools also provided rich descriptions for understanding environmental clues and nuances that generate feelings of safety or fear in an urban setting. It also appears that this type of methods offer a check and balance for assessing proposition, and also facilitates discoveries. The next paragraph will further reflect on the benefits of SRW and auto-photo-elicitation in this study.

It appears SRW and participants' photographs provided opportunities for participants to explore real-life conditions associated with a sense of fear and of safety in a familiar urban fabric. Using SRW and auto-photos participants explored the naturalistic environmental conditions, and these tools facilitated the capture of participants' immediate emotions or feelings at the assessed sites. It is believed that word-only interviews or surveys to certain extent provide data about past memories and spark reflections about safety, fear and victimisation. This kind of real experience cannot be elicited from other tools such as surveys or word-only interviews. Therefore these field methods would be beneficial for future researchers wishing to explore mundane practices, every day remembering (Allett, Keightley, and Pickering, 2011), symbolic meaning of actions, objects or spaces (Samuels, 2004) and reflective considerations of places.

One important aspect of these field methods relates to free expression. Participants had the freedom and liberty to record their feelings, thoughts and impressions without disruptions from the interviewer and consequently they produced data as they wished. In many ways, the participants controlled the process once the researcher provided the instructions prior to the field survey. Since the participants walked alone and took images on their own, the participants were provided the time to reflect on what they considered to be important to them without the guidance of the researcher. In this way, the participants made comments and pictures without the researcher's influence; this approach essentially challenges the traditional hierarchical relationship between researcher and the researched as these tools enable ordinary people to air and represent their views through their own eyes. This was evident as reference to one of the participants' SRW comments reveals:

'So I am walking down this street in Bendigo. It seems really well lit which is a good thing. That building over there is incredibly ugly. Probably can't see on the recording, I don't know if you can see it on the recording, but, one thing I really notice is how like a ghost town around here at this time of the day. Even though it is well lit, still like a ghost town. It's bit creepy. Yeah I do not know how safe here every day and would not come here in the at 2'clock in the morning. But definitely seeing land marks that I know I feel bit safe. Like Sacred Heart Cathedral, having that in the distance I can see that little spot on the middle, yeah that really comforting, just know where you are then you do not feel like you getting lost....'(continues) (Domestic, male student) check and make sure you transcribed accurately if you can

The data derived from SRW's particularly tended to spark memories in relation to participants 'past life and practices'. This method often provided participants opportunities to explore similarities and differences in relation to safety. Therefore, it seems the SRW method is useful for studies that aim to disclose memory and comparisons. Memory needs to be narrated and consequently elicitation tools such as auto-photo-elicitations can be used as clues and a guidance tool for a rich discussion on the topic. Some comments regarding past memories and comparisons include:

'I feel comfortable to walk alone this area. But little bit quiet. As not many cars around here, not many people, although big buildings office around here. In comparison to my country most of the city areas have lots of people. This is

different to my country city spaces, completely different, we have narrow streets not big as here. I used to environment where people, lots of people, and now I come to very quiet. I feel a little bit comfortable to walk alone here.' (Asian, male student)

'So this is Hopetown Street. At this stage, I feel not safe as the other streets. Because it is of shadows and still dark. I can see little bit of light here and there.' (Domestic, female student)

Auto-photo-elicitation particularly appears to be a useful research method to bridge the gap between researcher and the researched. In word-only or sit-down interviews, the interviewer faces communication challenges with the interviewees (Harper, 2002). This is very true if the researcher conducts interviews with people in a different country who speak a different language/s and have a different culture. In this study, prior to the field work, the researcher being an outsider who spoke English as a second language with an Asian background and without much cultural literacy about the Australian way of life in a regional city context assumed that it was quite challenging to communicate with domestic students (Australian born) and lead the discussion on the topic. Auto-photos proved an important tool for bridging the communication gap as the photo facilitated discussion. It also appears that images also facilitated Asian students to better explain their reflections. This is evident when the researcher asked an Asian participant about his reflections on one of his SRW. In this instance, while reflecting on what made him uncomfortable to walk in this particular street, he referred to his photo as follows: 'This photo tells me everything what I told: vacant spaces and quietness'.

Another important potential showed in this study was that auto images tended to make the field research interesting. It was expected that each SRW and images would be completed within 10 minutes. The participants were asked to capture one image in each of site. However, the participants volunteered to take 3-4 pictures in each site and they wanted to explain why they took each and every photo. Therefore it took about 30-45 minutes to complete the discussion on each site. It was also noticed that due to the participants' interest in the images that they took, photos facilitated focused attention on the topic and elicited more information.

Although SRW and auto-photo-elicitation have many advantages in field research, it is important to highlight the challenges of these methods that future researchers may encounter. In this study, due to ethics requirements, the participants were informed that this study was about sense of safety. This may have led the participants to focus their attention on safety or fear concerns more often than would others under similar environmental conditions in the Bendigo CBD. This is a limitation to naturalistic studies (Nasar and Jones, 1997). In this study, in order to overcome this situation, the participants were asked to comment on more than clues that make them feel fear, unsafe and safe; they were also asked what they generally think about the setting.

Another potential challenge for researchers who wish to use these methods is that researchers have to expect unexpected environmental conditions that may disturb the field study and validity of the results. Such conditions cannot be avoided when researchers study real situations using tools of this nature. In this research study, when one SRW was about to commence, the researcher came across a roadwork scene in one of the sites and this site is usually a very quiet and poorly lit area. On this particular day, the researcher avoided the SRW in this street as it did not represent the real condition of the location. On another day, when an Asian male student was walking alone in a street, a drunken gang of boys suddenly parked their car in front of the participant and shouted at him. It was totally an unexpected situation and it was also intimidating. The participant was dumbfounded and consequently the field survey was delayed for some time until he was confident enough to walk alone. This highlights that the researchers need to anticipate that there might be events and environmental conditions that cannot be controlled.

A further challenge associated with the above-mentioned conditions, is that the researchers need to consider the security and safety concerns of participants when using tools of this kind at night. This is a limitation with regard to being prepared for adverse situations and for capturing the

real emotions of participants. Participants may not be very confident to walk alone while observing their surroundings and recording their views. In this study, when the participants walked alone, some commented: 'I want to pass this area as quickly as possible.' The researcher found that many (i.e., Asian females) were reluctant to participate in this study due to security concerns. It is believed that walking with another person, security person or police officer may improve the personal security of participants in the case of being attacked or experiencing threatening situations, but walking with someone else may not accurately reflect the participant's real emotions pertaining to the setting. In this study, in order to improve and address the security concerns of the participants, the participants were informed that the researcher would be following from a distance to ensure their safety. Further, this study employed an Asian female research assistant to improve the confidence of Asian females when Asian females walked alone in the sites.

Another challenge of these tools is that the participant may provide information that is irrelevant to the topic and they may not follow the instructions. As mentioned previously, when in the field, the researcher cannot influence or intervene in the process and the participants have freedom to comment on, or take photographs of whatever he or she wishes.

It could be helpful to future researchers to consider some other practical and technical considerations when using SRW and auto-driven photo-elicited interviews. It was found that it was useful to provide instructions relating to how to use voice digital recorders and cameras and how to change batteries. It may be useful to provide an extra voice recorder or camera. It is useful to ask respondents to bring mobile phones with them. Researchers also need to make arrangements with regard to time frame and collection of participants: how to pick them and drop them to home after the field survey if they do not have their private transport modes.

Concluding remarks

The reflections on using SRW and auto-photo-elicitation presented in this paper from a section of a recent research by the author, focuses on the association between environmental clues and fear of crime among students at night in a Central Business District (CBD) area of a regional city in Australia. In this paper, the achievements and constraints and the lessons learnt from SRW and auto-photo-elicitation as qualitative methodological components in studying students' sense of safety were documented.

Traditionally, questionnaires and word-only interviews have been mainly employed to investigate sense of safety issues of people in many parts of the world. The data derived from questionnaires do provide enormous amount of quantitative data as well as qualitative data. Questionnaires and interview data is useful for making correlations with variables that provoke fear or safety and for testing hypothesis. The findings of this study confirm that there are alternative ways to investigate differing spatial inequalities in relation to fear of personal security. SRW comments and auto-photo-elicitations also confirm that these methods facilitate researchers' understandings of the effect of different environmental features on individuals' perceived safety. Despite the practical challenges and constraints encountered, it is acknowledged that these methods provided qualitative data for describing and documenting participants' sense of safety and their spatial reference. The study findings indicate these methods are useful in studies that are empirical and phenomenological. It may be beneficial for researchers to employ these qualitative methods as such data may add strength and reliability to survey and conventional interviews.

References

- Allett, N., Keightley, E., and Pickering, M. (2011) *Using self-interviews to research memory*. Manchester: The University of Manchester.
- Appleton, J. (1975) *The experience of landscape*. London: John Wiley.

- Brown, B. B., Werner, C. M., Amburgey, J. W., and Szalay, C. (2007) Walkable route perceptions and physical features: converging evidence for en route walking experiences. *Environment and Behavior*, 39(34), 34-61.
- City of Greater Bendigo. (2004) *Entertainment precinct working group findings*. Bendigo: City of Greater Bendigo.
- Collier, J. (1957) Photography in anthropology: a report on two experiments. *American Anthropologist*, 59(5), 843-859.
- Fisher, B., and Nasar, J. L. (1992) Fear of crime in relation to three exterior site features: prospect, refuge and escape. *Environment and Behavior*, 24(1), 35-65.
- Harper, D. (2002) Talking about pictures: a case for photo elicitation. *Visual Studies*, 77(1), 13-26.
- Harper, D. (2010) Talking about pictures. *Visual Studies*, 17(1), 13-26.
- Jorgensen, L., Ellis, G. D., and Ruddell, E. (2012) Fear perceptions in public parks: interactions of environmental concealment, the presence of people, and gender. *Environment and Behavior*, xx(x). doi:10.1177/00139165124466334
- Kaplan, R. (2001) The nature of the view from home: psychological benefits. *Environment and Behavior*, 33(4), 507-542.
- Lamas, C., and Pascual, R. (2013) Let me put it another way: methodological considerations on the use of participatory photography based on an experiment with teenagers in secondary schools. *Qualitative Research in Education*, 2(1), 98-129.
- Miles, M. B., and Huberman, A. M. (1994) *Qualitative data analysis: an expanded sourcebook*. London: SAGE.
- Nasar, J. L., and Fisher, B. (1995) Fear spots in relation to microlevel physical clues: exploring the overlooked. *Journal of Research in Crime and Delinquency*, 32(2), 214-239.
- Nasar, J. L., Fisher, B., and Grannis, M. (1993) Proximate physical cues to fear of crime. *Landscape and Urban Planning*, 26(3), 161-178.
- Nasar, J. L., and Jones, K. M. (1997) Landscape of fear and stress. *Environment and Behavior*, 29(3), 291-323.
- Petherick, N. (2000) Environmental design and fear. *Western Geography*, 10(11), 89-112.
- Prins, E. (2010) Participatory photography: a tool for empowerment or surveillance? *Action Research*, 8(4), 426-443.
- Samuels, J. (2004) Breaking the ethnographer's frames: reflections on the use of photo elicitation in understanding Sri Lankan Monastic culture. *American Behavioral Scientist*, 17(12), 1528-1549.
- Seamon, D. (2000) A way of seeing people and place: phenomenology in environment-behavior research. In S. Wapner, J. Deminick, T. Yamamoto and H. Minami (Eds.), *Theoretical perspectives in environment-behavior research* (pp. 78-157). New York: Plenum.
- Spencer, L., Ritchie, J., and Connor, W. (2003) Analysis: practices, principles and processes. In J. Ritchie and J. Lewis (Eds.), *Qualitative research practice*. London: SAGE.

Warr, M. (1990) Dangerous situations: social context and fear of victimization. *Social Forces*, 68(3), 891-907.

Yates, L. (2010) The storey they want to tell, and the visual storey as evidence: young people, research authority and research purposes in the education and health domains. *Visual Studies*, 25(3), 280-291.