The Cultural Self: Experiments investigating self-awareness and self-disclosure in computer-mediated communication

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ABSTRACT

This thesis presents a series of cross-cultural experiments, which investigate the role of self-awareness on self-disclosure in computer-mediated communication (CMC). The thesis is split into two parts, detailing the results of four separate experiments. In Part 1, the two experiments focus specifically on British participants who are considered to be from an individualistic culture. Experiment 1 investigates how private and public self-awareness affects their breadth, depth and accuracy of self-disclosure in CMC. Experiment 2 then attempts to simplify Experiment 1 to try and focus more specifically on personal motivations of self-disclosure. The results of the first two experiments clearly illustrate the importance of both private and public self-awareness in intimate self-disclosure in CMC. More specifically, they indicate that increasing private self-awareness increases depth of self-disclosure, whilst increasing public self-awareness reduces the accuracy of the self-disclosure.

In Part 2 of the thesis Experiments 1 and 2 are replicated on Singaporean participants, who are considered to be from a collectivist culture. Members of collectivist cultures are consistently reported to self-disclose less than members of individualistic cultures. It is however found in Experiment 3 that in a typical ‘real-time’ interaction the Singaporeans report themselves to self-disclose to a greater depth than the British participants. Cultural differences are also found in the participants’ reactions to certain manipulations of self-awareness. More specifically, a manipulation that increases public self-awareness greatly reduces the British participants’ self-disclosure. Whilst the Singaporeans are more affected by a manipulation that increases their private self-awareness, which greatly increases their depth of self-disclosure. It is concluded that there are cultural differences in the way that people react to manipulations of self-awareness in CMC and this raises philosophical discussion about how culture drives self-disclosure which, in turn, drives the pursuit of self-knowledge, and ultimately the construction of the cultural self. Finally it is concluded that CMC may allow an exploration of the self outside of cultural norms, and that this could potentially change the boundaries of the private and public self in the future.
DECLARATION

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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CHAPTER 1: Introduction to Part 1

The Self

Throughout history, the self as a topic of research has intrigued psychologists, and attempts to define the self inevitably lead to philosophical debate. Although, the self is often thought of as just being the physical body, it also refers to the psychological, a place where thoughts, feelings and emotions reside (Baumeister, 1999). The self is also often thought as having a large hidden component, which may be unknown to others, until it is revealed, or it is self-disclosed. However, part of the self, may also be hidden from the individual, and the individual may struggle to come to know that part of the self (Baumeister, 1999). Barnlund (1975) in his cultural studies of the self, differentiated between a public and private self, which is a distinction based on the Johari window tool (Luft & Ingham, 1955). In this approach, the private self is described as only accessible by the owner and is therefore unknown to others, whilst the public self is described as being accessible to the self, but is also accessible to others. Barnlund (1975; Asai & Barnlund, 1998) successfully uses this distinction to produce scholarly and thought provoking work, which focuses upon culture, and the present thesis begins with this simple distinction of the self. Throughout this thesis, other representations of the self also emerge, such as a true self or real self (Jung, 1933; Rogers, 1951), the individual, relational and collective selves (Sedikides & Brewer, 2001), and the ideal, actual and ought to selves (Higgins, 1987), and these will be discussed in turn, as they arise.

A second major perspective adopted in this thesis, is that the self is socially shaped, and the self can therefore be considered to be a product of socialisation and culture (Barnlund, 1975; Asai & Barnlund, 1998). In particular, this thesis focuses upon the role of communication in the development, construction and management of the self. Given this, when the self is discussed in this thesis, it is in terms of how the individual gathers information about the self through communication, in order to build and develop a self-concept. The self-concept is therefore considered to be the accumulation of self-knowledge that the individual gathers (Wilson & Dunn, 2004). In the context of communication, it is also argued that self-knowledge has a reciprocal relationship with self-disclosure (Asai & Barnlund, 1998). The relationship is considered reciprocal because self-
Disclosure is viewed as a tool to gain self-knowledge, and it is argued that the information that is self-disclosed has to come from the individual’s body of self-knowledge (Asai & Barnlund, 1998). It is also argued, in the present thesis that the decision of what type of information the individual will self-disclose is dependent on how aware they are of their private or public self at the time. Self-disclosure is therefore intrinsically linked to self-awareness and these are central themes within this thesis.

As a research topic, the self is problematic (Baumeister, 1999). Indeed, already within this introductory section, a tension has arisen between what was described as the hidden aspects of the self, or the true self, and the adopting of a social constructionist perspective of the self. If the self is constructed through gathering self-knowledge and it is the accumulation of self-knowledge that forms the self-concept (Wilson & Dunn, 2004), it then seems contradictory to suggest that there is part of the self which is hidden. Rogers (1951) theorised that in therapy the client could feel that they were not their real self, and part of Roger’s therapy was to aid the client in discovering their true self, which Roger’s reported would bring them satisfaction. Roger’s therefore believed that the true self did exist, but was not expressed in everyday life. This true self, which appears to be a hidden part of the self, does imply that there is part of the self waiting to be discovered, which contradicts the notion that it is constructed. Accordingly, this tension will be raised and discussed within this thesis where a social constructionist perspective is adopted, yet the existence of a true self is explored. As the thesis unfolds, questions will be raised as to how the true self can be defined, whether there is a true self waiting to be discovered, and whether the true self is a culturally constructed phenomenon.

To achieve these fairly ambitious aims the following research will be placed within the context of computer-mediated communication (CMC). The Internet has been described as a playground for experimenting with the self (Turkle, 1984), and Bargh, McKenna, and Fitzsimons (2002) argue that the Internet provides, ‘a unique opportunity for self-expression….[and] would expect a person to use it….to express those aspects of the self that he or she has the strongest need to express – namely, the true self’. Moreover, the popularity of CMC has led to a renaissance in research on self-disclosure (Kiesler & Sproull, 1986; Parks & Floyd, 1996; Joinson, 2001; Goh, 2004). This interest being incited
by the observation that self-disclosure appears to be increased in CMC (Kiesler & Sproull, 1986; Parks & Floyd, 1996; Joinson, 2001; Goh, 2004). Researching self-disclosure within a CMC context provides new opportunities to re-examine self-disclosure theory, which could add clarity to what became a confused and complex subject area in the seventies (Cozby, 1973). Furthermore, CMC provides various tools and endless possible manipulations to investigate the self, and in particular the relationship between self-disclosure and self-awareness.

It will be argued in the present thesis that CMC leads to a unique experience of self-awareness, that allows different parts of the self to be explored and presented, than are possible in face-to-face (FTF) communication. It is then further argued that these different experiences of self-awareness within CMC affect the motivations for self-disclosure in CMC, and ultimately the type of self-knowledge that is gathered. Of particular interest, in this thesis, is how CMC may allow an insight into what could be considered the hidden aspects of the self. It is argued in the present thesis that these hidden aspects of the self are driven into hiding by social and cultural pressures, and that changes in self-awareness in the CMC environment allow them to emerge. CMC is therefore not just an interesting context in which to study self-disclosure and self-awareness, but a unique platform from which to explore differences in the way people manage and construct their cultural self. What will therefore be presented in this thesis is a cross-cultural investigation of self-awareness and self-disclosure in CMC.

**The Structure of the Thesis**

It became apparent during the course of this present study that the relevant literature base for the self, culture and CMC is huge. Consequently what is selected for discussion within each of these independent themes is limited to several pertinent topics. Consideration of the relevant literature also indicates that, although the literature base is huge within each of these themes, the amount of literature that actually combines these three themes is scare. Significantly, there is no research that uses CMC to examine cross-cultural differences in self-disclosure, self-awareness or self-knowledge. Moreover, even when the theme of culture is removed from the equation, the broad self-disclosure literature is muddled, and there are few studies which empirically examine the relationship between self-awareness and self-disclosure in CMC. Due to these factors an
unusual structure has been adopted for the following thesis, which allows the story to unfold in a way that is deemed to be ultimately kinder to the reader. This thesis will therefore be a story of two parts, the first of self-awareness and self-disclosure in CMC, and the second of culture.

More specifically, in the first part of the thesis, the focus will be on trying to provide some clarity with regard to the past self-disclosure literature. This will involve reviewing the literature on self-disclosure and CMC, then clarifying some motivations of self-disclosure in terms of self-awareness and the gathering of self-knowledge. Two experiments will then be described in Part 1 (Experiment 1 and Experiment 2), which will examine the role of self-awareness in both personally motivated and socially motivated self-disclosure. These two experiments focus upon British participants only, and the results will therefore inform an understanding of only the British self. The second part of the thesis will begin with another literature review, which this time explores culture. In particular, this review will consider how culture may drive self-disclosure, self-awareness and self-knowledge, which will ultimately mould the self. The results of Experiments 1 and 2, and the nature of the British self, will then be explored in light of the literature on culture. Next, the experiments will be replicated upon Singaporean participants, and the results will be used to discuss how self-disclosure, self-awareness and self-knowledge are driven by culture (Experiment 3 and Experiment 4). These findings will lead to discussions of how the self is culturally constructed, how CMC may affect the way in which information is gathered about the self, and how CMC could potentially change the boundaries of the cultural self in the future.

**Technology and Communication**

CMC is an umbrella term that encompasses a wide range of computer-based communications, each of which gives rise to a different social experience. Of the different forms of CMC, the most commonly used is email, which allows people to communicate asynchronously via text. In addition, photos and documents can be attached to these messages, and the messages can be sent to individuals or groups. Chat (or instant messaging) is also a medium, which provides text-based communication, but in ‘real-time’, or synchronously, and again interactions take place with an individual or a group. CMC also affords the possibility of using
webcams, and microphones, to conduct video and voice communication. Within these types of communications a video of the communicant is streamed, again either to an individual or to a group. The user can decide whether to stream their voice with the image, or use text to communicate. There are even multi-user-domains (MUDS), which are social spaces where people can take on different roles, such as presenting the self as an avatar, and again communicating by text, or voice (Turkle, 1984). Finally, the Internet also allows for the self to be communicated and presented in public domains, such as Facebook, which is a social networking website (Walther, Heide, Kim, Westerman, & Tong, 2008). These different possibilities for communicating the self have proved extremely popular, and CMC continues to grow (Rice & Markey, 2009). In the UK 75% of 7-16-year olds are Internet users, and have been branded as the ‘Net Generation’ and ‘Cyberkids’ (Mackay, Thurlow, & Zimmerman, 2005). It is therefore of great importance to understand the behaviour that is occurring on the Internet, and the changes it may be exerting upon the self.

The self is, ‘a profound, cultural product… shaped and defined through communication with other people in society’ (Asai and Barnlund, 1998, p 431). As technology advances, and the way in which people communicate changes, this inevitably has a profound effect upon the way the self is shaped. CMC does, for example, allow people to widen their social sphere, resulting in greater possibility for social comparison, and allows interaction between a greater diversity of people (Jones, 1996). It also enables different presentations of the self through different media, which allows different sides or aspects of the self to be experienced (Miller & Arnold, 2001). The self, or self-concept, is considered to be the sum of the person’s self-knowledge (Wilson & Dunn, 2004), and CMC allows more avenues for gathering self-knowledge. The Internet transcends physical boundaries and as communication takes place across this medium self-knowledge is gathered from more diverse sources, and the self is then shaped and influenced by these sources. It is yet to be fully understood how communicating in this way affects the nature of the communication, or how it will ultimately affect the nature of the self. The experiments presented in this thesis will however lead to discussions of how communicating via the Internet will affect the construction, management and consolidation of the self.
Communication by telephone

Throughout the history of technology, as concomitant communication media have developed, profound changes have taken place in the way the self is experienced and presented through communication (Ong, 1982). Similarities and differences can therefore be explored between CMC and the communication media that precede it. Useful parallels can, for example, be drawn between CMC and the telephone. When Alexander Graham Bell invented the telephone in 1876, it allowed individuals to communicate in ‘real-time’ using their voice to speak to others who were geographically distant. Prior to this, communication took place either by posting a letter, which could take some time to arrive, and then some time to be replied to, or by telegraph which allowed a quicker, but limited message to be transmitted at a distance. Both letters and telegrams had their limitations in conveying a detailed message quickly, which could be achieved by the telephone. But the telephone did not hold the richness of visual cues that are available in FTF communications. Lacking in telephone contact was eye contact, gestures and facial expressions, all of which could be considered to add an important social and meaningful element to conversation (Berger & Gudykunst, 1991). This led to initial fears that the telephone would lead to a type of phony and impersonal superficial civility (Berger & Gudykunst, 1991).

With these fears in mind, a communication study group was formed in order to explore what was gained and what was lost in telephone communication (Short, Williams, & Christie, 1976). The group ran a series of experiments to examine the impact that the lack of visual cues in telephone communication had upon group discussion and conflict resolution. In one experiment, the participants were asked to argue from a particular viewpoint and either interacted in FTF communication, through an audio channel, or used two-way television screens, allowing them to see each other. The results showed no differences across the media in the accuracy of people’s judgments, but FTF participants were more confident in their judgments. Williams and Wechsler (1972) also found that in their experiments if the participants could both see and hear their partners, they would evaluate their partner more favourably. These results led Short et al. to develop Social-Presence Theory, which suggested that only low-level, task-oriented material could be transmitted via the verbal channel, and that interpersonal attitudes were conveyed mainly by visual cues. These findings had great implications for the use of the telephone. According to their theory, the telephone had the objective quality of
being low in social presence, in that it lacked facial expression, gaze, posture and the non-verbal cues that FTF communication provided. These assertions were further supported by Short et al.’s discovery that when participants were asked to rate various media along the dimensions of impersonal/personal, unsociable/sociable and cold/warm, the latter dimension in each pair indicating high social presence. FTF communication was voted the highest in social presence, then the video, then the telephone and finally the business letter. From this Short et al. claimed that social presence and intimacy were linked, and that through the telephone it would not be possible to communicate intimacy due to its decreased social presence.

Despite Short et al.’s (1976) observations, they had underestimated the incredible desire and ability of individuals to exploit the social aspects of technology. Particularly notable were reports that even telegram workers had fallen in love through the bleeps of telegraphic communication (Standage, 1999). By telephone the message can be conveyed quicker, the voice is used, and rich communication can ensue, which is perhaps why the social use of the telephone was initially discouraged, due to concern that it was being used unnecessarily for ‘idle gossip’ (Fischer, 1992). However, there was no stopping the surge of interest in using this technology for socialising and in 1920 the telephone companies starting actively encouraging it (Joinson, 2002). Indeed, the telephone companies even began an advertising campaign which stated that the telephone was more intimate than letter writing, as a way of keeping in touch. The telephone became hugely popular, and today it still continues to be a major form of communication. Presently, individuals speak regularly on the telephone; there are chatlines which enable romances and friendships to develop; and there are helplines, such as The Samaritians, where individuals can seek help for problems. The use of mobile phones has also allowed telephone conversations to be conducted from any location. Moreover, the use of mobile phones has led to the rise of the Short Messaging System (SMS), enabling mobile users to send short text messages to each other fairly rapidly, the popularity of which initially surprised the telephone companies (Taylor & Vincent, 2005). The Mobile Trades Body Report (2009), which contains statistics aggregated from each of the UK’s Mobile Network Operators, reports that in 2009 a daily average of 265 million texts are sent. This type of short, quick, text-based communication is therefore extremely popular. Now telephone users have the choice of talking to one another, texting, and even
using video to communicate. These different ways of communicating present new challengers to the user. The user has to quickly learn how to best use these technologies, to present themselves and their message (Taylor & Vincent, 2005). They also receive replies within this new format, which they must also learn to interpret. These media not only widen social spheres for many (Taylor & Vincent, 2005), but it is argued here that it provides new experiences for the user to present and understand the self

**Computer-mediated communication**

This gain and loss approach adopted by Short *et al.* (1976) is a useful way of understanding CMC, and inevitably initial studies in CMC used Short *et al.*’s theory of social presence as a starting point for understanding Internet communication. The form of CMC these early researchers focused upon was text based, which was considered low in social presence and was originally predicted to be impoverished and suitable only for impersonal and task-orientated communications (Siegel, Dubrovsky, Kiesler, & McGuire, 1986), and those low in socio-economical content (Rice & Love, 1987). Researchers also predicted that due to the lack of availability of static cues, deriving from the environment or the person’s appearance, and dynamic cues, associated with non-verbal communication, that social standards would be less important, more impersonal and freer, than in FTF communication (Sproull & Kiesler, 1986). They also believed that the lack of norms available for these types of communications would mean that the communicator’s attention would be directed towards the message, and away from the other, and this would increase feelings of anonymity (Sproull & Kiesler, 1986). This anonymity they predicted, would lead to self-centered and unregulated behaviour (Sproull & Kiesler, 1986). This was then supported by a series of further studies, which indicated that hostile and insulting interaction, or flaming, was increased and group decisions were more polarised when groups used CMC for discussions (Sproull & Kiesler, 1986). Sproull and Kiesler argued that users were becoming deindividuated, which led to changes in the perception of the self and others, and ultimately the release of normally restrained behaviour.

This negative view of CMC echoes those initial negative reactions to telephone communication, though similarly these negative views were soon usurped with emerging reports of positive relations being made on line. It emerged that CMC was perfectly capable of transmitting social information but, due to the reduced
social cues, the process occurred at a slower pace (Walther, 2002). Walther, in his Social Information-Processing model, explained that it was the time constraints in early studies of CMC, which led to the conclusions that it was only useful for task-orientated and low-level tasks, as this constraint did not allow social and relational cues to be transmitted. Walther, Anderson and Park (1994) found support for this in a meta-analysis of 21 experiments. This analysis found evidence for greater levels of social information transmitted in interactions, which had no time restriction, and also less difference for socio-emotional communication between CMC and FTF for tasks when there was no time restriction. Walther et al. went on to suggest that it takes time to type, but it also takes time to learn the nuances of textual-based communication, such as emoticons (e.g. 😊 to indicate a smiley face). This was supported by subsequent research that found that the longer individuals had been using CMC, the more paralanguage, such as emoticons they used, and the more relationships they formed (Walther et al., 1994).

Walther et al. (1994) were starting to realise that CMC could reproduce some of the social features of FTF communication. The extent to which this was true did, however, come as quite a surprise when, in a subsequent study, FTF and CMC groups discussing three topics were compared (Walther, 1996). The surprise came when it was the CMC groups who were rated higher for affection, for how similar the group members seemed, and how composed and relaxed they were during the task. Furthermore, they were also voted to be less task-orientated and more socially-oriented. It was therefore apparent that Walther et al. and other early CMC psychologists had grossly underestimated the positive aspects of CMC. Indeed, cyberspace was emerging as a place to make friends, to find love (Lea & Spears, 1995) and to seek psychological help (Morsund, 1997). Moreover, at the centre of these rich relationships, the observation soon appeared that CMC seemed to be encouraging high levels of self-disclosure (Kiesler & Sproull, 1986; Parks & Floyd, 1996; Mckenna & Bargh, 2000; Joinson, 2001; Goh, 2004; Mckenna, Green, & Gleason, 2002)
Self-Disclosure in CMC

Contrary to early expectation from Social-Presence Theory (Short et al., 1976), a proliferation of meaningful relationships, rich in self-disclosure, are apparent on the Internet (Morsund, 1997; Mckenna and Bargh, 2000; Mckenna, et al., 2002). The extent to which individuals will self-disclose in CMC is particularly evident in the self-help community, where individuals who would otherwise be too embarrassed or ashamed to discuss their problems have been observed to feel comfortable disclosing. An analysis of notes and messages on a MUD for sexual-abuse survivors, for example, reported interactions taking place where individuals revealed and shared experiences, and disclosed personal information to one another (Morsund, 1997). High levels of trust, mutual support and empathy also occur in samples of self-help groups, with interpersonal understanding developing faster on-line than in comparable FTF groups (Salem, Bogat, & Reid, 1998). Greist, Klein and VanCura (1973) also reported suicidal patients preferred to self-disclose in a computer interview as opposed to a FTF interview. However, self-disclosure through CMC is not merely associated with on-line help seeking, as heightened CMC self-disclosure has also contributed to an increase in on-line relationships (McKenna & Bargh, 2000) and the now commonplace phenomenon of on-line dating (Lea & Spears, 1995). In essence, the Internet is now an environment which is rich in self-disclosure.

Evidence of higher levels of self-disclosure in CMC, than in FTF interaction, are also evident in empirical work (Keisler & Sproull 1986; Lautenschlager & Flaherty, 1990; Locke & Gilbert, 1995; Moon, 2000; Joinson, 2001; Goh, 2004). For example, comparisons of forms completed by CMC, FTF, or by pen, revealed highest levels of disclosure in CMC (Locke &Gilbert, 1995; Lautenschlager & Flaherty, 1990). Similarly, a meta-analysis of 39 studies demonstrated an increased likelihood of self-disclosure in tasks that were completed by CMC (Weisband & Keisler, 1996). All these studies have led to the conclusion that self-disclosure is increased in CMC. On closer examination it is however apparent that CMC is an umbrella terms which refers to e-mail, chat, MUDs, and even forms filled in using a computer. Whilst all of these forms of communication do utilise some form of CMC, they arguably each provide a very
different experience. Moreover, there is a lack of clarity in what type of self-disclosure is increased in these different forms of communication, and whether different types of CMC encourage different types of self-disclosure. To address some of these difficulties, a first question is posed in this thesis, as to whether there are certain properties of CMC, which may be present in several or all of the different types of CMC that subsequently leads to the observed increased self-disclosure. Further questions are then asked as to how these properties within CMC may encourage different goals of self-disclosure, and ultimately how they may lead to certain types of self-disclosure taking place. In the following sections, these questions will be discussed in turn. First, focus falls upon how the different types of self-disclosure can be defined and measured. Next, a consideration is given to how the goals and motivation of self-disclosure could be important in understanding the heightened self-disclosure in CMC. Finally, literature will be discussed that examines how the anonymity, and differing levels of self-awareness in CMC, could affect self-disclosure in CMC.

**Measuring and defining self-disclosure**

The statement that self-disclosure is heightened in CMC appears on the surface to be fairly reasonable. However, self-disclosure is notoriously difficult to define (Cozby, 1973), and it is unclear what type of self-disclosure is heightened and in what type of CMC. In research, self-disclosure is often described in terms of three dimensions (Omarzu, 2000). These include depth of self-disclosure, which may range from a shallow revelation such as self-disclosing one’s name, favourite colour, or hobby, to an intimate and deep revelation, such as self-disclosing a guilty secret (Altman & Taylor, 1973). Depth is usually measured by listing topics of varying intimacy and measuring how likely the participants would be to discuss them, or by measuring the extent to which the participants actually discuss them (cf. Omarzu, 2000). Breadth of self-disclosure forms the second considered dimension, which measures how broadly or widely the participants discuss themselves (Altman & Taylor, 1973). Breadth may be measured by looking at the number of topics the participant would be willing to discuss, or the number of topics they actually discuss in a research exercise. Finally, the third utilised dimension of self-disclosure is duration, which relates to the amount or quantity of the self-disclosure. The duration may be measured by the time spent self-disclosing or through a word count (Omarzu, 2000). On closer inspection of the CMC literature, it becomes clear that some studies measure breadth (Joinson,
In addition to there being different defined dimensions of self-disclosure (breadth, depth and duration), research is further complicated by the different ways these different dimensions of self-disclosure can be measured. Previously in early self-disclosure research, there were reports of there being no correlation between self-reported, independent and behavioural measures of self-disclosure (Cozby, 1973; Goh, 2004). How a person perceives their self-disclosure may be very different to how the recipient of the self-disclosure perceives their self-disclosure, which may also differ to behavioural, or independent measures. These different measurements complicate self-disclosure research, and this has led, in the past, to suggestions that self-disclosure can only be defined by the way in which it is measured (Cozby, 1973). Great care must therefore be taken to interpret breadth, depth and duration of self-disclosure separately, and as distinct concepts, and also with consideration to how they were each measured. Each of the different dimensions and measures of self-disclosure, tell only one side of a rather complex story, and there is a danger that a lack of clarity in the measurement and definitions of self-disclosure in CMC will also result in the literature becoming muddled. Notably, issues with the definitions and the operationalisation of self-disclosure, in the past, led to the self-disclosure literature becoming so convoluted that there were calls for self-disclosure as a research topic to be abandoned (Cozby, 1973). CMC provides a new opportunity to provide some clarity to the self-disclosure literature. Unfortunately, it could be argued that there are already signs that the measurement and definition of self-disclosure are not receiving the respect they deserve within recent work within CMC. These issues will be picked up in the anonymity and self-awareness sections later in this introduction.

**Goals and motivations of self-disclosure**

When trying to be more specific about the type of self-disclosure that is being exhibited on-line, it is useful to consider the goals and motivations of the self-disclosure that is being exhibited. In particular, it is useful to consider whether
CMC seems to be encouraging particular goals or motivations of self-disclosure to be pursued. It has been reported that the goal of self-disclosure will vary according to the disposition of the self-discloser, but also, due to the context of the self-disclosure (Miller & Read, 1987). This therefore raises questions of whether the context of CMC encourages particular goals of self-disclosure to be achieved that are less accessible in other forms of communication. Shaffer and Tomarelli (1989) conveniently summarised some of the goals of self-disclosure found in the functional analysis of self-disclosure as: self-expression; clarification of self-concept; impression management; and the promotion of intimacy. It is possible, that whilst CMC may be encouraging some of these goals, it may also be inhibiting others. It would be useful, therefore, when trying to understand increased self-disclosure in CMC, to explore what type of goals appear to be being pursued.

In this thesis a distinction is made between personally motivated and socially motivated goals, to try to gain some clarity on the motivations behind the increased self-disclosure in CMC. These goals of self-disclosure are however not clear cut and it is likely that in an interaction, the individual will most likely flit from one to the other, and there may also be a combination of goals (Omarzu, 2000). Nevertheless, for the purpose of this thesis, a social goal of self-disclosure is defined as a goal which is motivated by another person or persons. A socially motivated goal of self-disclosure could therefore represent a desire to form and maintain a relationship with another person (cf. Jourard, 1961; Walther & Tidwell, 1995; Joinson, 2001), or to keep the closeness within a relationship (Altman & Taylor, 1973). These relationships may start with a need and a want to convey information about the self, in order to form an impression upon a recipient (Derlega & Berg, 1987), and the main goal may therefore be impression management (cf. Shaffer & Tomarelli, 1989). The individuals’ motivations, in these instances, are focused upon another person, or persons, and are therefore considered here to be social motivations.

The goals can, however, also be personal within a relationship, or a combination of personal of social goals. The self-discloser may, for example, want to peruse the goal of promoting intimacy with their partner (Laurenceau, Barett, & Pietromonaco, 1998) which according to Social-Penetration Theory (Altman & Taylor, 1973) occurs through a gradual process of both breadth and depth of self-
disclosure. The partners may then enter into mutual self-disclosure where reciprocity becomes central to the relationship (Shaffer & Tomarelli, 1989). Reciprocity is reported to be the best predictor of the acquaintanceship (Chaikin & Derlega, 1974), and is particularly important in early relationships to promote trust (Altman & Taylor, 1973). As the relationship develops Derlega and Chaikin (1977) suggest that the partners form a ‘dyadic boundary,’ that ensures that information is kept between the partners, and is not leaked out. Of the goals identified by Shaffer and Tomarelli, it could be argued that; self-expression, and the clarification of the self concept are more personally motivated goals, and that these become more achievable as closeness in the relationship develops. It has been reported, for example, that people are highly motivated to ensure that what they consider to be their true self, or their ‘inner core,’ is acknowledged by others, and validated as an authentic part of the self (Baumeister, 1999; Swann, 1990), and that this can prevent them from feeling alone in the world (Veltman, 2005). In this instance, it could be argued that the goals move from being more socially driven to being more personally driven.

Another personal motivation, which illustrates a situation where the relationship may be less important than the self-disclosure itself, is the stranger on the train phenomenon (Rubin, 1975). In this situation, the individual self-discloses in depth to a stranger, perhaps, on a train. According to Social-Penetration Theory (Altman & Taylor, 1973) self-disclosing deeply to a stranger is very unusual. Altman and Taylor make an interesting analogy between partners coming to know one another, and peeling an onion. In this analogy, they describe how partners peel away each other’s layers, until they arrive at the tightly wrapped vulnerable core of deep emotions. They suggest that peeling away these layers and reaching this core increases the closeness between the partners (Altman & Taylor, 1973). Once this core has been reached, it is also suggested that reciprocity is less important (Altman & Taylor, 1973) and it could be argued that the goals of self-disclosure could become more personally motivated. In the stranger on the train phenomenon deep self-disclosure occurs without this closeness developing. However, the situation occurs because of a personal need in the self-discloser to ‘get something off their chest,’ and the outcome can be cathartic for the self-discloser (cf. Rubin, 1975; Bargh et al., 2002). The motivations of self-disclosure in this situation are likely to be more personally motivated than socially motivated. Who the recipient is, may be unimportant, and rather than the
relationship being reciprocal, the recipient may act more like a sounding board. In this situation, it is the personal goals of self-disclosure that come to the foreground. It is argued in the present thesis that what is particularly interesting about CMC, is that it encourages the pursuit of more personally motivated self-disclosure.

If this is the case, and CMC does encourage the pursuit of more personally motivate self-disclosure, then this has important implications. What is notable about these more personal motives of self-disclosure, and particularly those that are associated with ‘getting something off one’s chest,’ is their association with the health benefits of self-disclosure. Self-disclosure is generally defined as revealing some aspect of the self to another (Foubert & Sholley, 1996), and there are now 1000s of research papers examining self-disclosure (Omarzu, 2000). Much of this interest has been generated by the observation that self-disclosure is linked to good health (Jourard, 1961; Pennebaker, 1989; 1995) and that failure to self-disclose can have a negative effect upon health (Pennebaker, 1989; 1995). Self-disclosure is, for example, thought to have a cathartic effect, and it has been demonstrated that people can develop physical and psychological problems if they suppress and conceal their negative thoughts and emotions (Carpenter, 1987; Cooper & Leda, 1997). Self-disclosure and worry have been described as two sides of the same coin (Borkovec, Roemer, & Kinyon, 1995), with open expression of thoughts and feelings helping to overcome anxiety (Jourard, 1961). Although self-disclosure is often considered to be conducted verbally, even writing about negative experiences has been seen to improve mental-health problems (Graybeal, Sexton, & Pennebaker, 2002), improve immune function; lead to drops in physician visits; and also result in better performance at school, or in the workplace (Esterling, Antoni, Kumar, & Scheiderman, 1990; 1993). It is argued in the present thesis, that it is personally motivated self-disclosure that is mainly associated with the health benefits of self-disclosure. Given this, studying instances in which this type of self-disclosure is raised has important implications. It is therefore of great interest that personally motivated goals of self-disclosure may be raised in CMC.

Within CMC, relationships have been seen to develop at accelerated rates (Lea & Spears, 1995; McKenna et al., 2002), there is a proliferation of self-help groups with members sharing shameful secrets for the first time (Morsund, 1997; Salem,
et al., 1998), and the stranger on the train phenomenon is being replicated all over cyberspace (Bargh et al., 2002). It is therefore argued in the present thesis that CMC allows a distinct and different set of goals to be achieved, than can be achieved in FTF, or telephone communication. Moreover, these goals seem to be more personally motivated and characterised by deep and open self-disclosure. Unfortunately, there is no past research in CMC that has discussed the different goals of self-disclosure and few studies have empirically examined deep self-disclosure in CMC. The experiments within this thesis do therefore focus upon deep and intimate self-disclosure in CMC, with a particular interest in whether CMC allows for more personal goals of self-disclosure to be pursued and achieved. It does also appear that what is particularly interesting about CMC is that it seems to encourage personally motivated deep self-disclosure, and questions still remain as to why CMC may encourage this type of behaviour. Most explanations of heightened self-disclosure in CMC seem to hinge on either changes in self-awareness, or more commonly the anonymity provided within a CMC interaction (Kiesler et al., 1984; Spears & Lea, 1994, Walther, 1996; Mckenna & Bargh, 2000; Joinson, 2001; Goh, 2004). In the following sections, the possible effects of anonymity upon self-disclosure are considered, which leads into a discussion of whether anonymity in CMC also encourages authentic self-disclosure in CMC. In the final section of this introduction the literature investigating how changes in self-awareness could affect deep, authentic and personally motivated self-disclosure in CMC is examined.

**Anonymity in CMC**

Many explanations of why self-disclosure is increased in CMC tend to focus upon visual anonymity (Kiesler et al., 1984; Spears & Lea, 1994; Walther, 1996; Mckenna & Bargh, 2000; Joinson, 2001; Goh, 2004). When anonymous in a CMC interaction, those interacting do not see one another, they do not have access to the usual visual cues present in FTF interaction, and they are also not in each other’s physical presence. Several theories have therefore emerged to explain heightened self-disclosure in CMC. It is, for instance, suggested that the lack of cues and physical presence, that are part of visual anonymity, make the user become less aware of the other, and more absorbed in their self (Kiesler & Sproull, 1986), which results in the individual self-disclosing more than they realise (Kiesler et al., 1984) Furthermore, a lack of identifiability, has been said to
mask individual differences, such as race and age, which may inhibit FTF interactions, and discourage the formation of stereotypes and pre-judgments (Gackenbach, 2007). The anonymity in CMC has also led to Hyperpersonality Theory (Walther, 1996), where Walther reports that the anonymity in CMC allows participants to construct a more idealised, positive image of their self, and this leads to inflated impressions and greater perceived similarity. In this instance, self-disclosure may increase as the participant tries to confirm these idealised images of them self. Whilst anonymity as an explanation of increased self-disclosure in CMC has attracted much research interest, the research has also identified that there are several different features involved in anonymity. It is therefore important to recognise that anonymity is not a monolithic concept and it is important to understand what aspects of anonymity (lack of identifiability, lack of visual cues, lack of physical presence) or combinations of these factors encourage, or even inhibit, self-disclosure in CMC.

Fortunately, there are a few experiments which examine anonymity and self-disclosure in CMC (Kiesler et al., 1984; Joinson, 2001; Goh, 2004), which allow some firmer conclusions to be drawn. For example, in a series of experiments to examine anonymity and heightened self-disclosure in CMC, Joinson (2001) set out to first establish experimentally that self-disclosure is indeed heightened in CMC. Using an ice-breaker task, and by measuring instances of spontaneous self-disclosure, the hypothesis that dyads discussing a dilemma using CMC will spontaneously disclose to a greater degree than dyads completing the task FTF was tested. Support was found for this hypothesis and it was confirmed that CMC heightens the likelihood of self-disclosure in CMC. In a second experiment what aspect of CMC encourages participants to self-disclose more in CMC than in FTF communication was examined, and the role of visual anonymity was isolated (Joinson, 2001). In this experiment, two conditions were constructed, a visually anonymous condition (where the partners did not see an image of the other) and a visibility condition (where a live image of the communicant was projected onto their partner’s screen). The participants all communicated using textual-based conferencing and partook in the same ice-breaker task used in Joinson’s (2001) first experiment. The results confirmed that participants who are visually anonymous spontaneously disclose to a greater degree than participants who are visible to one another.
Although Joinson’s (2001) experiment did present one of the first empirical attempts to isolate anonymity, it has certain limitations. The motivations in Joinson’s study were low and he reports that very little self-disclosure took place within the study. No attempt was made to try and encourage self-disclosure, and in this sense, the participants in the study barely penetrated the surface layers of Altman & Taylor’s (1973) ‘onion’ analogy. In other words, they went no where near exploring each other’s inner core. It is argued in the present thesis that what is particularly interesting in CMC is the occurrence of deep, open, personally motivated self-disclosure and Joinson’s) results do not allow an insight into this type of self-disclosure. Moreover, Joinson’s experiment relied on the measurement of spontaneous self-disclosure in the ice-breaker task. This measure only describes a low-level form of duration of self-disclosure, which was only measured by a count of the number of spontaneous self-disclosures (although Joinson describes it as breadth of self-disclosure). This is particularly problematic when, for example, a participant declaring ‘I am gay’ for the first time, scores lower than a participant disclosing their music tastes on several occasions. By studying duration, or breadth, of self-disclosure, the conclusions are therefore very limited, and go no way towards acknowledging the complexities of self-disclosure, nor give any consideration to the more intimate self-disclosure that is evident in CMC.

In terms of unraveling what exactly it is about the CMC environment, or more specifically what aspect of anonymity it is that encourages self-disclosure, the results of Joinson’s (2001) experiment are also limited. For instance, the experiment compares a video condition to an anonymous condition. However, the video condition not only renders the communicant identifiable, but the live video link also provides cues throughout the interaction, which could potentially distract the participant. Furthermore, in the non-visually anonymous condition the participant may be benefiting not just from a lack of identifiability, but instead a lack of cues. Moreover, the reduced social presence in the interaction may also allow the participants to immerse themselves in the task and become aware of their audience (Kiesler et al., 1984). Although, Joinson, does claim that visual anonymity increased self-disclosure in CMC, it is clearly necessary to break, or deconstruct anonymity, down into its various properties and observe the effects that they each have upon self-disclosure, to gain a deeper understanding of what part of anonymity is attributable to this heightened self-disclosure.
Fortunately, this was achieved by Goh (2004; Manstead, Lea, & Goh, 2011), who progressively deconstructed anonymity into identifiability, visual cues and social presence, and measured their effects upon breadth and depth of self-disclosure, and a number of other interpersonal factors. In her experiments Goh (2004), working on the basis that self-disclosure begets self-disclosure (Berg & Derlega, 1987), used a high self-disclosing confederate to encourage intimate self-disclosure. The self-disclosure that was gained in the experiment was therefore much more characteristic of the intimate, open, self-disclosure in CMC that is of interest in the present thesis. In Goh’s experiment the confederate and the participant took turns asking each other questions of varying intimacy, the confederate secretly inviting the participant to disclose to a greater degree by gradually moving down a list of questions of varying intimacy to those of greater intimacy value. In the first, of four conditions, the anonymous condition, the participants never met and had no access to a visual image during the interaction (which was akin to Joinson’s (2001) visually anonymous condition). In the second condition, the identifiable condition, the participants saw each other before the experiment, but did not have access to a visual image during the interaction. In the third condition, the visual-cues condition (which was akin to Joinson’s visibility condition) the participants had access to a visual image during the interaction. Finally, in a fourth condition, the physical-presence condition, the participants faced one another but still interacted using CMC, which added physical presence to the interaction. The conditions did therefore progressively deconstruct anonymity into lack of identifiability; lack of visual-cues; and lack of physical-presence.

The results of Goh’s (2004) experiment are intriguing. Whilst some support was found for Joinson’s (2001) conclusion that self-disclosure is increased by visual anonymity, the results were not straightforward (cf. Goh, 2004; Manstead et al., 2011). When the different facets of anonymity were isolated and manipulated, the lack of identifiability was seen to increase breadth of self-disclosure, and the removal of visual cues further increased breadth of self-disclosure. However, opposing effects were discovered for depth of self-disclosure as it was found that participants who were anonymous and participants who had access to visual cues self-disclosed to a similar depth. Participants in the identifiability condition, were however observed to have reduced breadth and depth of self-disclosure. In Goh’s study, further results suggested that whilst identifiability reduced enjoyment and
therapeutic value, visibility increased rapport and enjoyment, with the former having a negative effect upon depth of self-disclosure, whilst the latter had a positive effect upon depth of self-disclosure. The participants in the visual-cues condition also reported the greatest similarity, and rapport, with their partners and enjoyment was at its highest levels.

Goh’s (2004) study did therefore confirm that anonymity is not a monolithic concept, but is one that is made up of various properties, each of which have different effects upon breadth and depth of self-disclosure. Moreover, it was also observed that some of the properties could even have opposing effects. In addition, this work also presented the only study in CMC that differentiated between breadth and depth of self-disclosure. This is particularly important as it was clearly illustrated that breadth and depth describe quite different manifestations of self-disclosure (Goh, 2004), and this should be acknowledged both in the execution and interpretation of future research. This comprehensive study of intimate self-disclosure in CMC, is also important, as although rich, intimate and deep self-disclosure is consistently reported in the literature, very few experimental studies use a method, which encourage this type of self-disclosure (with exception of Kiesler et al., 1984). Again it is reiterated that this is particularly important as it is arguably the presence of deep and intimate self-disclosure that is particularly remarkable in the CMC environment.

Whilst Goh’s (2004) experiment broke anonymity down into its properties and provided a comprehensive account of how these properties affected depth of self-disclosure, it also acknowledged the importance of understanding the goal of self-disclosure. In her conclusion, Goh distinguished between social motivations and personal motivations of self-disclosure. She reported that in the experiment visual cues enhanced the rapport in the interaction, which in turn encouraged the participants to deeply self-disclose. The motivation was therefore reported to be primarily social, as the participants enjoyed deep mutual self-disclosure in order to form a relationship. In the anonymous condition, however, the motivations were thought to be more personal. In particular, the lack of identifiability encouraged the participant to self-disclose deeply, whilst reporting reduced rapport. This anonymity condition in Goh’s study illustrates the type of personally motivated self-disclosure that is particularly interesting in CMC, and which is also of particular interest to the present study. What is particularly significant is that even on the telephone, although communicants may not meet,
they could still be identified by their voice (Goh, 2004), but in CMC the cues to identifiability are greatly reduced, and this is reported to be providing a type of stranger on the train phenomenon via CMC (Bargh et al., 2002).

**Anonymity and the true self**

Goh’s (2004) study indicated that there may be advantages, within the anonymous CMC situation, for personally motivated, deep and open self-disclosure. Moreover, it indicated that the lack of identifiability could be particularly important for this type of self-disclosure to arise. One of the reasons given for why the lack of anonymity may have this effect in CMC is that the anonymity, or particularly the lack of identifiability, may remove some of the pressure the individual feels to conform to avoid social disapproval, which may exist in their FTF social groups (Bargh et al., 2002). The anonymous participant in the CMC situation is also free from the usual expectations and constraints of the groups and people that are usually around them (Bargh et al., 2002). This lack of identifiability is therefore suggested to provide ‘a protective cloak,’ under which the individuals ‘can express the way they truly feel and think’ (Mckenna & Bargh, 2000, p.62), with little, if not any, personal risk. Bargh et al. argue that it is the lack of identifiability in this situation that frees the participant from their usual social constraints, creating a stranger on the train type situation, and they argue that this appeals widely and generally in CMC (Bargh et al., 2002). Bargh et al. (2002) use this to suggest that the lack of identifiability in CMC increases the users’ access to their true self. More specifically they argue that in FTF interaction, an individual will present their public persona or actual self (Higgins, 1987). However, the lack of identifiability in CMC also allows the ‘identity-important yet usually unexpressed aspects of oneself,’ to be revealed (Mckenna et al., 2002, p12).

Bargh et al. (2002) set out to therefore find empirical support for the prediction that an individual will have greater access to their true self-concept, than their actual self-concept during an Internet exchange, and the reverse in a FTF interaction. In their study participants were asked to list traits that they believed they possessed and expressed to others in a social setting (the actual self) and also to list traits they believed they possessed, but which they were not usually able to express (the true self). The participants then either took part in a FTF or Internet-based interaction. Then using the classic ‘Me/Not-Me’ response task (Markhus,
they measured participants' reaction times to their own actual and true traits. As predicted, after the Internet exchanges, the true self was more accessible than after the FTF task. Bargh et al. found support for their hypothesis, and concluded that participants of CMC had greater access to their true self. Moreover, Mckenna et al. (2002) further reported from surveys of Internet users that CMC allowed for greater expression of the true self, which accelerated the rate at which close relationships were formed, and that these relationships did endure after time. These studies are important as they clearly illustrate that what may be particularly important about the increased self-disclosure in CMC is not just the depth, but also the authenticity of the self-disclosure.

These findings that participants of CMC have greater access to their true self, which accelerates close relationships and leads to enduring friendships (Mckenna et al., 2002) are also important when trying to understand how CMC may be affecting the self. Bargh et al. (2002) suggest that CMC allows for the true self to be revealed, and Self-Verification Theory (Swann, 1990) also suggests that the individual desires for this self to be validated. If in everyday life there are less opportunities for expressing this true self (Bargh et al., 2002) this could lead to the individual holding conflicting beliefs about the self. Self-Discrepancy Theory further proposes that self congruency is highly desired, and there is a motivation for the self-concept to match personally relevant self-guides, and failure to do so will result in discomfort (Higgins, 1987). Various examples of the type of discomfort an individual may feel are given by Higgins. An individual may self-disclose from their ideal self (made up of ideal traits to possess), instead of their actual self (the self that is currently constituted), which could for instance perpetuate feelings of failure that will result in sadness and shame (Higgins, 1987). They could also self-disclose from their ought to self (of traits one has a moral obligation to possess), rather than their actual self, which results in feelings of failure to meet expectations, and ultimately in fear and guilt (Higgins, 1987). Moreover, returning to the advantages of self-disclosure for health, it is reasonable to suggest that dissolving worry, catharticism, and the content of psychotherapeutic relationship are all dependent upon the presentation of the true self. If particular features of CMC allow for the true self to emerge, and for authentic self-disclosure to be expressed, then this could therefore have positive implications for the self. Given this, it is not just the depth of self-disclosure that is important to investigate in CMC, but also the authenticity of the self-disclosure.
Authenticity has been defined as, ‘the unobstructed operation of one’s true, or core, self in one’s daily enterprise’ (Kernis, 2003, p1). From Bargh et al.’s (2002) and Mckenna et al.’s (2002) studies it would be fair to suggest that what is being witnessed is the operation of the true, or core, self in CMC. In Kernis’s study, a conceptualisation was made of what is termed ‘optimal self-esteem’, which is defined as genuine, true, stable and congruent self-esteem. Authenticity in self-disclosure could similarly be termed as ‘optimal self-disclosure’, which could describe honest, true and stable self-disclosure. It is important to note, however, that although an increase in optimal self-disclosure from one’s true, or core, self, is possibly what is being exhibiting in CMC, it is not quite equivocal to what is being measured in the work of Bargh et al. (2002). Bargh et al. describe the true self in relation to the actual self, where the actual self is normally exhibited and consists of the traits the individual possesses and expresses to others in a social setting. In this context, the true self consists of traits the individual believes they possess, but are not usually able to express (Bargh et al., 2002). Optimal self-disclosure could therefore consist of both self-disclosures from the actual self, and the true self. Optimal self-disclosure is therefore self-disclosure that is accurate, but could consist of both hidden and non-hidden components. It is argued in the present thesis that using CMC increases the likelihood of optimal self-disclosure, and accuracy of self-disclosure will therefore be measured in the experiments reported within this thesis.

Surprisingly, authenticity in self-disclosure, or optimal self-disclosure, is not explicitly considered in any previous experiments on self-disclosure, even though it is clearly an important factor. Bargh et al. (2002) illustrated that relationships happen at an accelerated rate within CMC, because the ‘inner core’, that is described as essential in close relations (Altman & Taylor, 1973), is revealed more rapidly. The presentation of the true self is also important in social situations, where the individual desires that the true self is known and validated (Baumeister, 1999; Swann, 1990), to stop them feeling alone in the world (Veltman, 2005). Bargh et al. (2002) successfully showed that CMC gives the individual the potential to explore the true self; they did not however explicitly link this to self-disclosure in an experimental situation. The experiments presented in this thesis will therefore be the first to try and illustrate that what is remarkable about the self-disclosure observed within CMC, is that it is intimate and optimal.
Moreover, it is argued in the present thesis, that anonymity only plays a small part in explaining the intimate and optimal self-disclosure in CMC, and that to truly understand optimal and intimate self-disclosure in CMC also requires an understanding of private and public self-awareness.

**Self-awareness**

Before embarking upon a discussion of how self-awareness invokes intimate and optimal self-disclosure in CMC, there are various concepts that overlap with self-awareness that should be considered and clarified. There is, for example, a difference between self-awareness, which could be considered a situational factor, and also self-monitoring and self-consciousness, which could be considered dispositional factors. Snyder (1979) describes low self-monitoring individuals as people who will rely on internal dispositions to drive self-presentation, and who also use social-situational cues less, to guide impression management, than high self-monitoring individuals. Another interesting experiment was run by Shaffer, Smith and Tomarelli (1982) whereby pre-defined high and low self-monitoring individuals confided to a same-sex confederate on four very intimate topics. The confederate disclosed first, and either self-disclosed highly intimate, or non-intimate information about themselves. Shaffer et al. (1982) found that high self-monitoring individuals were more attentive to social-situational cues and matched the self-disclosure of the confederate. They were more intimate and emotionally invested when communicating with an intimate confederate, and less with a non-intimate confederate. In contrast, the low self-monitoring individuals did not match the confederate’s self-disclosure, to such an extent.

Self-monitoring also conceptually overlaps with the concept of self-consciousness which has been described as the tendency to focus attention upon the self (Fenigstein, Scheier, & Buss, 1975). The Self-Consciousness Scale was developed to measure how habitually an individual focuses upon the public and private aspects of the self (Fenigstein et al., 1975). Self-consciousness does, however, differ from self-monitoring, in that private and public self-consciousness are considered to be independent constructs, whereas the concepts of high and low self-monitoring are considered to be inversely related (Snyder, 1979). This was illustrated experimentally by Shaffer and Tomarelli (1989) who observed that it is possible to be high or low in both private and public self-consciousness at the
same time. Of particular interest to present discussion of optimal and intimate self-disclosure, Shaffer and Tomarelli also found that being high or low in both private and public self-consciousness, at the same time, was not conducive to self-disclosure. Shaffer and Tomarelli explained this by suggesting that a person finds it more difficult to self-disclose when they have their attention divided by being high or low in both private and public self-consciousness. They also suggest that when an individual is high or low in either private or public self-consciousness that the act of self-disclosure may have different motivations. In their study, Shaffer and Tomarelli reported that participants who were high in public self-consciousness and low in private self-consciousness, were focused upon creating a good impression and this would encourage their self-disclosure. They also found that participants who were high in private self-consciousness and low in public self-consciousness, whose attention was therefore internal, would self-disclose based upon internal beliefs and standards.

Shaffer and Tomarelli (1989) are not alone in their finding of advantages in high levels of private self-consciousness for self-disclosure. Similar findings have also been reported by Franzoi and Davis (1985) who found adolescents, who were high in private self-consciousness, were more likely to self-disclose than adolescents who were low in private self-consciousness. They also confirmed these results in a later study, but found that this increased self-disclosure did not, in turn, lead to increased private self-consciousness (Davis & Franzoi, 1986). There are also various other studies that report self-aware participants to report greater accuracy (Pryot, Gibbons, Smith, Fazio, & Hood, 1977), and greater reliability of self-reports of individuals who are high in private self-consciousness (Hjelle & Bernard, 1994; Nasby, 1989). Although these results clearly indicate many advantages of heightened private self-consciousness for self-disclosure, they are based upon the habitual tendency to focus upon the self. In general, someone could be described as a high self-monitoring individual, or an individual particularly high in private self-consciousness. However, a person high in private self-consciousness, or self-monitoring, can also be lead into a temporary state of being high or low in private or public self-awareness. Discussions of public and private self-awareness are particularly relevant when considering increased self-disclosure in CMC.
CMC and self-awareness

Two basic states of self-awareness were identified in early research. Objective self-awareness is described as the ability an individual has to look inward at any given moment (Duval & Wicklund, 1972). The ability to look outward is similarly described as a state of subjective self-awareness (Duval and Wicklund, 1972). When looking inward the individual has access to hidden thoughts, feelings and memories accessible only to themselves. When attending outward to the environment they may be drawn away from attending inward and notice others and the environment. When a person is described as being high in private self-awareness they are ‘more attentive to [their] perceptions, thoughts, moods and feelings…[and they are] in better touch with [their] self (Scheier, Buss, & Buss, 1978, p134). In contrast, an individual who is high in public self-awareness is concerned with how others see them and the impression they are making on their audience (Scheier et al., 1978).

Early studies investigating self-awareness in CMC tended to converge in suggesting that during a CMC interaction the participants were not self-aware (Kiesler et al., 1984; Siegel et al. 1986). Deindividuation was used to explain this phenomenon (Siegel et al., 1986), where deindividuation describes the state where either, or possibly both, states of private and/or public self-awareness are lost (Ickes, Laydon, & Barnes, 1978; Prentice-Dunn & Rogers, 1982). However, subsequent studies in CMC did not find support for these initial findings. For example, Matheson and Zanna (1988) set out to distinguish exactly how self-awareness is changed in CMC, in an experiment where participants interacted, either FTF or by using a computer. In this study the CMC participants reported greater private self-awareness and marginally lower public self-awareness, in a four question questionnaire, than FTF participants. Matheson and Zanna took this as evidence that participants were not experiencing deindividuation in CMC, as had been argued in the earlier work. They argued that the increased levels of private self-awareness meant that participants were more aware of themselves as an individual, and were therefore highly self-aware. More evidence of increased private self-awareness in CMC is also given in studies where CMC is reported to increase self-absorption (Sproull & Kiesler, 1986), where participants over-estimate their contributions to CMC discussions (Weisband & Atwater, 1999),
and also exhibit accelerated feelings of importance in CMC (Booth-Kewely & Rosenfield, 1992).

Private self-awareness does therefore seem to be increased in certain types of CMC activity and this could have important implications for the type of self-disclosure that is being heightened in CMC. According to Miller and Read (1987), being high in private self-awareness activates internal goals. The heightened private self-awareness in CMC may therefore increase internal goals of self-disclosure, such as self-expression, or the clarification of self-concept, or to dissolve worry and work through problems. Participants high in private self-awareness have also been reported to be more connected to their emotions and feelings (Carver & Scheier, 1987), and it could be argued that this could lead to an increase in intimate self-disclosure in CMC. Moreover, heightened private self-awareness has also been linked to an increased self-awareness of self-discrepancies within the self (Carver & Scheier, 1981). In their ‘process’ model of self-focus Carver and Scheier (1981) describe how an individual self-regulates by comparing their internal standards with their behaviour, and will ideally adjust their behaviour and standards to match. This approach adopted by Carver and Scheier (1981) has its origins in the seminal work of Powers (1973a; 1973b) who first adopted a hierarchal structure to try and understand perception and control in living systems. These structured approaches to self-awareness are very useful in trying to understand how attentional focus could affect self-disclosure.

In CMC the increased private self-awareness could lead to clearer access to the true self, and an increased awareness of how this self differs from other representations of the self. Returning to the work by Bargh et al. (2002), who suggested that it was the lack of identifiability that increases access to the true self in CMC, the finding that private self-awareness is increased in CMC, could also be used to explain this access to the true self. It may not just be the lack of identifiability, but also the heightened private self-awareness that contributes to this access to the true self. The experiments presented in the following thesis, will therefore also explore whether increased levels of private self-awareness encourage optimal self-disclosure.

Whilst CMC is thought to increase levels of private self-awareness, thus making participants more aware of themselves, CMC is further suggested to reduce public
It has been reported, for example, that CMC leads to an interaction where participants can lose the sense of who is looking (Weisband & Reinig, 1995), which can in turn lower self-presentation concerns (Matheson & Zanna, 1988). In many CMC interactions the communicant is acting at a distance from their partner and the participant can be physically alone during the interaction. In this type of situation, the participants have been reported to be naïve to the risks of disclosure, be inattentive to the existence of an audience, and they can therefore become immersed in the task with an illusion of privacy (Weisband & Keisler, 1996). This occurs because the presence of the communicant does not loom over the participant, there is no pressure to formulate the exchange quickly, and the participant is given the time and space to construct their exchange with the opportunity of editing (Weisband & Keisler, 1996). Matheson and Zanna also found marginally lower levels of public self-awareness in CMC, but as they compared FTF participants to participants using a computer, they could not confirm exactly what it was about the CMC environment that encouraged this. They also did not link these findings to whether the participants’ self-disclosure was greater in the CMC condition, or whether CMC encouraged optimal and intimate self-disclosure.

It is also possible that as Miller and Read (1987) suggest that increased public self-awareness will encourage more social goals, and CMC is thought to be low in public self-awareness, that social goals may be less salient in CMC. Returning to Goh (2004), it was reported that in the control condition, where the participants interacted anonymously in a traditional real-time chat discussion, that more personal goals were salient. Whilst Goh discussed this in terms of anonymity, this could also have been encouraged by high levels of private self-awareness, and low levels of public self-awareness. In contrast, in Goh’s visual-cues condition, where a video image of their participant was added, the participants’ public self-awareness may well have increased, thus making the social goals more salient. The results of previous studies (Kiesler et al., 1984; Bargh et al., 2002; Goh, 2004) which focused upon anonymity could therefore be reinterpreted within a self-awareness context. Moreover, a decrease in public self-awareness could also have clear implications for the execution of self-disclosure from the true self. It has been reported that when individuals are more attentive to their public self they adjust their behaviour according to the social situation (Carver & Scheier, 1987), and past research has shown, that participants with high levels of public self-
awareness are more likely to change their behaviour to be consistent with important reference groups (Froming, Walker, & Lopya, 1982). If the reduced public self-awareness in CMC leads to a lack of awareness about the audience (Weisband & Reining, 1995), and this also reduces the interpersonal pressure within the situation, it could be argued therefore that the heightened private self-awareness in CMC activates personal goals, and access to inner thoughts and feelings, and that the reduced public self-awareness allows for self-disclosure to take place with no fear of interpersonal reproach. More research is required to confirm these links, but the present discussions do highlight the importance of not just considering anonymity as an explanation of increased self-disclosure in CMC, but the combination of anonymity and self-awareness.

There is, however, some research that has identified the combination of anonymity and public self-awareness is an important ingredient of what is happening with groups mediated with CMC. In particular, there has been much work conducted that has investigated the salience of personal and group identities (Spears, Lea, & Lee, 1990, Lea, Spears, & De Groot, 2001). These theories draw on Social-Identity Theory (Tajfel & Turner, 1979) to understand behaviour in CMC, which suggests that identities are made up of both a social identity, which encompasses the groups an individual belongs to (both real life groups such as football team, and more social categories such as a father) and personal identities. Social-Identity Theory suggests that, when the social identity is salient, individuals compare themselves to the group and thus identify themselves as part of the group. When an individual is immersed in a group and visually anonymous, the intragroup differences will therefore be lessened and the intergroup difference maximised, although isolating members who are visually anonymous would remove the group boundaries and reduce the salience of the social identity (Riecher, 1984).

In a landmark experiment by Spears et al. (1990), groups of three students discussed various topics using a computer-conferencing system and both visual anonymity and group membership were manipulated. The results clearly showed that visual anonymity increased the salience of the group, and the participants as a consequence moved their own opinions towards the groups’ norms (Spears et al., 1990). However, increasing the salience reduced this move toward a group norm (Spears et al., 1990). In a later study Lea et al. (2001) also found further support
for the this approach to CMC, by revealing that participants who were visually anonymous when discussing three issues, reported that visual anonymity was associated with categorising oneself in a group, which was further associated with attraction to the group. They also found that when visually anonymous the participants’ concerns about how the others viewed them was heightened (heightened evaluation concern).

Lea et al.’s (2001) study was important as it illustrated the importance of stereotyping in group situations, and in particular that anonymity coupled with heightened public self-awareness leads participants to move their opinion towards a group norm. It was also important as it recognised the significance of not just anonymity, but also of its combined affects with self-awareness in CMC. Despite this, the research that has been conducted so far on self-disclosure in CMC, tends to focus on either self-awareness (Matheson & Zanna, 1998; Joinson, 2001), or identifiability (Joinson, 2001; Goh, 2004), rather than looking at the two together. Furthermore, Lea et al.’s work was also important as it distinguished between personal and social identities, and recognised the ultimate effect they would have on behaviour. However, Lea et al.’s study was particularly focused upon groups, whereas much of the self-disclosure that is taking place on-line, particularly in relationship formation, involves just a dyad. In contrast, the experiments that will be presented in this thesis will examine how anonymity, combined with self-awareness affects personally motivated, intimate and optimal self-disclosure within dyads. The results, whilst allowing an insight into what may be occurring on-line, will also be used to understand how this type of self-disclosure may be being used to gain self-knowledge to add to the self-concept.

Earlier in the introduction, it was proposed that the self-concept is constructed from self-knowledge (Wilson and Dunn, 2004), much of which may be gained through the process of self-disclosure (Asai and Barnlund, 1998). However, whether this process takes place in a group or a dyad, could affect different representations of the self. Sedikides and Brewer (2001), for example, distinguish between three different representations within the self-concept. They describe the individual self as the self that is achieved by differentiating the self from others, and also by recognising one’s unique traits and attributes, in comparison with others. The development of the individual self is also linked to the protection and enhancement of the self psychologically (Brewer & Gardner, 1996). The
relational self is described as the self that is formed in dyadic relations (Sedikides & Brewer, 2001), and this representation of the self is associated with the persons place in relationships, whilst the motives are linked to the enhancing the other, and maintaining the relationship (Brewer & Gardner, 1996). Finally, the collective self is formed within groups, and is achieved by comparing the in-group to the out-group (Sedikides & Brewer, 2001). The motives of the collective self are, therefore, associated with protecting and enhancing the groups (Brewer & Gardner, 1996). Significantly, in Lea et al.’s (2001) work, if the participants are gathering information about the self in relation to the group, this is associated with the collective self, whereas forming relations in dyads is associated with the relational self. An aim of thesis is to examine how self-disclosure and self-knowledge are used to form the self-concept, it is therefore interesting to consider what self is being presented in CMC (for instance the true self), and where the information that is gained from self-disclosure will be placed within the given representations of the self (the individual, relational, or collective self).

There are therefore many questions emerging from past research in terms of what type of self-disclosure is being observed in CMC. It is clear from observations in CMC that deep, and possibly optimal self-disclosure is occurring on-line (Greist et al., 1973; Morsund, 1997; Salem et al., 1998), and the experiments within this thesis will assess the validity of this. It is also unclear whether CMC encourages particular representations of the self to be presented such as the true self (Bargh et al., 2002), or the individual self or relational self (Sedikides & Brewer, 2001), and how these representations affect self-disclosure. In the experimental sections of this thesis this will also be considered. It is also unclear what role the combination of anonymity and self-awareness has within the optimal and intimate self-disclosure that appears to be being presented in CMC. The following experiments will therefore attempt to manipulate self-awareness and then test the effects on optimal and intimate self-disclosure in CMC. However, before the experiments are discussed, a review of the manipulations that have been used in CMC research is presented.

**Manipulations of self-awareness in CMC**

Although many of the studies that examine self-awareness in CMC (Matheson & Zanna, 1988; 1990; Lea et al., 1995), ask the participant to rate how self-aware they are, and then use this to back up claims about how self-aware the participant
is in the experiment, another approach to self-awareness is to use private or public self-awareness as an independent variable, and attempt to manipulate it. Duval and Wicklund (1972), prior to the advent of CMC, made many attempts to induce objective self-awareness in the laboratory. They suggested that any situational cues available to an individual, that literally reminds them of themselves, could heighten self-awareness. They then experimented with the presence of mirrors, television, cameras and tape recordings of participants’ voices to try and induce objective self-awareness, but these experiments did not yield consistent results. Later, however, a distinction was made between the public and private self, which resolved the inconsistency in the results. It appeared that cues such as a small mirror, where just the head and shoulders could be viewed, focused the participants’ attention on the more personal aspects of the self (Buss, 1980; Carver & Scheier, 1981; Baldwin & Holmes, 1987; Webb, Marsh, Schneiderman, & Davis, 1989), and caused the participants to be more aware of previously held beliefs (Scheier & Carver, 1980). Furthermore, this state was reported to induce increased private self-awareness (Govern & Marsch, 1997). The mirror was also reported to lead participants to be more likely to answer the question of ‘who am I’ from personal rather than abstract social categories (Ickes et al., 1978), and to direct a participant’s attention towards their private self, heightening private self-awareness, and causing the participant to be more aware of hidden inner feelings, thoughts and memories (Archer, Hormuth, & Berg, 1982). In contrast, cues such as a camera, or an audience, were reported to direct participants’ self-focus towards the public self and the public self-aspects (Fenigstein et al., 1975). Other ways in which public self-awareness has been increased in experimental work include making the participant identifiable and also accountable (Carver & Scheier, 1981). Moreover, these increases in public self-awareness have been reported to lead people into acting in ways they feel they should act, rather than ways they would perhaps like to act (Carver & Scheier, 1981).

These types of manipulations, which manipulate levels of public and private self-awareness, have been modified fairly recently in CMC research. In particular, there are two studies within CMC research that have employed manipulations of self-awareness (Joinson, 2001; Yao & Flanagan, 2006). In both these experiments, a modification of the traditional method of heightening private self-awareness by placing a mirror near a participant (Scheier & Carver, 1980; Buss, 1980; Baldwin & Holmes, 1987; Webb et al., 1989) was used. This mirror manipulation was
modified by projecting a real-time image of the participant on the corner of the screen (Joinson, 2001; Yao & Flanagin, 2006). Like the mirror, the projected image was predicted to act as constant reminder of the self to the participant, thus increasing private self-awareness (Joinson, 2001). In one of the two CMC experiments that manipulated self-awareness, Yao & Flanagin used the projected-mirror condition to heighten private self-awareness, and also used a separate manipulation to try and heighten public self-awareness. The manipulation Yao & Flanagin used to heighten public self-awareness was a web-cam, which they found had similar effects to a video camera in heightening public self-awareness above that of a control condition, where no camera was used. Yao & Flanagin thus set out to try and use these two self-awareness manipulations to find support for deindividuation and hyperpersonal explanations of behaviour in CMC. In this study, Yao & Flanagin used same-sex dyads in an anonymous and time restricted and synchronous CMC environment, and they were given 20 minutes to discuss a ‘Wilderness survival problem,’ with their partner. Once this task was completed the participants were asked to complete a questionnaire that measured their private and public self-awareness, and assessed their intimacy, task vs social orientation, formality and politeness and attraction. Yao used four experimental conditions 2 (un-heightened vs. heightened private self-awareness) x 2 (un-heightened x heightened public self-awareness).

The results of the private and public self-awareness scores, which were taken from a modified version of Buss’s (2001) self-consciousness scale, were used to check the manipulations. It was found that participants who saw their own image during the study did report higher levels of private self-awareness than those who did not. Also those participants who received the higher level of public self-awareness manipulation reported higher levels of public self-awareness than participants that did not. Yao & Flanagin’s (2006) work produced some interesting findings that could indicate how increased levels of private self-awareness and decreased levels of public self-awareness could affect the motivations and goals of self-disclosure in CMC. Linking Yao & Flanagin’s findings to Miller and Read’s (1987) observations, Yao & Flanagin also found support for the notion that heightened private self-awareness may activate more personal goals (and strategies), and that social goals, and strategies, may be more salient when public self-awareness is heightened. Yao & Flanagin further suggested that the heightened private self-awareness (projected-mirror image) primed the individuals’ to focus on self-
presentation strategies that defined them as a unique individual, which then bolstered their attractiveness to their partner. It was possible, therefore, that this focus on the self as a unique individual made the individual self more salient and, in turn, encouraged more personally motivated self-disclosure.

Yao & Flanagin (2006) also reported that being high in public self-awareness did not increase group identification, nor did it increase private self-awareness, or decrease group identification. Yao & therefore suggested that being aware of the social aspects of oneself was not the same as having a salient group identity, and that self-awareness did not affect social identity, but affected the way in which an individual sought information about others. Yao & Flanagin therefore concluded that in this dyadic situation no support was found for deindividuation theories. These findings do have certain implications for the present study, as they suggest that increased public self-awareness, increases social aspects of oneself, and that this could affect the way the individual seeks information about others. It could also then affect the way the individual self-discloses to gain information about the other, and about their self. However, Yao & Flanagin also reported that participants in the heightened private self-awareness condition scored their partner higher for social attraction and were themselves voted more attractive (especially when paired with low levels of public self-awareness). Politeness also decreased under conditions of heightened public self-awareness, and this was viewed as support for hypersonality theory (Walther, 1996).

Yao & Flanagin’s (2006) work does therefore find support for the argument that different goals are obtainable in CMC. When private self-awareness is high during CMC, it does indicate that more personal goals of self-disclosure are obtainable, and that the self-disclosure may be more individuated (Ickes et al., 1978). It is also possible that other illustrated benefits of increased private self-awareness, such as an awareness of the discrepancies within the self and an increased sense of feelings and emotions (cf. Carver & Schieier, 1980), may also be accessed in CMC. In this sense, Yao & Flanagin’s work does give some indication as to how private self-awareness may affect the goals of self-disclosure. However, Yao & Flanagin did not actually measure self-disclosure. Moreover, even if the participant’s personal motivations are activated, and they are aware of their self as an individual in CMC interaction, it is a step further to then reveal this information to someone else. Although Yao & Flanagin’s study does contribute
to the understanding of self-awareness in CMC, it did not actually measure self-disclosure.

In the second of the experiments that used manipulations of self-awareness in CMC, Joinson (2001) examined the effects of manipulations self-awareness upon self-disclosure. Unfortunately this study was fairly ambitious and rather than just testing the effects of just heightened private or public self-awareness, or reduced private or public self-awareness on self-disclosure, it attempted to test Shaffer and Tomarelli’s (1989) finding that being high in either private or public self-consciousness was not conducive to self-disclosure. Joinson predicted, based upon Schaffer and Tomarelli’s work, that participants communicating in CMC would show high levels of self-disclosure when private self-awareness was raised and public self-awareness was reduced, whilst participants high or low on both would spontaneously self-disclose significantly less. To test this assertion Joinson manipulated private and public self-awareness and measured instances of spontaneous self-disclosure in an ice-breaker task. An increase in private self-awareness was achieved by projecting a video image of the participant on to his, or her, screen. This was again a modification of the traditional mirror manipulation that had been used in the past (Scheier & Carver, 1980; Buss, 1980; Baldwin & Holmes, 1987; Webb et al., 1989), and which was also used by Yao & Flanagin (2006). Private self-focus, was reduced by showing participants’ episodes of *The Simpsons* during the experiment, which was claimed to distract the participant’s attention from their self (Joinson, 2001). Public self-focus was heightened by the participants arriving in a well-lit corridor with video cameras pointing at them, and participants were informed that their discussion would be automatically transcribed, and that they would meet their partner after the experiment. Finally, a reduction in public self-focus was achieved by the participants arriving in a darkened corridor which led to a cubicle with blackened windows.

The results indicated no significant main effects for private self-awareness or public self-awareness. There was, however, a significant interaction between the level of private self-awareness and public awareness. Further analysis and post-hoc tests led to the conclusions that heightened private self-awareness and reduced public awareness resulted in significantly higher levels of self-disclosure, and the level of self-disclosure in the high private/low public self-awareness condition
were greater than in the reduced private/high public self-awareness condition. Joinson (2001) interpreted these results as evidence that it was not the effect of de-individuation that leads to higher self-disclosure, but rather an interaction between anonymity, which Joinson claims was shown by reduced public self-awareness scores, and heightened private awareness. These results are useful as they do provide solid empirical evidence that heightened private self-awareness and reduced public self-awareness, leads to heightened self-disclosure. However, there are many issues that arise from this study. For example, Joinson only measured duration/breadth of self-disclosure and therefore the scope of the findings are extremely limited, and not particularly useful when trying to understand the optimal and intimate self-disclosure that is apparent in CMC, and which is of interest in the present thesis.

Other issues that compound the finding of Joinson’s (2001) study surround the private and public self-awareness manipulations. Joinson’s conclusions seem to suggest, for instance, that private and public self-awareness react independently in the experiment. However a relationship between public self-awareness and private self-awareness can not be ruled out. The conclusions that can be drawn from the manipulations of self-awareness are further limited by the comparisons that are made between the manipulations of self-awareness within the experiment. Joinson) also used the projected-mirror manipulation to represent heightened private self-awareness. However this manipulation was deemed to be high in private self-awareness when compared to the condition which was considered to be low in private self-awareness (where participants are shown episodes of The Simpsons). In the absence of any type of control condition for private self-awareness, the validity of the heightened private self-awareness score for the projected-mirror condition is questionable. If it was tested against a control, the participants could score the projected-mirror manipulation lower than the control condition (for example one which does not have The Simpsons playing, and was more of a traditional anonymous CMC condition) for private self-awareness. This projected-mirror manipulation does therefore require more rigorous testing, with comparisons made with a control condition.

*The projected-mirror manipulation*
The modification of the mirror manipulation was considered successful in both Joinson's (2001) and Yao and Flanagin’s (2006) studies and it may become a standard, validated method that will be used in future research. However, the mirror as a manipulation of just private self-awareness is called in to question by various studies, which are also pertinent to understanding the CMC manipulation. There is, for example, evidence to suggest that whilst a small mirror increases private self-awareness, thus reflecting private and internal parts of the self (Scheier & Carver, 1977; Gibbons, Carver, Scheier, & Hormuth, 1979; Baldwin & Holmes, 1987). Larger mirrors simulate the effect of anticipated discussion with others, and engage elements of the public self (Snyder & Monson, 1975; Webb et al., 1989). There is also some evidence that a standard sized mirror increases both private and public self-awareness (Wiekens & Stapel, 2008). The projected-mirror manipulation in CMC may therefore increase public self-awareness. Moreover, this could be further intensified in the CMC projected-mirror manipulation, as the projection is caught by a camera, and a camera is reported in past research, to direct participants’ self-focus towards the public self and appropriateness of behaviour, thus increasing public self-awareness (Duval and Wicklund, 1972). In Yao & Flanagin’s study levels of public self-awareness were not measured in the CMC projected-mirror condition, and in Joinson’s experiment the heightened private self-awareness condition was compared to a reduced private self-awareness condition, with no control. More research is therefore required to examine the possible effects that the manipulation could have upon public self-awareness. In the experiments that will be reported in the present thesis, the projected-mirror manipulation will be used to try and heighten private self-awareness, which in turn should increase deep personally motivated self-disclosure. In the present study, a detailed examination of this manipulation will be undertaken in terms of public and private self-awareness, and the condition will be compared to a control condition.

The door-ajar manipulation

Whilst a mirror is reported to increase private self-awareness and increase self-disclosure, it is also suggested that anything that distracts a participants’ attention away from their innermost thoughts and feelings and, out to the external, will reduce private self-awareness, and will thus inhibit self-disclosure (Duval & Wicklund, 1972). Loud music (Prentice-Dunn & Rogers, 1982) and rotating
turntables (Webb et al., 1989) are examples of manipulations that have been used to reduce private self-awareness within past experiments. In a similar vein, and in the only study which attempts to reduce private self-awareness experimentally in CMC, Joinson (2001) played episodes of *The Simpsons* to participants during a task, to reduce the participant’s private self-awareness. Unsurprisingly, the participants in this condition did report lower levels of private self-awareness and fewer instance of spontaneous self-disclosure during the task (Joinson, 2001). However, even Joinson criticised this condition as being too cognitively demanding, which he also suggested may have confounded the results. Joinson went on to suggest that playing *The Simpsons* to the participants during the task made too many concurrent demands upon the participant’s attention, and expressed concerns that this may have led to the reduced self-disclosure (Joinson, 2001). Although this manipulation illustrated that if a participant is distracted during a task they will self-disclose less, it is certainly not appropriate for studying the more intimate or deep type of self-disclosure, which is of interest in the present thesis. It would be extremely difficult and distracting for a participant to even attempt deep and optimal self-disclosure whilst watching *The Simpsons*. More methods of reducing self-disclosure are therefore required to allow further understanding of the link between self-awareness and self-disclosure in CMC.

A slightly different perspective is therefore adopted in the present study, where the question is poised of; how subtle could a distraction be to draw the participant away from their private self, and still reduce self-disclosure? It is noted that if the manipulation is too strong it is likely that the participant will not self-disclose deeply at all, and this would defeat the aim of the experiment. When high in private self-awareness participants are highly aware of their thoughts and feelings (Scheier, et al., 1978), and this is also beneficial to the participants expressing the type of deep and optimal self-disclosure that is of interest in this thesis. The distraction does therefore need to be quite subtle. It is therefore suggested that as the ultimate aim of the manipulation is to reduce self-disclosure, that it would also make sense to look at a subtle manipulation that could heighten public self-awareness. In Joinson’s (2001) study an audience was used to heighten public self-awareness, and this has also been successfully used in the past (Froming et al., 1982), and is considered a valid manipulation which can increase public self-awareness (Carver & Scheier, 1987). Again, however, an audience is a very strong manipulation to use when the aim of the present thesis is to try and elicit...
optimal and deep self-disclosure. As Franzoi and Brewer (1984) did report that the presence of other people can also focus an individual’s attention on the public aspects of the self, it would therefore be interesting if a subtle manipulation could be devised, in the present experiments, that increased public-self-awareness just enough to distract the participants from their private self, yet still elicited high levels of self-disclosure. This finding would be more interesting than a manipulation that had the participant reject the task and not engage in any, or very low levels of self-disclosure. It would also potentially increase the social motivations within the interaction, and also give some insight into the relationship between public and private self-awareness.

This idea of increasing public self-awareness by increasing the presence of the other is something which fits in well with CMC research. Joinson (2001), in the conclusion of his experiments, made the suggestion that it could be due to the participants being physically alone in a CMC interaction, that leads to a feeling of being alone, which ultimately increased private and reduced public self-awareness. Indeed, CMC has been suggested to give a feeling of privacy (Joinson, Reips, Buchanan, & Schofield, 2008), and a feeling that no one is looking (Weisband & Reining 1995). The manipulation to be employed in the following experiments was therefore designed to try and tap into these types of feelings that are reported to be induced in CMC. Jourard (1971) conducted much work on the Distance-Equilibrium Hypothesis which postulated that as distance decreased between the participant and the experimenter, the level of intimacy also decreased. Various subsequent studies also reported that the greater the distance between the experimenter and the participant, the greater the self-disclosure that would occur (Jourard, 1961; Johnson & Dabbs, 1976). It was almost as if adding space between the experimenter and the participant allowed the participant’s boundaries of privacy to expand, thus freeing the participant to access their private thoughts and feel safer to self-disclose (cf. Johnson & Dabbs, 1976).

It could therefore be argued that if the participant is anonymous and alone, with no one around, the psychological/social and physical distance between the participant and the communicant is great, thus are the feelings of privacy (Goh, 2004; Manstead et al., 2011). However the presence of someone, not necessarily connected to their task, could also reduce this privacy. The present study therefore tests the extent to which this is possible. It is proposed, in the present study, that if
the participant’s cubicle door is left ajar (door-ajar manipulation) that this will reduce their private self-awareness, whilst increasing public self-awareness. It is clear throughout the literature that self-disclosure is a very sensitive process, and the slightest change can dramatically affect the person’s motivation of self-disclosure, their perception of risk and therefore their output of self-disclosure. Although this manipulation is subtle it is predicted that it will have a fairly dramatic effect. It is predicted that the manipulation will have a negative effect upon optimal and intimate self-disclosure. It is also suggested that although this manipulation is not technically a manipulation of CMC, it taps into a factor which is essential to the CMC experience. This factor being that when someone is communicating by CMC it is usually just them alone with their computer. Moreover, this experience may increase private and reduce public self-awareness, as they become absorbed in the experience. The experiments in this thesis will therefore employ these two manipulations; the first, the projected-mirror manipulation will be used to try and encourage self-disclosure, and the second, the door-ajar manipulation, will be used to try and inhibit self-disclosure. It is further predicted that these manipulations will alter the levels of private and public self-awareness that are experienced during the experiments, and will allow an insight into how self-awareness affects personally motivated, intimate and optimal self-disclosure in CMC.

The decision to self-disclose

It is argued in the present thesis that predicting a participant’s self-disclosure is extremely difficult and dependent upon several factors and decisions made by the individual. In order to self-disclose, it is argued here, that the participants go through several processes which involve them checking their internal standards with outside reference points to decide on their behaviour (cf. Powers (1973a; 1973b; Carver & Scheier, 1981). It is therefore argued that attentional focus is key to understanding breadth, depth and accuracy of self-disclosure in CMC, in addition to understanding the goals of self-disclosure, and also which aspect of the self the self-disclosure is from. More specifically, it is argued that increased private self-awareness and reduced public self-awareness will encourage the revealing of intimate and optimal self-disclosure. In the following two experiments two manipulations, projected-mirror and door-ajar, are used to try and both enhance and inhibit self-disclosure. In the experiments, both private and public self-awareness will be measured, alongside breadth, depth and accuracy of
self-disclosure, and various other interpersonal factors. This will allow a detailed investigation of the links between self-disclosure and self-awareness. It is envisaged that the results will illustrate some of the complex factors that are involved in the self-disclosure decision.

This decision process that the individual goes through when self-disclosing has been structured in the Disclosure-Decision Model (DDM) (Omarzu, 2000), which views self-disclosure from the individual’s perspective. This model presents a fairly structured way of understanding self-disclosure and provides quite a useful perspective in which to frame the experiments that are to follow (Figure 5).

![Figure 1.1: The Disclosure-Decision Model (DDM) (taken from Omarzu, 2000)]
As is clear from Figure 1.1, the DDM begins with the motivation, or goal, the importance of which has been constantly emphasised throughout this introduction. It is argued here that the goal of self-disclosure, and particularly whether the goal is personal or social, will greatly affect the output of self-disclosure, and the main focus in the following experiments is personally motivated self-disclosure. The DDM also predicts that if there is no salient goal that there will be no self-disclosure, and this will depend on whether there is an appropriate target, appropriate strategy, and the weighing up of subjective risk and subjective utility. The subjective utility (reward) involves the consideration of how important the achievement of the goal is, and this is reported to be affected by three elements: individual differences; situational cues; and target characteristics (Omarzu, 2000). The subjective perceived risk identifies the risk of factors such as social rejection, betrayal and discomfort for the listener (Omarzu, 2000). It is suggested here, that the manipulations that will be used in the present experiment, fit into the situational cues dimension of the DDM, and will lead to the participant having different weights of subjective risk and utility to consider. Although the DDM does not consider attentional focus, it is argued that the participants’ levels of private and public self-awareness are also essential in their decision to self-disclose. The decision to self-disclose is weighed up, consciously or subconsciously, and parallels can be drawn between this process, and the internal and external checking and referencing that is involved in theories of self-regulation (cf. Powers, 1973a; 1973b; Carver & Scheier, 1981). For example, in the following experiments, the task is engineered to try and encourage the pursuit of deep and personally motivated goals of self-disclosure. The participant has therefore the opportunity to explore the private self. However, if public self-awareness is raised, a discrepancy could appear between what the participants would like to achieve and what they feel they can achieve. In this situation it is argued that the participant will change the goal, or reduce the discrepancy, by not engaging in deep and optimal self-disclosure.

It is, therefore, argued that the manipulations, which will affect the attentional focus of the participant, will create different weights of subjective utility and subjective risk, which will ultimately result in different self-disclosure behaviours. The DDM (Omarzu, 2000) gives no consideration to accuracy of self-disclosure, but it is argued in the present thesis that this often overlooked aspect of self-disclosure is essential to explore. The DDM predicts that the depth dimension is
most at risk in the self-disclosure decision. However, it is argued here that the accuracy dimension is equally at risk. The DDM also suggests that as the subjective utility increases, or as the possible rewards increase, the breadth of the self-disclosure will drop to allow more focus on the topic related to achieving the desired goal. The experiments that follow, will give some insight into how these different dimensions of self-disclosure are affected by public and private self-awareness. In the following chapters, four experiments are reported which present an in-depth investigation into the role of self-awareness on self-disclosure in CMC. Due to the detail in which self-disclosure is considered within the experiments, and due to the large number of dependent variables that are measured, a discussion-style results section has been adopted. It was deemed that this style of reporting would aid clarity and would also allow the results to be related back to the theory in a more systematic fashion.
CHAPTER 2: Experiment 1
An experiment investigating the effect of manipulations of self-awareness on dyadic self-disclosure in computer-mediated communication

Introduction

The aim of Experiment 1 was to elicit deep self-disclosure in a dyadic interaction, and then to examine the effects of manipulations of private and public self-awareness upon the deep self-disclosure. The manipulations utilised in Experiment 1 consisted of the projected-mirror manipulation and the door-ajar manipulation. Significantly, no prior experiment had considered the role of self-awareness in deep self-disclosure within CMC, and no study had examined the role of self-awareness in optimal self-disclosure. Moreover, no study (with exception of Goh, 2004) had considered how the goals within the interaction may affect the output of self-disclosure. In the absence of any past studies investigating depth of self-disclosure the outcome was therefore fairly uncertain. It was possible that the manipulations of self-awareness would not alter the level of depth of self-disclosure. The manipulations could, for example, be ignored, as was evidenced in Goh, where the desire to socialise was seen to override any negative effects of manipulations. In contrast, it could be that the projected-mirror manipulation would have a similar effect to a small mirror, that was previously reported to focus the participant’s attention on the personal aspects of the self (Buss, 1980; Baldwin & Holmes, 1987; Scheier & Carver, 1980; Webb et al., 1989), and which was also reported to raise private self-awareness (Govern & Marsch, 1997; Joinson, 2001; Yao & Flanagin, 2006), which could, in turn, increase self-disclosure. It had also been suggested that the mirror could act as a reminder to the participant of how others see them (Yao & Flanagin, 2006), which could, as was seen in mirror manipulations using a large mirror, produce effects similar to anticipated future discussion (Webb et al., 2006; Snyder & Monson, 1975). If this was the case then the depth of self-disclosure would drop. The hypothesis pertaining to self-awareness and self-disclosure in Experiment 1 was however based on Joinson’s empirically validated projected-mirror condition, which was used to examine breadth of self-disclosure. That is, the projected-mirror condition would increase private self-awareness and would as a result increase self-disclosure (H1 and H2).
It was also predicted, that if the projected-mirror manipulation was successful in heightening private self-awareness, that it would increase the personal motivations in the interaction (cf. Duval & Wicklund, 1972), and would also increase the participants’ awareness of their self-discrepancies (cf. Carver & Scheier, 1981), and in particular of the true self. It was suggested, that this situation would be ideal for pursuing personal motivations of self-disclosure, as subjective utility would be high in this situation. Bargh et al., (2002) had reported previously that participants in this type of anonymous CMC situation do have greater access to their true self, and although Bargh et al. attributed this to the lack of identifiability rather than the heightened private self-awareness, this was examined in Experiment 1. Although private self-awareness may be important for the access to the true self, for this to translate into deep and optimal self-disclosure it is argued here that public self-awareness must also be low. This would also be predicted in the DDM where for self-disclosure to be deep, subjective risk must be low. Therefore, it was predicted that when the participant weighs up the high subjective utility with the low subjective risk of the projected-mirror condition, they would self-disclose deeply, and they would also self-disclose accurately (H2).

In contrast, it was predicted that the door-ajar condition would increase participants’ public self-awareness and possibly decrease their private self-awareness, and that this would adversely affect their willingness to self-disclose deeply and broadly or to engage in optimal self-disclosure (H3, H4, H5). In the following experiment the distraction of the door being ajar was expected to disturb the participants’ sense that they were alone and it was predicted that this would prevent them becoming absorbed in intimate and optimal self-disclosure. Psychological distance and space had been reported previously to be an important factor in CMC (Manstead et al., 2011) and it was predicted that the door-ajar manipulation would also disturb the participants’ privacy (Joinson et al., 2008). Reducing the distance between the experimenter and the self-discloser had also been reported to have a negative effect upon intimate self-disclosure in past studies (Jourard, 1971), and it was expected that this would occur in the CMC situation of the present experiment. It was also predicted that the door-ajar condition would make the participants more aware of other people being around, because the presence of others has been seen to increase public self-awareness in
the past (Froming et al., 1982; Franzoi, & Brewer, 1984). Although this manipulation is less obvious than Joinson’s (2001), it was predicted that it would also reduce psychological distance between the experimenter and the participant, which has also been seen in the past to greatly reduce self-disclosure (Jourard, 1961; Johnson & Dabbs, 1976). In this instance, it was predicted that the participant would not feel ‘safe’ to reveal the true self and consequently optimal and deep self-disclosure would not be engaged in. In terms of the DDM (Omarzu, 2000), in this condition it was predicted that the subjective risk was high, as the door-ajar manipulation is a risk to the private self, and this would in turn affect the goal and the strategy of self-disclosure. It was predicted that it would greatly affect the possibility of achieving personally motivated goals of self-disclosure, and that in this situation the self-disclosure could be broad, but it would not be deep, nor would it be authentic. Finally, it was predicted that increasing private self-awareness would increase self-disclosure (H7), and that increasing public self-awareness would decrease accuracy of self-disclosure (H8).

H1: Participants in the projected-mirror condition will score higher on the private self-awareness scale than participants in a control condition

H2: Participants in the projected-mirror condition will score lower on the public self-awareness scale than participants in a control condition

H3: Participants in the projected-mirror condition will score significantly higher for breadth, depth and accuracy of self-disclosure, than participants in a control condition

H4: Participants in the door-ajar condition will score lower on the private self-awareness scale than participants in a control condition

H5: Participants in the door-ajar condition will score higher on the public self-awareness scale than participant in a control condition

H6: Participants in the door-ajar condition will self-report themselves to self-disclose significantly less breadth, depth and accuracy of self-disclosure than participants in a control condition
H7: There will be a positive correlation between breadth, depth and accuracy of self-disclosure and private self-awareness

H8: There will be a negative correlation between breadth, depth and accuracy of self-disclosure and public self-awareness

Method

Overview and design

During the experiment the participants were randomly assigned to one of three conditions; control, projected-mirror and door-ajar conditions. The experiment therefore compared two conditions (control vs. projected-mirror) and (control vs. door-ajar), with self-awareness manipulated as an independent factor. Participants interacted individually with a trained female confederate, whom they believed was another student using a text-based computer conferencing system in a semi-structured discussion designed to elicit self-disclosure. Dependent measures were obtained after the experiment through an on-line questionnaire, which explored private and public self-awareness, self-disclosure and several other interpersonal variables. The experiment was approved by the University Ethics committee and ethical consideration was shown at all stages of the experiment

Equipment

The participant and the confederate were located in separate cubicles and used desktop PCs, which were connected via a LAN to a server that hosted the O’Reilly WebBoard conferencing system. The video-conferencing hardware that was used was VCON Escort desktop video-conferencing hardware. The images for the video were captured using a fixed-focus video camera, which displayed the images on a 17” XVGA monitor. The text conferencing was synchronous and on each PC the participants could type up to 256 characters into a small input window. When they pressed the Return key these characters would then appear on a scrollable text-conferencing window. The characters that they had typed would appear almost instantaneously in this scrollable window, preceded by ‘Participant X’. The scrollable conferencing window could be viewed on both the participant’s and confederate’s screen. In the projected-mirror condition, text-based interaction was supplemented by silent video-mediated communication using a fixed-focus
camera attached to a PCI card installed in the participant's computers. The camera was positioned directly above the monitor and captured the head and shoulders of the participant in 25 fps near-broadcast quality video which was transmitted at 1.5Mbps for display in a 15cm. square window in the bottom right-hand corner of the participant’s screen. A third PC hosted an O'Reilly WebBoard text-conferencing server and archived the text of the interactions using MIRC software.

The questions of varying intimacy and the semi-structured discussion

In Goh (2004) 18 questions relating to different personal topics varying in intimacy were prepared from an initial list of 40 items used by Jourard (1971) (Appendix 1). The 40 items were presented in random order in a questionnaire to 100 undergraduate students who were asked to rate the intimacy of each question on a nine-point scale anchored at the extremes by one (low intimacy) and nine (high intimacy). The mean intimacy value of each question was calculated and 18 questions representing six low intimacy topics (M = 2.03; SD = 0.39), six medium intimacy (M = 3.88; SD = 0.86) and six high intimacy (M = 6.10; SD = 0.91) topics were selected. Example items include 'What are the aspects of your daily work that satisfy and bother you?' (2.55); 'What are your usual ways of dealing with depression, anxiety and anger?' (4.30); 'What are the sources of strain and dissatisfaction in your sexual relationships?' (7.24). The 18 questions were assembled in two lists: randomly ordered for use by the participant; and rank ordered by intimacy value for use by the confederate. The list of questions of varying intimacy that were prepared by Goh (2004) (Appendix 1) are used throughout all the experiments presented in this thesis.

In the semi-structured discussion, the participant followed paper instructions that asked them to ask the confederate the practice question. The confederate would reply, and then ask the participant the question back. After the confederate practiced asking the practice question, the participant was asked (in the paper instructions Appendix 2) to choose a question from the list of varying intimacy, to ask the confederate. This meant that the participant set the intimacy level for the interaction. The confederate was then instructed, when it was their turn to ask a question, to move down the list of questions of varying intimacy and always ask the participant the question which was next on the list of increasing intimacy.
This ensured that the confederate would encourage the intimacy of the interaction, whilst matching the level chosen by the participant. The participant and the confederate then took turns, asking each other questions of varying intimacy. In the participants’ instruction, they were informed that they should listen to their partner’s replies, and could briefly respond, but they were not allowed to ask further questions. This was to ensure that the interaction did not sway too much from the task. The confederate had a script (Appendix 3) where they were only permitted to respond with certain answers, and had to stick exactly to the pre-prepared questions. The script was based on the confederate answers used in Goh (2004). In Goh (2004) the confederate prepared, in advance of the experiments, honest, open and high disclosing answers to each of the questions. The answers were printed out for the confederate in the present experiment to read and type during the interactions. These confederate answers had already been tested and used in Goh (2004), where they had been seen to be effective in encouraging self-disclosure.

**Experimental manipulations**

**Control**

In this condition the door of the participant’s computer cubicle was pulled shut by the experimenter. The computer the participant used to type their email was standard with no webcam attached to it. No image of the participant was captured during the session.

**Projected – mirror condition**

This condition was exactly the same as the control except a video-conferencing camera was positioned on top of the computer screen. VCON software was used to capture the participant’s head and shoulders in an image that was projected in a window at the bottom right hand corner of the screen. The image was in view but fairly small so did not disturb the chat window. The participant was asked to read the information about the camera and their permission was gained for using their image. The participant was reassured that the image was not being saved. They were informed that only they would see this image of themselves. The door was closed by the experimenter and remained shut throughout the task.

**Door-ajar condition**
This condition was exactly the same as the control condition except the experimenter left the door 30cm. ajar for the duration of the task. During the task, the experimenter was sat out of immediate view of the door. However if the participant leaned back they could view the experimenter five metres away. The experimenter could not possibly read the participant’s disclosures nor see the screen or the participant. There was no webcam on the participant’s computer, and no image was projected on their screen during the interaction.

**Procedure**

Forty-five, British undergraduate psychology students, aged 18-24 (M=20) took part in the experiment in return for credits that they had to collect on their undergraduate course, or a five pound monetary reward. It was made clear to the participants at the beginning of the experiment that they would be interacting with another British student. They were told that they were going to spend some time answering and asking various personal questions with each other using CMC. The participants were randomly assigned to one of the three conditions; control; projected-mirror; and door-ajar. In all of the conditions the participants were met and shown to a computer cubicle where the experiment would begin. On entering the computer cubicle the participants were asked to read the instructions and list of questions of varying intimacy. The instructions explained that they were going to spend 25 minutes taking turns asking and answering the questions of varying intimacy with a partner. They were also told that they were completely anonymous in the interaction and that their answers would only be seen by the participant, and then would not be accessed till six months later for analysis. It was emphasised that their answers could not be traced back to them. The participants were then asked to wait for their partner to say ‘hello,’ and following this greeting were asked to ask their partner the practice question. The semi-structured discussion would then begin. This process continued for 25 minutes. After 25 minutes an alarm sounded and the participants were asked to fill in a post-interaction questionnaire.
**Dependent Measures**

**Post-interaction questionnaire**

In the post-test questionnaire 14 scales were investigated, and the questionnaire items and their inter-item reliability are shown in Appendix 4. The process of constructing the 14 scales is outlined below and resulted in 25 items:

**Private and public self-awareness**

Matheson and Zanna (1988; 1990) adapted Prentice-Dunn and Rogers’s (1982) scale to measure private and public self-awareness, for use after CMC interactions (private self-awareness Cronbach =0.56; public self-awareness Cronbach = 0.62). This scale was also used by Joinson (2001), and consists of four items which Joinson (2001) used with slight rewording. Unfortunately there is no reliability data available for Joinson’s study. In the scale, which was also slightly reworded here to suit the task, the participants were asked to indicate how much they agreed or disagreed with four descriptions describing their self-focus. For private self-awareness, the descriptions were, ‘I’ve generally been very aware of myself, my own perspective and attitudes,’ and reversely scored, ‘Rather than thinking about myself in this interaction, I have been distracted by what is going on around me,’

For public self-awareness, the descriptions were, ‘I have wondered about the way I have responded and presented myself in comparison to others, who are the same type of orientation to me,’ and ‘I have thought about how my partner might be responding to my answers as they read them.’

**Breadth, depth and accuracy**

In Goh (2004) a description was given of breadth and depth of self-disclosure, and the participants were then asked to rate how broadly or deeply they self-disclosed during the interaction. This measure was seen to be a simple yet reliable measure of breadth and depth of self-disclosure in Goh (2004). It was therefore used again in the experiments in this thesis, where the participants were asked to rate on a scale of 1-9 how broad and how deep their self-disclosure was during the interaction. This technique was also used to measure accuracy of self-disclosure in the experiments in this thesis.
Learning, sociable, enjoyment, self-presentation, trust, intimacy, accountability, embarrassment and isolations

In Goh (2004) extensive piloting was undertaken to produce items for various scales. A task was given to 100 students that asked them to imagine they were in the experiment. The experiment was described and the participants were even asked to interact with an imaginary partner by answering questions of varying intimacy. The scales on the questionnaire were tested by Goh (2004) for reliability and any items that did not have an inter-rate reliability of 0.8 were discarded. Eighteen of these items were used in the experiments in this thesis. Each scale consists of two items and the Cronbach’s alpha consistency values are given in Appendix 4. An example of one of the items in each scale, are as follows; learning (‘I felt I learnt something about myself in the interaction’), sociable (‘My partner is a sociable person’), enjoyment (‘I enjoyed the interaction’), self-presentation (‘I presented a more positive image of myself in the interaction’), trust (‘my partner and I built up a trusting relationship’), intimacy (‘The interaction was intimate at points’), accountable (‘I felt in this experiment that I could say anything and not feel accountable for it’), embarrassment (‘I felt embarrassed during the interaction’ and isolation (‘I found the experience isolating’).

Results and Discussion

A MANOVA was used to investigate the differences between the participants self-disclosure in the conditions. Self-awareness was compared as an independent factor with three conditions (control x projected-mirror x door-ajar), and the participants self-disclosure, self-awareness and a number of other interpersonal factors were compared. There was a significant multivariate effect of condition (Lambda=0.089 F(42,44) = 2.460 p<0.01), and the significant main effects, means and standard deviations are summarised in Table 2.1.
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<th>Item</th>
<th>Condition</th>
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<th>Projected-mirror</th>
<th>Door-ajar</th>
<th>F value</th>
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<td>(1.05)</td>
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Table 2.1: A Summary of the means and (standard deviations) across the conditions and the resulting significance from the univariate effects. Different subscripts indicate significant differences (Tukey p<0.05)
Projected-mirror condition

Private and public self-awareness
No significant difference was found for private self-awareness and the participants in the projected-mirror condition (M=6.00, SD=1.93) reported similar levels of private self-awareness to those in the control condition (M=5.27, SD=2.49, \(p=0.56\) (Table 2.1). Although participants in the control condition (M=4.13, SD=2.26) seemed to report higher levels of public self-awareness than participants in the projected-mirror condition (M=2.53, SD=1.60, \(p=0.08\)), this result was not significant. When the differences in the levels of private and public self-awareness were however viewed (Figure 2.1), there were clear differences between the levels of private and public self-awareness in the control and the projected-mirror condition. What is particularly notable in Figure 2.1 is the difference between the private and public self-awareness scores in the control and projected-mirror condition.

Although self-consciousness scales consider the private and public dimensions to be independent, Joinson (2001) did comment that it could not be ruled out that private and public self-focus were associated. Another statistic was therefore calculated for the present comparisons, the ratio of public self-awareness to private self-awareness score. This score was calculated by creating an individual ratio of public to private self-awareness score for each participant and then using this as a dependent variable. There was a significant difference in the ratio of private to public self-awareness between the control (M=1.08, SD=0.81) and projected-mirror condition (M=0.46, SD=0.26, \(p<0.05\)). Participants in the projected-mirror condition were more aware of their inner thoughts and less aware of the audience, than participants in the control condition. The projected-mirror condition did therefore appear to reduce public self-awareness, whilst increasing private self-awareness, which was indicated by the ratios. These results did therefore find some support for Joinson, and Yao and Flanagin (2006), and supported past research that suggests that a small mirror increases self-focus (Buss, 1980; Scheier & Carver, 1980; Baldwin & Holmes, 1987; Webb, et al. 1989). The projected-mirror condition did not seem to mimic the effects of a larger mirror as it had in past studies (cf. Webb et al., 1989; Wiekens & Stapel, 2008). The projected-mirror condition did increase private self-awareness, whilst reducing public self-awareness. H1 and H2 were therefore accepted.
Breadth and depth of self-disclosure

Next, attention turned to whether this heightened private and reduced public self-awareness translated into greater breadth and depth of self-disclosure. A significant effect was found for breadth of self-disclosure with the post-hoc analysis finding that participants in the projected-mirror condition (M=6.73, SD=1.28) self-reported significantly higher levels of breadth of self-disclosure than participants in the control condition (M=5.13, SD=1.19, *p*<0.005). Similarly, the projected-mirror condition (M=6.33, SD=1.72) encouraged participants to report significantly greater levels of depth of self-disclosure than participants in the control condition (M=3.93, SD=1.75, *p*<0.001), given this H3 was therefore accepted. These results are illustrated in Figure 2.2, where the self-reported breadth and depth are both significantly higher in the projected-mirror condition, than in the control condition. It appeared from these results that the projected-mirror was having the effect predicted from the literature. The projected-mirror condition was one which increased private whilst reducing public self-awareness, which in turn successfully increased breadth and depth of self-disclosure in dyadic communication. The results did therefore find support for Joinson’s (2001) results and extended Joinson’s findings to depth of self-disclosure. Of significance, in the present study, was the observation that although the participants in the control and projected-mirror condition were both anonymous, even within this constant the level of private and public self-awareness did still affect self-disclosure. It could therefore be confidently concluded from these results that private and public
self-awareness were essential factors in explaining heightened self-disclosure in CMC, and that anonymity alone can not explain increased self-disclosure in CMC.

Figure 2.2: The differences between the self-reported scores of self-disclosure across the conditions

**Accuracy of self-disclosure**

The participants in the projected-mirror condition scored themselves at similar levels for accuracy (M=8.33, SD=0.62), to the participants in the control condition (M=7.40, SD=1.40, p=0.16). It is however possible that the participants in the projected-mirror condition and the control condition were both authentic in their self-disclosures, although a result showing an opposing score from another condition would be needed to verify this (see door-ajar condition, where this was confirmed). In the only other study to consider the true self in CMC, Bargh *et al.* (2002) found CMC increases the access to the true self in CMC. It has also been reported that heightened private self-awareness increases an awareness of self-discrepancies (Carver & Scheier, 1981). It is therefore argued here, that in the control condition and the projected-mirror condition, the participants’ self-disclosure was from their true self. This finding is interesting, as although Bargh *et al.* did find that access to the true self was increased in CMC, they did not investigate whether this would translate into optimal self-disclosure. Further support for the suggestion that the participants were presenting their true self in this condition, also comes from the participants reporting similar levels of self-presentation in the projected-mirror condition (M=5.47, SD=1.85) as in the control condition (M=4.33, SD=2.38, p=0.27). This measure suggested that the participant’s were not presenting a more positive image of themselves, again
indicating that they were doing nothing other than self-disclosing from their true self.

**Further measures**

Various other factors gave more indication of what was occurring in the projected-mirror condition. The participants reported similar scores for enjoyment in the projected-mirror condition (M=7.40, SD=1.40,) as they did in the control condition (M=7.33, SD=1.05, p=0.99). The participants also reported similar levels of trust (M=4.27, SD=1.79) and embarrassment (M=2.40, SD=0.99) in the projected-mirror condition in comparison with the control condition (M=3.87, SD=1.81, p=0.46; M=1.73, SD=0.88, p=0.82. They also reported similar levels of accountability (M=3.87, SD=1.77), intimacy (M=3.93, SD=1.83) and isolation (M=2.27, SD=1.39) in the projected-mirror condition as they did in the control condition (M=3.87, SD=1.22, p=0.99; M=3.87, SD=2.13, p=0.96; M=1.93, SD=1.16, p=1.00). However, the participants in the projected-mirror condition also reported that they learnt more from the exchange (M=5.93, SD=2.05) than participants in the control condition (M=3.93, SD=2.19 p<0.05). The participants enjoyed self-disclosing more broadly and deeply from their true self in the projected-mirror condition, and also learnt more than participants in the control condition, by doing so.

It is argued in the present thesis, that CMC increases personal goals of self-disclosure. Moreover, it is argued that heightened private self-awareness encourages this to occur. Some indication of the goal of self-disclosure in the interaction, could be inferred in this condition from the participants in the projected-mirror condition reporting their partner to be less sociable (M=6.20, SD=1.52) than the participants in the control condition reported their partners to be (M=7.60, SD=1.05, p<0.01). It is argued that this score, in conjunction with the heightened private and reduce public self-awareness scores, suggested that the participants in the projected-mirror condition may have been more internally focused than the participants in the control condition, despite the dyadic communication. The result of greater learning, whilst being less sociable, further supports the notion that the participants may use the projected-mirror condition to explore themselves. The results did therefore find some support for Miller and Read’s (1987) suggestion that private self-awareness increases personally motivated goals. Returning to the goals of functional analysis (Shaffer &
Tomarelli, 1989), it is argued here that the goals in the projected-mirror condition may have been less about impression management, and more about gaining self-clarification. This also supports Bargh et al.’s, (2002) suggestion that CMC may provide a situation akin to the ‘stranger on the train’ phenomenon, although significantly the present experiment identified that it is not just the lack of identifiability, but also the heightened private and reduced public self-awareness that may be attributable to this. Moreover, the results of the experiment could have implications for which representation of Sedikides and Brewer’s (2001) self the participant was gathering self-knowledge about. It was possible that the more private self-awareness was increased, and the more public self-awareness was reduced, the more likely the participant was to explore, and gain information about, the individual self. In contrast, increasing levels of public self-awareness and reducing levels of private self-awareness may have encouraged the relational self to be explored by the participants. Whilst this would need further investigation, it could be an important ingredient of what is occurring on-line.

In the projected-mirror condition, the participant was high in private self-awareness, whilst being low in public self-awareness, yet they were still engaged in a social interaction. This situation is quite unique, but the rewards are high. The situation was, for example, low in interpersonal risk, yet high in subjective utility. The projected-mirror condition was therefore an ideal, yet unusual, situation to explore the self. In terms of the DDM (Omarzu, 2000), in the control condition the goal may have been personal or social, the target was clear and willing, and the participant could use self-disclosure to explore social and personal goals. In contrast, the addition of the projected-mirror brought the focus more to the self, the situation would become less social and the participant could go deeper and broader into self-disclosure. It is argued here, that as the situation was less social they may have achieved more personal goals, and may have been less interested in social goals. Moreover, as public self-awareness was also reduced, and there was a feeling no-one is looking, the subjective risks were low. Although Joinson (2001) could not explain what it was about the CMC environment that seemed to heighten private self-awareness, here it seemed that the less social the situation the more internally focused the participant appeared to become. What may have been heightening private self-awareness may have been the opportunity for the participants to be almost alone with their thoughts, yet still in an interaction.
Door-ajar condition

Private and public self-awareness
The participants in the dyadic door-ajar condition did not report significantly lower levels of private self-awareness (M=5.47, SD=0.99) than participants in the control condition (M=5.27, SD=2.49, p=0.96). Nor did they report any differences in levels of public self-awareness in the door-ajar condition (M=4.27, SD=2.05) than in the control condition (M=4.13, SD=2.26, p=0.98). Leaving the door ajar did not seem to make any difference to their reported levels of private and public self-awareness. Unlike in the projected-mirror condition, the ratio of private and public self-awareness was also no different in the control condition (M=1.08, SD=0.81) as compared with the door-ajar condition (M=0.80, SD=0.26, p=0.35). The similar levels at which the participants’ in the door-ajar and control condition reported their levels of self-awareness are illustrated in Figure 2.1. The lack of difference also led to H4 and H5 being rejected. These results could suggest that participants did not notice the door being ajar, and if they did, it did not increase the public threat, nor draw them away from themselves. Although this manipulation was an attempt at a more subtle manipulation than those used by Joinson (2001) and Yao and Flanagin (2006), it did not appear to produce the desired effect. There was a possibility, however, that, as was found in Goh (2004), the distraction of the door was overridden by the desire to socialise and to attend to the task. The manipulation in this study may also have been so subtle that it was missed entirely by the participants. Alternatively, the public and private self-awareness items on the scale may not have been sufficient to capture any differences. This was particularly possible as the measures required the participants to self-report in a task that, in it-self, raised private self-awareness. The participants may therefore have been experiencing different levels of self-awareness to the participants in the control condition, but this would not have been captured in this independent measures design.

Breadth and depth of self-disclosure
More evidence that the door-ajar manipulation was too subtle, as a manipulation of self-awareness to inhibit self-disclosure, came from the breadth and depth measures of self-disclosure. Due to the lack of significant findings in the self-awareness scores, it was no surprise that for this dyadic door-ajar condition, there was no difference between the participants’ reported breadth in the door-ajar condition (M=5.33, SD=1.05) as compared with the control condition (M=5.13,
SD=1.19, p=0.88). The participants also reported similar levels of depth in the control condition (M=3.93, SD=1.75), as compared to the door-ajar condition (M=4.60, SD=1.18, p=0.48). Therefore in their dyadic interaction the participants self-reported self-disclosing to similar levels of breadth and depth to those in the control. The door-ajar condition did not seem to produce the desired effect of reducing self-disclosure and H6 was therefore rejected (Figure 2.2).

**Accuracy of self-disclosure**

The importance of taking a detailed approach to examining self-disclosure was however successfully highlighted by the measures for accuracy. If only breadth and depth of self-disclosure had been measured, it would have been concluded that leaving the door ajar (door-ajar condition), did not affect the self-disclosure of the participants, and it would have been concluded that the measure was too subtle. However, there was a very interesting significant difference regarding whether the self-disclosure came from the true self, which was illustrated in the measure of accuracy (Figure 2.2). In the accuracy of self-disclosure scores, the participants in the door-ajar condition (M=5.93, SD=1.80) reported their self-disclosures to be significantly less accurate, than the participants in the control condition (M=7.40 SD=1.40, p<0.05). This showed that the participants were noticing, consciously or even subconsciously, that the door was open, and this significantly reduced their accuracy of self-disclosure score. The self that was presented in the control condition was argued to be a true representation of the self, as defined by Bargh et al. (2002), but in the door-ajar condition the self-report of accuracy of self-disclosure fell. The self-disclosures that were elicited in the door-ajar condition were therefore less accurate than in the control condition. The self that was presented in the door-ajar condition may therefore have matched Higgin’s (1987) descriptions of an ideal, or ought to self. It could, however, be confirmed that the participant was not presenting a more positive image of themselves in the door-ajar condition, because the participants in the door-ajar condition (M=4.40, SD=1.64) did not differ from the participants in the control condition (M=4.33, SD=2.38, p=0.99) in their scores for self-presentation. It was possible that the self that was presented could therefore be more akin to Higgin’s ought to self, where the participant noticed the door being ajar and the experimenter being around, and therefore self-disclosed less from the true self, and more how they feel they should.
Further measures

The participants in the door-ajar condition did not score their experience any differently for sociability (M=7.40, SD=1.05), or learning (M=4.47, SD=2.17) than participants in the control condition (sociability M=7.60, SD=1.05, p=0.89) (learning M=3.93, SD=2.19, p=0.77). The participants also reported similar levels of enjoyment in the door-ajar condition (M=6.67, SD=1.29) to the participants in the control condition (M=7.33, SD=1.05, p=0.32). There were also no significant differences in how the participants in the door-ajar condition perceived the intimacy of the interaction (M=3.27, SD=2.12) or their isolation (M=2.13, SD=1.96), when compared to the control condition (M=3.87, SD=2.13, p=0.91; M=1.93 SD=1.16, p=0.99). The door-ajar condition also did not produce any notable differences in the amount the participants trusted their partner (M=5.07, SD=2.05), felt accountable for what they said (M=4.40, SD=2.03), or how embarrassed they felt (M=2.33, SD=0.97), as compared to the control condition (M=3.87, SD=1.81, p=0.99; M=3.93 SD=1.22, p=1.00; M=1.73, SD=0.88, p=0.75). The only significant results in the door-ajar condition, was therefore the accuracy score.

In terms of DDM (Omarzu, 2000), the goal of the interaction in the control condition could have been both personally or socially motivated. The goal could have involved: intimacy; impression formation; or the clarification of the self-concept (Shaffer & Tomarelli, 1989). In the door-ajar condition, as the self-disclosure was less accurate it was less likely that the participant was seeking more personal goals such as validation of the true self (Swann, 1990; Baumeister, 1999), or using the situation like the ‘stranger on the train’ phenomenon, to relieve stress or worry (cf. Rubin, 1975, Borkovec et al., 1995; Bargh et al., 2002). They were also not presenting an ideal self, as this was not represented in the self-presentation scores, and they were therefore not idealising themselves to their partner, which is therefore not consistent with hyperpersonality (Walther, 1996).

In terms of subjective utility, they had a willing target available for the possibility of pursuing the same personal or social goals as the participants in the other conditions. However their less accurate self-disclosures suggested that the personal goals of self-disclosure could not be achieved.

It is argued here, that the participant, when weighing up subjective risk and subjective utility in the door-ajar condition, must have considered it too risky to
explore their true self. They therefore enjoyed the interaction as much as the other participants, but did not reveal this more intimate part of the self, and as a consequence had different aims in their self-disclosure. In the introduction to this thesis, it was argued that it was more personally motivated and authentic self-disclosure that was linked to the many of the health benefits of self-disclosure (cf. Pennebaker, 1995; 1989). In the door-ajar condition, the self-disclosure was less accurate than in the other conditions and therefore the participants had less access to these benefits. This condition clearly illustrated that it was not just what was happening in the CMC interaction that was important, but also what was happening around the participant at the time. It was therefore the CMC experience, and not just the process of using CMC that led to the heightened private and reduced public self-awareness that was commonly reported in CMC. CMC could be reported to increase the access to the true self (Bargh et al., 2002), and to encourage deep self-disclosure. However, what may be particularly important about these situations, is how alone the participant felt at the time. It should be noted that in most of the CMC research that takes place, participants interact individually in private computer cubicles (Joinson, 2001; Goh, 2004; Yao & Flannigan, 2006). Although, being able to be physically alone and private when interacting is an important benefit of CMC, CMC takes place in cafes, in computer hubs, and the situation is not always private. It is argued here, therefore, that it is not just CMC that is important to consider when understanding self-disclosure in CMC, but the context and environment at the time.

**Result of correlations**

The overall results across the three conditions revealed some interesting associations between self-awareness and self-disclosure. An analysis using Pearson’s correlation coefficient revealed a strong correlation between both breadth of self-disclosure, and private self-awareness r(45)=0.47, p<0.01, and depth of self-disclosure and private self-awareness r(45)=0.48, p<0.001. This statistic clearly showed the importance of being aware of one’s private self, and to be able to self-disclose to a great breadth or depth. It confirmed the importance of private self-awareness in self-disclosure, but it could also be used to argue that heightened private self-awareness is an important factor in raised self-disclosure in CMC. Joinson (2001) and Matheson and Zanna (1988) highlighted the importance of understanding self-awareness in CMC to explain behaviour, and
this study provided strong confirmation of this. The finding can, however, be extended to outside of the CMC literature. It is likely, for instance, that in any communication the degree to which the participant is high or low in private and public self-awareness is will inevitably affect the resulting self-disclosure.

The Pearson’s correlation coefficient also revealed a significant negative correlation between accuracy and public self-awareness $r(45)=-0.29$, $p<0.05$. The more the participant was publically aware, the less accurate their self-disclosure was. It was likely that, as the participant’s attentional focus became more publically focused, that they also became more aware of social desirability pressures (cf. Cooley, 1964; Bargh et al., 2002), or they may have changed their behaviour to suit their audience (Froming et al., 1982). It is argued that under these circumstances that the true self is less likely to emerge, and the self-disclosure will therefore be less accurate. To optimise self-disclosure from the true self it would appear that public self-awareness should be low. Although private self-awareness may raise the participants’ awareness of their self-discrepancies (Carver & Scheier, 1981), public self-awareness must also be low for self-disclosure, for the true self, to be revealed. This result was important as it illustrates that it was the combination of heightened private and public self-awareness that allowed for optimal self-disclosure to occur in CMC. H6 and H7 were partially accepted, noting that private self-awareness was correlated with depth, and public self-awareness negatively associated with accuracy.

**General Discussion**

It could be inferred from the proliferation of self-help groups, and the intimacy of interactions that are apparent online (Morsund, 1997; Salem et al., 1998; Mckenna & Bargh, 2000; Moon, 2000; McKenna et al., 2002), that CMC provides an ideal environment for optimal and intimate self-disclosure. On examination of the health benefits associated with self-disclosure (cf. Pennebaker, 1989; 1995), it was also noted in the introduction to this thesis, that the benefits are only possible if the self-disclosure is optimal and intimate. It is therefore of great interest that CMC appears to provide an encouraging environment for optimal and intimate self-disclosure. Despite this, few experiments exist which examine intimate self-disclosure in CMC (cf. Goh, 2004; Kiesler et al., 1984), and none exist which consider optimal self-disclosure in CMC. Furthermore, although lack of
identifiability has been linked to an increase in depth of self-disclosure in CMC (Goh, 2004), no study had previously considered the role of attentional focus in depth of self-disclosure. Lack of identifiability was also reported in a past study to increase access to the true self in CMC (Mckenna & Bargh, 2001). However, no study had examined whether this greater access to the true self had any subsequent affects upon deep and optimal self-disclosure. Experiment 1 did therefore aim to examine the role of attentional focus in optimal and deep self-disclosure in CMC.

The reported experiment was successful in its aims and, its detailed approach to studying self-disclosure, raised many important points. First, the projected-mirror condition, which had been used in the past (cf. Yao & Flanagin, 2006; Joinson, 2001) was seen to increase private whilst reducing public self-awareness. These results confirmed the findings of Yao and Flanagin (2001) and Joinson (2001), who also found the projected-mirror condition to be a successful manipulation for increasing private and reducing public self-awareness. The projected-mirror manipulation was also seen to have a similar effect to the more traditional mirror manipulation in raising private self-awareness (Scheier & Carver, 1980; Govern & Marsch, 1997). Despite the projected-mirror image being captured by a camera, which in the past had been seen to increase public self-awareness (Snyder & Monson, 1975; Webb et al., 1989; Wiekens & Stapel, 2008), the camera used to capture the participant’s image did not appear to increase the participants’ public self-awareness score above that in the control condition.

Heightened private self-awareness had previously been reported to increase breadth of self-disclosure in CMC (Joinson, 2001), and this was replicated here, where the projected-mirror manipulation increased perceived breadth of self-disclosure, but also increased perceived depth of self-disclosure in the experiment. Cozby (1973) had reported there to be no correlation between independent and self-reported measures of self-disclosure. However, the results of the self-reported breadth and depth, and Joinson’s (2001) independent measure of breadth, did seem to converge here. Increased private self-awareness had also been reported to activate personal goals (Miller & Read, 1987), and there was some evidence of this here, where the results for self-awareness in conjunction with the participants reporting their partner to be less sociable, could be interpreted as the participants pursuing more personal motivations of self-disclosure. It seemed that in the
projected-mirror condition, the heightened private self-awareness led the participants to be highly aware of their thoughts and feelings (cf. Scheier, Buss & Buss, 1978) and led to them becoming absorbed in the task (Kiesler et al., 1984). Notably, these are all states of awareness that would be useful when trying to pursue personal motivations of self-disclosure.

Significantly, the increased private self-awareness (in conjunction with reduced public self-awareness) the projected-mirror manipulation encouraged had implications for the presentation of the true self. Heightened private self-awareness is thought to raise a participants’ awareness of their discrepancies (cf. Carver & Scheier, 1981) and therefore their awareness of the true self, and the participants in Experiment 1 did appear to present their true self. Bargh et al., (2002) had previously reported that it was the lack of identifiability that led to increased access to the true self in CMC. However, this experiment clearly highlighted that increased private self-awareness could also be used to explain this increased access to the true self. However, what was also illustrated from the negative correlation between accuracy and public self-awareness was that even if the participants have access to the true self, it will not be presented in self-disclosure unless public self-awareness is low. This finding was consistent with past reports of reduced public self-awareness in CMC leading to a lack of awareness of the characteristics of the partner in CMC (Weisband & Rening, 1985) which, in turn, lessened social pressure, and reducing the likelihood of the participant changing their behaviour to be consistent with reference groups (cf. Froming et al., 1982; Carver & Scheier, 1987). In the experiment it appeared that the reduced public self-awareness reduced the risk involved in self-disclosing deep and personal information. The participant most likely checked their internal standards against external reference points (cf. Powers, 1973a; 1973b; Carver & Scheier, 1981), weighed up the subjective utility and subjective risk (cf. Omarzu, 2000), which resulted in the participants self-disclosing deeply and accurately.

The second manipulation of self-awareness to be employed in Experiment 1 was the door-ajar manipulation, which was used to try and inhibit self-disclosure in the experiment. It was suggested in the introduction, that quite a unique factor within CMC is that the participant is often physically alone (cf. Short et al., 1976; Joinson, 2001; Manstead et al., 2011). CMC can therefore lead to a feeling that no one is looking (Weisband & Reining, 1985) and a heightened sense of privacy
CMC has therefore been described as a medium in which interpersonal risk is low (Walther, 1996). The door-ajar manipulation was devised to try and disturb this privacy. It had been previously reported that reducing the distance between the experimenter and the participant would reduce self-disclosure (Jourard, 1971), and it was predicted that leaving the door ajar would increase the psychological distance between the experimenter and participant (cf. Manstead et al., 2011). The door-ajar condition produced unexpected results that also highlighted a few important points to consider in this type of research. The results did, for example, illustrate the importance of using several definitions and measurements of self-disclosure (cf. Cozby, 1973; Goh, 2004). If accuracy of self-disclosure had not been measured the door-ajar manipulation would have been rejected as a manipulation that could affect self-disclosure. However, this very subtle manipulation of leaving the door ajar had a very dramatic effect. Although the participants’ breadth and depth did not drop significantly, the manipulation had a significant negative effect upon their accuracy. In the door-ajar condition the participant had the potential to pursue both personal and social goals of self-disclosure. In this condition however, when the participant came to weigh up subjective risk and utility (cf. Omarzu, 2000), or when they checked their internal standards against external references point, they came to the decision that the conditions were not appropriate to self-disclose as accurately as in the control or projected-mirror condition. The self-disclosure behaviour that was elicited was therefore adjusted to suit the situation, and the self-disclosure was less accurate.

By the self-disclosure being less accurate, the number of goals that the participant could pursue was limited. Returning to the many health benefits of self-disclosure (cf. Pennebaker, 1989), in terms of personal goals, if the participants’ self-disclosures was not genuine, true, stable and congruent (cf. Kernis 2003) the experience could not be cathartic, or be used to dissolve worry (cf. Borkovec et al., 1995). Also the participants could not be using the situation to explore the hidden true parts of the self, and the process of self-disclosure could cause discomfort to them, as they could potentially be accentuating their self-discrepancies (cf. Higgins, 1987). This manipulation did, therefore, clearly illustrate the importance of understanding whether a self-disclosure was accurate, and also indicated that what was particularly interesting about CMC, was that when the participants’ privacy was intact, the true self could be presented.
Moreover, the implications of accurate self-disclosure were not just limited to personal goals. In terms of social goals, the participants could not seek to have their identity validated by their partner, as they were projecting a less valid goal (cf. Swann, 1990; Baumeister, 1999). Also by not self-disclosing accurately the rate at which the close relationship could form might not accelerate (cf. Bargh et al., 2002). It has been reported that in CMC the true self can safely emerge more quickly than in FTF interactions (Bargh et al., 2002). Returning to Altman and Taylor’s (1932) onion analogy, it may be that CMC allows the core to be displayed, without the peeling of the layers. It therefore creates a different type of relationship, where the true self can be exposed before the slower process of peeling has even begun. The door-ajar manipulation did however inhibit this process taking place.

Unfortunately, it is difficult to confidently suggest why leaving the door-ajar condition led to reduced accuracy. In the door-ajar condition of this experiment, many demands were made on the participants’ attentional focus, yet no changes in attentional focus were elicited by the measurements of public and private self-awareness. The task itself was arguably one which activated the participants’ private self-aspects (cf. Wiekens & Stapel, 2008) and most likely increased private self-awareness. The participant also had an interaction to manage, where they were most likely processing what their partner said, whilst weighing up the decision of what to self-disclose, and this process most likely activated both private and public self-awareness. The participant was also, consciously or subconsciously, aware that the door was open and they were in the presence of the experimenter, which could also be linked to increased public self-awareness. These possibly competing and complex demands on attentional focus were then attempted to be captured by two items of public, and two items of private self-awareness, in the present experiment. It is highly likely that the participant was flitting from being high or low in private or public self-awareness throughout the interaction, and these more subtle undulations were not caught in these quite limited measures. Moreover, the self-reported scores may also have not reflected the actual differences in self-disclosure, and the participants in the door ajar condition may perceive that given the circumstances their self-disclosure was deep, or they were aware of their thoughts. The participants did not have a control condition, to allow comparison of their inter-condition experiences.
Despite these limitations, this experiment was very successful in eliciting deep self-disclosure in an experimental situation, and this allowed an interesting analysis of the role of self-awareness in self-disclosure in CMC to ensue. The general correlations that were calculated in this study emphasised the importance of private self-awareness in increasing access to the true self and inner thoughts and feelings. They also highlighted that for these true thoughts to be self-disclosed, public self-awareness also needed to be low. It is concluded that it is the combination of increased private and reduced public self-awareness that is useful for optimal and intimate self-disclosure in CMC. Joinson (2001) reported that it was anonymity and heightened private self-awareness that led to increased self-disclosure in CMC. The present study confirmed that anonymity alone cannot explain heightened self-disclosure in CMC, and that it is the combination of heightened private and reduced public self-awareness that explains the increased levels of self-disclosure that have been observed in CMC.
CHAPTER 3: Experiment 2
An experiment investigating the effect of manipulations of self-awareness on the self-disclosure of socially isolated participants in CMC

A main aim of the present thesis is to investigate the role of self-awareness in personally motivated self-disclosure. It was very difficult in Experiment 1, even in the projected-mirror condition, to claim, that what was being elicited was personally motivated self-disclosure. Moreover, it was likely that the participants’ motivations fluctuated from social to personal goals (cf. Omarzu, 2000). It was suggested in the discussion of Experiment 1 that there were many demands made on the participants’ attentional focus during the task in Experiment 1. The participants’ completed a task, that involved answering questions of varying intimacy about them self, which could be argued to heighten private self-awareness. Next, there were the manipulations which were engineered to change attentional focus, and there was also the partner in the interaction, who also placed attentional demands on the participant. In past studies it had been reported that when demands were made on both private and public self-focus, the participants’ attention could become divided, which would reduce self-disclosure (Shaffer & Tomarelli, 1989; Joinson, 2001). It was considered here that it was important to try and keep the experiment as simple as possible in terms of attentional demands.

In Experiment 2 attempts were made to try and simplify some of the attentional demands made upon the participant during the task. The task was considered essential for the elicitation of deep self-disclosure, and the manipulations were essential for understanding self-awareness, it was proposed in Experiment 2 to try and reduce the demands of the partner. Moreover, by reducing the demands of the partner it was argued that a more convincing exploration of the personal motivations of self-disclosure in CMC would be possible. In very early studies of CMC, Social-Presence Theory (Short et al., 1976) was used to understand Internet communication, and CMC was reported to be low in social presence (Siegel et al., 1986). This idea of presence has more recently been expanded to consider both psychological and physical presence (Manstead et al., 2011). For example, in a church a person can be surrounded by people who are physically present, but when they are praying they are arguably not in the psychological presence of the
people around them. What is particularly interesting in CMC is that in asynchronous interaction the recipient of the message does not have to be physically present, and their psychological presence may also be reduced. Whilst this is not an unnatural situation in CMC, in this situation the demands of a 'real-time' interaction are reduced. In reports of counselling, using CMC, this type of writing has been argued to give the participant, ‘a higher degree of freedom to define her or his own experiences, explore whatever feels most relevant and proceed at the rate they feel most comfortable with,’ it also allows for, ‘greater reflection and clarity’ in communication (Wright, 2002, p289). In terms of trying to elicit deep, optimal and personally motivated self-disclosure, this type of asynchronous interaction could hold many benefits.

In Experiment 2, it was therefore proposed to ask the participant to answer the questions of varying intimacy into an e-mail window. It was argued that if the participant was told that their partner would not read their replies to the questions for six months, that they were not identifiable or traceable, and that they would not receive a reply, that this would further reduce the social goals that could be achieved in the situation. With many social goals such as the promotion of intimacy (cf. Laurenceau et al., 1998), managing impression formation (Shaffer & Tomarelli, 1989), the development of a relationship (Walther & Tidwell, 1995) and the validation of the true self by a partner (Swann, 1990) greatly reduced, it was argued that there would be more opportunity for the participant to explore more personally motivated goals. The type of personally motivated goals of self-disclosure that could be achieved could, therefore, centre more on motives of self-disclosure, such as self-expression and identity clarification (cf. Shaffer and Tomarelli, 1989), or the participant could use the situation to work through their problems, or dissolve worry (cf. Borkovec et al., 1984). In terms of the representations of the self, it could also be argued that in Experiment 2 the distancing of the partner, would make the participant more likely to use the opportunity to gain self-knowledge about, what Sedikides and Brewer (2001) describe as, the individual, or private, self. Brewer and Gardner (1996) further suggest that motives of the individual self are associated with the enhancing, or protecting, of the self psychologically, and arguably this is related to the type of personally motivate self-disclosure that may be enhanced in Experiment 2. This is in contrast to the participants in Experiment 1, who were engaged in a relationship, and, in this instance, the participants’ relational self would be
activated. Considering which representation of the self the participant is gaining knowledge about in CMC, is interesting. It is argued here, that the increased psychological and social distance that CMC allows in interactions, begins to blur the distinction between the individual self and the relational self. What may, therefore, be particularly interesting about CMC, is that it provides a unique situation where self-knowledge about the individual self may be gathered and explored.

In the DDM, it was reported that a goal must be salient for self-disclosure to occur, and if there are weak goals then no self-disclosure will occur (Omarzu, 2000). It would be perfectly acceptable in Experiment 2, for the participant to go through the questions and ‘give’ very little of themselves; that is to self-disclose little breadth and little depth type information. This would not be unusual as there is already a history of low self-disclosure in CMC tasks (cf. Joinson, 2001). In Experiment 1, the participants did enjoy deep levels of self-disclosure, but there was a deeply self-disclosing partner with whom to enjoy mutual reciprocity. Reciprocity is consistently reported to be the greatest predictor of self-disclosure (Berg & Derlega, 1987; Jourard and Jaffe, 1970; Shaffer & Tomarelli, 1989), and may therefore have encouraged the participants’ self-disclosure in Experiment 1. It was argued in Experiment 2 that without a partner, the participant will be self-motivated by mainly personal goals of self-disclosure.

In Experiment 2, the differences between the dyadic and isolated conditions (Experiment 1 and Experiment 2) were therefore explored. The same manipulations that were used in Experiment 1, to reduce and heighten private and public self-awareness, were also replicated in this second experiment, to allow a more specific understanding of the role of private and public self-awareness in the personal motivated self-disclosure that was exhibited. It was predicted, based upon Goh’s (2004) finding that depth of self-disclosure increases with rapport with a partner, that that the participants in the dyadic projected-mirror condition would score higher for self-disclosure than the participants in the socially isolated projected mirror condition. It was also predicted that in Experiment 2, where there was less of a distraction of a partner, that the door-ajar manipulation would have a greater effect upon self-disclosure. It was therefore predicted that the participants in the door-ajar condition would report lower levels of private and higher levels of public self-awareness, which would reduce self-disclosure. It was
also therefore predicted that they would report lower levels of self-disclosure than the participants in Experiment 1. Although it was not highlighted in the hypotheses, it was also expected that the participants in the door-ajar condition would replicate the participants in the door-ajar condition in Experiment 1, and report lower levels of accuracy. It was also predicted that the trends from the correlations would continue to be followed. More specifically, that private self-awareness would be related to depth of self-disclosure, and that public self-awareness would be negatively associated with accuracy of self-disclosure.

H1: Participants in the projected-mirror condition will score higher on the private self-awareness scale than participants in a control condition

H2: Participants in the projected-mirror condition will score lower on the public self-awareness scale than participant in a control condition

H3: Participants in the projected-mirror condition will self-disclose significantly more breadth and depth than participants in a control condition

H4: Participants in the dyadic projected-mirror condition (Experiment 1) will report higher levels of self-disclosure to the participants in the socially isolated projected-mirror condition

H5: Participants in the door-ajar condition will score lower on the private self-awareness scale than participants in a control condition

H6: Participants in the door-ajar condition will score higher on the public self-awareness scale than participant in a control condition

H7: Participants in the door-ajar condition will self-disclose significantly less breadth and depth than participants in a control condition

H8: Participants in the dyadic door-ajar condition (Experiment 1) will report higher levels of self-disclosure to the participants in the socially isolated door-ajar condition
H9: There will be a correlation between private self-awareness and depth of self-disclosure

H10: There will be a negative correlation between public self-awareness and accuracy

**Method**

**Overview and design**

Participants interacted individually in a semi-structured task, which required them to compose an email to a distant partner, where they answered the same questions of varying intimacy as in Experiment 1 and using CMC (cf. Goh, 2004, Appendix 1) using CMC. Participants were randomly assigned to one of three conditions that aimed to manipulate self-awareness; control, door-ajar; and the projected-mirror condition. The experiment therefore compared two conditions (control vs. projected-mirror) and (control vs. door-ajar), with self-awareness manipulated as an independent factor. These experimental manipulations are described in detail in Experiment 1. Dependent measures were obtained post-interaction through an online questionnaire, which explored private and public self-awareness, self-disclosure and a number of other interpersonal variables. Again this questionnaire is explained thoroughly in Experiment 1, although the scales of trust and sociable were removed as the task in Experiment 2 was not dyadic. Whilst the scales of trust and sociable, were removed, an additional measure of word count was added to the dependent measure in this second experiment. It was anticipated that this measure of breadth would allow further insight into the participants’ self-disclosure behaviour.

**Equipment**

The participant sat in front of a desktop PC equipped with VCON Escort desktop video-conferencing hardware, including a fixed-focus video camera, and 17” XVGA monitor. Each PC was connected via a LAN to a server hosting a POP email account. Asynchronous email communication was achieved by displaying on each PC a scrollable e-mail window. In this window the participants were asked to compose an email to a distant partner, who would not read their email. In the email would be their answers to the questions of varying intimacy that they
chose to answer. The participants could type as many words as they needed to in order to answer the questions, in the allotted time. They could also go back and edit their answers at any time during the task. The email was addressed to ‘anonymous X’ and the participant was named ‘anonymous Y,’ to try and emphasise their lack of identifiability. At the end of the task they were asked to send the email by pressing ‘send.’ In the projected-mirror condition, the email communication was supplemented by a silent video-mediated image using a fixed-focus camera attached to a PCI card installed in the participant’s computer. The camera was positioned directly above the monitor and captured the head and shoulders of the participant in 25 fps near-broadcast quality video which was transmitted at 1.5Mbps for display in a 6-in. square window in the bottom right hand corner of the participants’ screen.

**Procedure**

Forty five, undergraduate psychology students, aged 18-24 (M=21), from the University of Manchester took part in the experiment in return for course credits that needed to be collected for their undergraduate course, or they were paid a monetary reward of five pounds. Participants were randomly assigned to one of the three conditions. In all of the conditions the participants were met and shown to a computer cubicle where the experiment would begin. The participants were asked to read the questions of varying intimacy (Appendix 1) and were then instructed to follow the instructions (Appendix 5) which led them through some practice questions. The instruction explained that they were going to construct an email to a partner, where they would answer questions from a list of topics with varying intimacy (Appendix 1) using CMC. It was explained that they did not have to answer the questions in the order they came, and that they could answer as few or as many as they wished. After answering the practice question they were instructed to spend fifteen minutes ‘taking their time’ to answer the questions of varying intimacy as a guide. They were informed that their email was completely anonymous and would not even be opened for 6 months. It was emphasised that their answers were completely anonymous and there was no way they could be identified from their answers. They were informed that their answers would be read by their partner who would use their answers as a guide to answering questions in a future experiment. When the fifteen minutes had lapsed an alarm sounded and the participant was instructed to answer the post-test questionnaire.
Results and Discussion

A MANOVA was conducted over the dataset of Experiment 1 and Experiment 2. Self awareness (control x projected-mirror x door-ajar) and social isolation (dyadic x socially isolated) were compared for self-disclosure, self-awareness and several other interpersonal variables. An inter-experiment comparison was also conducted to allow comparisons to be made between the participants in the socially isolated experiment (Experiment 2), and participants in the dyadic experiment (Experiment 1) There was a significant multivariate effect for condition (Lambda=0.25 F(16,70)=4.47, p<0.001; Table 3.1). There was also a significant multivariate effect for experiment (social isolation as compared to dyadic interaction) (Lambda=0.511 F(24,146)=2.42, p<0.001). Further analysis involved a series of one-way ANOVA and Post-hoc TUKEY tests that explored the main effects. There were two main comparisons of interest: whether the manipulations in the socially isolated experiment affected the self-disclosure of the participants in Experiment 2; and how the self-disclosure of the participants in the dyadic experiment (Experiment 1) compared to the self-disclosure of the participants in the socially isolated experiment (Experiment 2).
### Table 3.1: A Summary of the means (standard deviations) and univariate effects across the isolated conditions in Experiment 2. Different subscripts indicate significant differences (Tukey; $p<0.05$).

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Projected-mirror</th>
<th>Door-ajar</th>
<th>F value</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public self-awareness</strong></td>
<td>3.93&lt;sub&gt;b&lt;/sub&gt;</td>
<td>4.33&lt;sub&gt;b&lt;/sub&gt;</td>
<td>6.33&lt;sub&gt;a&lt;/sub&gt;</td>
<td>6.53</td>
<td>$p&lt;0.005.$</td>
</tr>
<tr>
<td></td>
<td>(2.19)</td>
<td>(2.23)</td>
<td>(1.29)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Private self-awareness</strong></td>
<td>6.73&lt;sub&gt;a&lt;/sub&gt;</td>
<td>5.8</td>
<td>5.07&lt;sub&gt;b&lt;/sub&gt;</td>
<td>4.06</td>
<td>$p&lt;0.05$</td>
</tr>
<tr>
<td></td>
<td>(1.16)</td>
<td>(1.97)</td>
<td>(1.58)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Breadth</strong></td>
<td>7.60&lt;sub&gt;a&lt;/sub&gt;</td>
<td>5.67&lt;sub&gt;b&lt;/sub&gt;</td>
<td>6.07</td>
<td>3.82</td>
<td>$p&lt;0.05.$</td>
</tr>
<tr>
<td></td>
<td>(1.35)</td>
<td>(2.47)</td>
<td>(2.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>5.13&lt;sub&gt;a&lt;/sub&gt;</td>
<td>4.27</td>
<td>3.13&lt;sub&gt;b&lt;/sub&gt;</td>
<td>3.47</td>
<td>$p&lt;0.05$</td>
</tr>
<tr>
<td></td>
<td>(1.96)</td>
<td>(2.55)</td>
<td>(1.64)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>8.60&lt;sub&gt;a&lt;/sub&gt;</td>
<td>8.40</td>
<td>7.53&lt;sub&gt;b&lt;/sub&gt;</td>
<td>4.51</td>
<td>$p&lt;0.05$</td>
</tr>
<tr>
<td></td>
<td>(0.83)</td>
<td>(0.74)</td>
<td>(1.41)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Word count</strong></td>
<td>517.80&lt;sub&gt;a&lt;/sub&gt;</td>
<td>449.33&lt;sub&gt;a&lt;/sub&gt;</td>
<td>295.33&lt;sub&gt;b&lt;/sub&gt;</td>
<td>7.03</td>
<td>$p&lt;0.005$</td>
</tr>
<tr>
<td></td>
<td>(174.95)</td>
<td>(201.54)</td>
<td>(108.91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Self-presentation</strong></td>
<td>2.53&lt;sub&gt;a&lt;/sub&gt;</td>
<td>3.53&lt;sub&gt;b&lt;/sub&gt;</td>
<td>5.00&lt;sub&gt;b&lt;/sub&gt;</td>
<td>9.95</td>
<td>$p&lt;0.001$</td>
</tr>
<tr>
<td></td>
<td>(1.06)</td>
<td>(1.55)</td>
<td>(1.85)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Enjoyment</strong></td>
<td>7.13&lt;sub&gt;a&lt;/sub&gt;</td>
<td>5.80&lt;sub&gt;b&lt;/sub&gt;</td>
<td>6.07</td>
<td>3.78</td>
<td>$p&lt;0.05$</td>
</tr>
<tr>
<td></td>
<td>(1.13)</td>
<td>(1.82)</td>
<td>(1.16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Isolation</strong></td>
<td>3.13</td>
<td>2.67</td>
<td>3.00</td>
<td>0.31</td>
<td>$p=0.74$</td>
</tr>
<tr>
<td></td>
<td>(2.16)</td>
<td>(1.45)</td>
<td>(1.31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Embarrassment</strong></td>
<td>2.47</td>
<td>3.27</td>
<td>3.60</td>
<td>1.72</td>
<td>$p=0.19$</td>
</tr>
<tr>
<td></td>
<td>(1.41)</td>
<td>(1.83)</td>
<td>(1.88)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intimacy</strong></td>
<td>3.20</td>
<td>3.53</td>
<td>5.07</td>
<td>2.77</td>
<td>$p=0.07$</td>
</tr>
<tr>
<td></td>
<td>(2.27)</td>
<td>(2.03)</td>
<td>(2.60)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Learning</strong></td>
<td>4.87</td>
<td>3.93</td>
<td>5.00</td>
<td>0.98</td>
<td>$p=0.38$</td>
</tr>
<tr>
<td></td>
<td>(2.07)</td>
<td>(2.46)</td>
<td>(2.67)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Accountability</strong></td>
<td>5.33</td>
<td>4.40</td>
<td>3.60</td>
<td>1.31</td>
<td>$p=0.27$</td>
</tr>
<tr>
<td></td>
<td>(2.29)</td>
<td>(2.26)</td>
<td>(2.61)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ratio of private to public self-awareness</strong></td>
<td>0.62&lt;sub&gt;a&lt;/sub&gt;</td>
<td>0.93</td>
<td>1.35&lt;sub&gt;b&lt;/sub&gt;</td>
<td>5.93</td>
<td>$p&lt;0.01$</td>
</tr>
<tr>
<td></td>
<td>(0.40)</td>
<td>(0.84)</td>
<td>(0.41)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Socially isolated projected-mirror condition vs. control

Private and public self-awareness

The participants in the projected-mirror condition (M=5.80, SD=1.97) self-reported similar levels of private self-awareness to participants in the control condition (M=6.73, SD=1.16, p=0.70). The participants also reported similar levels of public self-awareness in the projected-mirror condition (M=4.33, SD=2.23) in comparison with the control condition (M=3.93 SD=2.19, p=0.99). There was no significant difference found between the control condition (M=0.62, SD=0.40) and the projected-mirror condition (M=0.93, SD=0.84, p=0.32) for the ratio of private to public self-awareness. These fairly similar levels of private and public self-awareness in the control and projected-mirror conditions are illustrated in Figure 3.1. The projected-mirror manipulation in the socially isolated experiment, did not therefore seem to be successful in raising private self-awareness as it has in the past (Yao, 2001, Joinson, 2001), or as it did in Experiment 1. H1 and H2 are therefore rejected.

Breadth and depth of self-disclosure

Unsurprisingly, following on from the results of the self-reported self-awareness, there was no significant difference in the participants’ report of depth of self-disclosure between the control condition (M=5.13, SD=1.96) and the projected-mirror condition (M=4.27, SD=2.55, p=0.79). However, a significant effect was found for breadth of self-disclosure with the post-hoc analysis finding that participants in the projected-mirror condition (M=5.67, SD=2.47) reported significantly less breadth than participants in the control condition (M=7.60, 1.35, p<0.05). The projected-mirror manipulation did not have the expected effect of heightening private whilst reducing public self-awareness, which in Experiment 1 translated into increased depth, and in Joinson’s (2001) study translated into reduced breadth. In this socially isolated experiment, the results challenge Joinson’s findings as the manipulation had a negative effect upon breadth. This illustrates the importance of understanding the context in which the manipulation is given. In this experiment the participant self-disclosed to a distant partner and there was a task which attempted to elicit deep self-disclosure. In Joinson (2001)
instances of spontaneous self-disclosure were counted in an ice-breaker task. Not only were the tasks that the participants were engaged in completely different, but the way of measuring breadth was also different. Although a mirror has been reported to increase salience of private self-aspects (Scheier & Carver, 1977; Scheier & Carver, 1980), Wiekens & Stapel (2008) illustrated that depending on what aspect of the self is salient at the time a mirror could raise both private and public self-aspects. It is therefore important to carefully consider not just the manipulation but how the task and environment may be affecting the participants’ attentional focus. It is argued that in this experiment the reduced cognitive demands increased the affects of the projected-mirror, although this was not captured in the private and public self-awareness measures. Moreover, if only breadth had been measured in this experiment, it could have been used to argue that in a socially isolated situation the manipulation reduced self-disclosure. However, the breadth measurement indicated how widely the participants discussed themselves. It may therefore be that, without the need to engage in an interaction, the mirror was more distracting in the socially isolated experiment than in the dyadic experiment. H3 was rejected, as the projected-mirror manipulation did not increase self-disclosure when the participant was socially isolated.

![Figure 3.1: Illustration of how public and private self-awareness varies across the conditions](image)

**Figure 3.1: Illustration of how public and private self-awareness varies across the conditions**

**Accuracy of self-disclosure**

The participants in the control condition (M= 8.60, SD=0.83) and the projected-mirror condition (M=8.40, SD=0.74, p=0.99) did not differ in their reported accuracy. Not finding a difference here, may however suggest that the participants
were authentic in their self-disclosures in both conditions. The participants in the projected-mirror condition in Experiment 1 were reported to be presenting a true and accurate presentation of the self, and this was verified in the inter-experiment comparisons of the projected-mirror condition reported below.

**Further measures**

To further investigate the self-disclosure behaviour of participants in the socially isolated projected-mirror condition, an additional measure of word count was explored. As the participants in the projected-mirror condition self-disclosed almost as deeply as participants in the control condition on fewer topics, it could be suggested that overall they would use fewer words than participants in the control condition. It could be, for example, that the projected-mirror image was distracting the participants and, as a consequence, was reducing the overall time that could be dedicated to deeply self-disclosing on a range of topics. However, there was no significant difference between the control condition \((M=517.80, SD=174.95)\) and the projected-mirror condition \((M=449.33, SD=201.54, p=0.50)\) for an additional measure of word count. The participants in the isolated projected-mirror condition therefore used more words on each of the topics than participants in the control condition. This therefore raised questions about what these extra words on each topic were being used for, and the self-presentation scores were examined to try and elucidate this. In the absence of a confederated, it was possible for example that the projected-mirror manipulation was reflecting the parts of the self that were usually observed publically, as had been reported in mirror manipulations in the past (Wiekens & Stapel, 2008). The extra words in this instance may have been used for additionally presenting and exploring a more ideal self. No differences were however found in the self-presentation scores for the projected-mirror \((M=3.53, SD=1.55)\) and control condition \((M=2.53, SD=1.06, p=0.63)\). The participants in the isolated projected-mirror condition were not presenting a more positive image of themselves than participants in the control condition.

An examination of the other variables that were measured in the experiment could however provide some further evidence as to what was occurring. The self-disclosure of the participants in the projected-mirror condition was as truthful and as deep as the participants in the control condition. They did use more words in answering fewer questions, but they reported reduced levels of enjoyment in the
door-ajar condition (M=5.80, SD=1.82) compared to participants in the control condition, (M=7.13, SD=1.13, p<0.08). They did not differ in their scores for how embarrassed they felt (M=3.27, SD=1.83), how isolated they felt (M=2.67, SD=1.45), how intimate they found the interaction (M=3.53, SD=2.03), or the amount of learning they reported (M=3.93, SD=2.46), compared to the participants in the control condition (M=2.47, SD=1.41, p=0.42; M=3.13, SD=2.16, p=0.73; M=3.20 SD=2.27, p=0.91; M=4.87, SD=2.07, p=0.50). There was also no difference in the accountability scores for the projected-mirror condition (M=4.40, SD=2.26) compared with the control condition (M=5.33, SD=2.29, p=1.00). Compared to the control condition it does therefore appear that the participants in the socially isolated projected-mirror condition were taking a detailed look at the self, and a truthful look at the self, which was not as enjoyable as in the control condition. The projected-mirror manipulation may have encouraged the participant to look at their self from various viewpoints, which could explain the extra detail.

**Socially isolated projected-mirror vs. Dyadic isolated projected-mirror**

The participants in the dyadic projected-mirror condition (M=6.00, SD=1.93) reported similar levels of private self-awareness to participants in the isolated projected-mirror condition (M=5.80, 1.97, p=0.86) for private self-awareness. The participants in the dyadic projected-mirror condition also reported similar levels of public self-awareness (M=2.53, SD=0.60) to the participants in the isolated projected-mirror condition (M=4.33, 2.23, p=0.24). A difference in the ratio of private to public self-awareness was found between the projected-mirror condition and the control condition, in Experiment 1. This was, however, not replicated in this second, isolated experiment. The ratio of public to private self-awareness in the projected-mirror condition did not however differ in the isolated experiment (M=0.93 SD= 0.84) as compared to the dyadic experiment (M=0.80, 0.44, p=0.23). The scores for self-awareness were therefore difficult to interpret. One trend that does stand out is that the participants in the dyadic condition, where it could be predicted that they would be more aware of their partner and of their public self-aspects, reported similar levels of public self-awareness to the participants in the isolated condition. It would be reasonable to predict that participants engaged in a dyadic interaction, would score higher for public self-awareness than participants who do not have a ‘real-time’ partner, and who are not receiving any feedback, nor are they managing an interaction.
A mirror is thought to make individuals more aware of their inner hidden thoughts and feelings (Fenigstein et al., 1975), and it has been reported to increase introspection (Webb et al., 1989). However, it has also been reported that it could provide an ‘other orientated’ perspective, that is seeing the self through the eyes of the other (Wiekens & Stapel, 2008). It is argued that this could be happening in this second experiment, and that this could explain the participants reporting similar levels of public self-awareness to the participants engaged in dyadic interaction. In the dyadic interaction, the participant has to manage a dialogue as part of the task, but the participant in the isolated condition does not. It may be the case therefore that the participant in the isolated condition has more time to watch their mirror image, thus making the ‘other orientated’ perspective stronger. Webb et al., did for example find in an earlier study, that a large mirror had the effect of anticipated interaction with others. With less distraction in the isolated projected-mirror condition, it was possible that the participant’s own image may have, in effect, appeared larger to the isolated participants, thus having similar effects to the larger mirror. It was confirmed that the participants’ public self-awareness scores in the projected-mirror condition were due to the projected-mirror and not just from the participants being isolated, as when the dyadic and isolated control condition were compared, participants in the dyadic control condition reported similar levels of public self-awareness (M=4.13, SD=2.26) to the participants in the isolated control condition (M=3.93, SD=2.19, p=0.99). This indicates that it was the addition of the projected-mirror manipulations which was increasing the public self-awareness score slightly, rather than the isolation.

Although the differences between the self-awareness scores for the participants who were in dyadic interaction (Experiment 1) compared to the participants who were socially isolated (Experiment 2) were not significant, there are great differences between these participants for their levels of self-disclosure. The participants in the dyadic projected-mirror condition reported significantly higher levels of depth of self-disclosure (M=6.33, SD=1.72) than those participants in the isolated mirror condition (M=4.27, SD=2.55, p<0.05). Also, participants in the isolated projected-mirror condition reported slightly lower levels of breadth of self-disclosure (M=5.67, SD=2.47) compared to the participants in the dyadic projected-mirror condition (M=6.73, SD=1.28, p=0.49), although this difference is not significant. H4 is therefore rejected accepted that the participants in the
dyadic experiment self-disclosed at greater levels than the participants in the socially isolated experiment, particularly for depth.

![Figure 3.2: Illustration of items that could indicate that the dyadic experiment brought out more traits that could be associated with being social in the socially isolated experiment](image)

In Experiment 1, the projected-mirror condition led to increased self-reported levels of private self-awareness, and decreased levels of public self-awareness, which led to raised levels of depth of self-disclosure. In this second experiment, the projected-mirror manipulation, did not increase private self-awareness, nor did it reduce public self-awareness, and thus did not increase depth of self-disclosure. Based upon the inter-experiment results for self-awareness in the projected-mirror condition, these results did not come as a surprise. However, it did seem peculiar that the projected-mirror condition was not having the same effect in the isolated condition as it did in the dyadic experiment. Moreover, the dyadic and isolated projected-mirror conditions produced quite different results when self-disclosure was examined. This could be explained again by the isolation in the second experiment perhaps intensifying the manipulation, and it acting more like a large mirror manipulation, although participants in the socially isolated projected-mirror condition did score themselves at similar levels of isolation (M=2.67, SD=1.45) to their counterparts in the dyadic experiment (M=2.27, SD=1.39, p=0.86). The intensifying of the manipulation was supported by the participants in the dyadic projected-mirror condition reporting that they enjoyed the task (M=7.40, SD=1.40) more than the participants in the isolated projected-mirror condition.
It was possible that the participants in the isolated projected-mirror condition, did not enjoy seeing this image of themselves, yet they still self-disclosed deeply but on fewer topics and in more detail. The projected-mirror image, in this case, may have provided a slightly different perspective of the self for the participant, which slightly raised public self-awareness and reduced enjoyment. Although, support for this could be evidenced in the measures for learning and embarrassment, the participants in the projected-mirror condition, who were socially isolated, scored themselves at similar levels for learning (M=3.93, SD=2.46) and embarrassment (M=3.27, SD=1.83) as the participants engaged in dyads (Experiment 1) (M=5.93, SD=2.05, p=0.14; M=2.40, SD=0.99, p=0.45).

These differences between the dyadic and isolated projected-mirror conditions could perhaps also be explained by differences in goal. It was possible, for example, that if the goal was more social, the projected mirror could have a positive effect upon enjoyment and subsequently the self-disclosure. Enjoyment was seen in Goh (2004) to be linked to rapport, which was also linked to increased self-disclosure, in situations which were deemed to be social. If, however, the goal was more personal, the projected mirror could have a less positive effect upon self-disclosure. This idea that the goal of self-disclosure may have been different in the dyadic and socially isolated experiments was further supported by the results for self-presentation. The participants in the dyadic projected-mirror condition reported themselves to present a more positive image (M=5.47, SD=1.85) of themselves than the participants in the isolated projected-mirror condition (M=3.53, SD=1.55, p<0.05). This finding was important for several reasons. First, it indicated that the participants in the dyadic projected-mirror condition were idealising the self, which could support the assertion that they were pursuing more social goals than the participants in the socially isolated experiment, and this also provides some support for Walther’s (1996) hyperpersonality theory. Second, it was reported in Experiment 1 that the participants in the dyadic projected-mirror condition were exhibiting their true self. However, compared to the isolated projected-mirror condition, they seemed to be presenting an ideal self. The differences between the isolated projected mirror condition and the dyadic projected mirror condition that could indicate a difference in goals are illustrated in Figure 3.2.
The participants in the socially isolated projected-mirror condition (M=8.40, SD=1.74) reported similar levels of accuracy to their counterparts in the dyadic projected-mirror condition (M=8.33, SD=0.62, p=0.14). As the participants in the dyadic projected-mirror condition were reported to be engaging in optimal self-disclosure in the isolated projected-mirror condition, and the control condition in Experiment 1, it could be inferred that the participants in the projected-mirror condition in Experiment 2 were also engaging in optimal self-disclosure. Public self-awareness was reported at fairly similar levels in the isolated projected-mirror condition, when compared to the dyadic projected-mirror condition. However, this did not cause the accuracy of self-disclosure to drop. The participants in the dyadic and isolated projected-mirror conditions may also have been experiencing different types of activators of public self-awareness. The participants in the dyadic projected-mirror condition may have been wondering what their partner was thinking of them, whilst the participants in the isolated projected-mirror condition may have been viewing themselves from an ‘outside’ perspective. The more specific activators of public self-awareness were not operationalised in the scales of public self-awareness, and this is a limitation in the methodology.

Briefly, before moving on to discuss the door-ajar manipulation, it is worth reporting a few inter-experiment differences between the control conditions in Experiment 1 and 2. These results strengthen the interpretation of the projected-mirror condition discussed above, as they allow an examination of whether the differences are due just to the isolation in Experiment 2 or whether they are just due to the difference of the projected-mirror manipulation in the socially isolated experiment. One example is the score for enjoyment; participants in dyads in the control condition did for example enjoy the task (M=7.33, SD=1.05) as much as participant in the socially isolated control (M=7.13, SD=1.13, p=0.99). The reduced score for the participants in the projected-mirror isolated condition was therefore due to the projected-mirror manipulation and not just the manipulation. This indicated that it was the projected mirror that the participants were not enjoying, which could be used to support the notion that they were viewing their self from a different perspective. Similarly, the participants in the control condition of the socially isolated experiment reported greater levels of breadth (M=7.60, SD=1.35) and depth (M=5.13, SD=1.96) of self-disclosure to the participants in the dyadic control condition (M=5.13, SD=1.19, p<0.01; M=3.93, SD=1.75, p=0.48), although only breadth of self-disclosure was significant,
whereas in the projected-mirror condition, the participants in the socially isolated condition reported significantly less depth than their counterparts in Experiment 1. Again this indicates that this was due to the mirror rather than the social isolation.

These results increase the intensity of the interpretation. The social isolation should have increased breadth and depth, but the projected-mirror manipulation actually reduced it. It was concluded that the projected-mirror manipulation did therefore have a negative impact upon the self-disclosure, when compared to the control conditions in each Experiment. Surprisingly, there were no differences found between the socially isolated control participants for private self-awareness (M=6.73, SD=1.16), public self-awareness (M=3.93, SD=2.19), or ratio of self-awareness (M=0.62, SD=0.40), when compared to the participants who were in dyads in the control condition (M=5.27, SD=2.49, p=0.21; M=4.13, SD=2.26, p=1.00; M=1.08. SD=0.81, p=0.24). However, this again may be due to the limitations of the public and private self-awareness measures.

**Door-ajar condition vs. control condition**

*Private and public self-awareness*

Participants in the door-ajar condition scored lower for private self-awareness (M=5.07, SD=1.58) to the participants in the control condition (M=6.73, SD=1.16, p=0.06), and H5 was accepted (Figure 3.1). More indication that the participants were distracted from their private thoughts and their attention was moving to the external came from the public self-awareness scores. For the public self-awareness measurement, the participants in the door-ajar condition (M=6.33, SD=1.30) scored higher on the public self-awareness scale than participants in the control condition (M=3.93, SD=2.19, p<0.05). H6 was therefore accepted. The ratio of private to public self-awareness also showed participants in the control condition (M=0.62, SD=0.40) to have a lower ratio of private to public self-awareness, than participants in the door-ajar condition (M=1.35, SD=0.42, p<0.05). These results appeared much stronger than in the dyadic door-ajar condition and again it indicated that the participants being in an isolated condition was intensifying the effect of the manipulations on the participants.

Although the isolated door-ajar condition did not reduce private self-awareness as an independent measure it did as a ratio of public self-awareness. This subtle manipulation of leaving the door ajar had therefore a similar effect on reducing
private self-awareness, as Joinson’s (2001) manipulation, where he played episodes of *The Simpsons*. The distraction used here was however less obvious and less cognitively demanding than watching *The Simpsons*. The ratio of private to public self-awareness scores did therefore illustrate that simply providing this distraction, or this ‘chink’ in the amour of the participant’s privacy, had a great effect on their attentional focus. This supports the findings of Froming *et al.* (1982) who suggested that merely the presence of someone being around was enough to increase public self-awareness. This effect was not achieved in Experiment 1, but again this could be due to the isolation of the participant intensifying the manipulation. It may also be linked to differences in the goal of the interaction. In the dyadic interaction, the goal was more social, and the self was idealised (more than in the isolated conditions). As the true self was not being exhibited to the extent it was being presented in the isolated conditions, the risk to its vulnerability was greatly lessened. The door being ajar did not matter as much, as if the experimenter was to accidentally come across the participant’s self-disclosure it would be their ideal self that was being presented. If, however, the experimenter was to accidentally come across the participant’s self-disclosure in the isolated condition, the risk was high, as their true self was being presented. Again this supported the continuing argument that for the true self to be revealed safely in the task, the more alone the participant must feel. Support for these discussions was therefore sought from the other variables.

**Breadth and depth of self-disclosure**

As was expected from the results for self-awareness, the participants in the door-ajar condition who were also socially isolated, self-reported significantly less depth (M=3.13, SD=1.64) than participants in the control condition (M=5.13, SD=1.96, *p*<0.05). There was, however, no significant difference in the breadth of self-disclosure between the control condition (M=7.60, SD=1.35) and the door-ajar condition (M=6.07, SD=2.09, *p*=1.13), although there was a significant difference for word count, in the door-ajar (M=295.33, SD=108.91) compared to the control condition (M=517.80, SD=174.95). H7 was therefore accepted for depth. The results for depth were therefore in line with the expectations from the ratio of private and public self-awareness results. It was expected that these levels of private and public self-awareness would result in reduced self-disclosure. The door-ajar condition provided a situation where the participants’ public self-awareness was raised and their private self-awareness was reduced. In this
situation they were less able to become absorbed in their private thoughts, due to the distraction of the door being open, as a consequence they self-disclosed less depth-type information. This would be predicted by the DDM (Omarzu, 2000), where it could be said that the subjective risk increased, and therefore the depth dimension reduced.

Accuracy of self-disclosure

It was reported in Experiment 1 that increasing public self-awareness reduced accuracy. This was replicated in Experiment 2 where, a significant difference was also evident for accuracy of self-disclosure, with the post-hoc analysis finding that participants’ whose door was ajar (M=7.53, SD=1.41) reported their self-disclosure to be less accurate than participants in the control condition, (M=8.60, SD=0.83, \( p<0.05 \)). The possibility of self-disclosing for social reasons was reduced in this isolated door-ajar condition. Therefore, it is argued that this increased the likelihood of the participant pursuing personal goals, such as relief of distress, or identity clarification (cf. Shaffer & Tomarelli, 1989), and for these goals to be achieved the conditions needed to be safe enough for the true self to emerge. It is suggested here that the subjective risk was too high therefore the participants did not self-disclose accurately, which does also infer that they were not presenting their true self. Moreover, the subjective utility was low as they could not achieve the personal goals and as a consequence depth of self-disclosure also decreased significantly.

These results again emphasised the importance of using diverse measures of breadth, and depth of self-disclosure. In the only other study which manipulated self-awareness and measured the effects upon self-disclosure, only breadth of self-disclosure was measured (Joinson, 2001). It is interesting to note that by only measuring breadth and not depth and accuracy, the conclusion that leaving the door ajar did not affect self-disclosure in CMC, would have been drawn. Clearly this is not the case and the interest in this condition comes in the intensity of the difference between the door-ajar condition and the control condition for depth. Leaving the door ajar greatly affected the participants desire to divulge any intimate information about themselves. As was discussed in the introduction to this thesis, it is the instances of deep self-disclosure in CMC that are particularly interesting. Despite this few studies have investigated depth of self-disclosure. Moreover, many studies have tended to focus upon anonymity (Kiesler et al.,
Clearly, however, anonymity alone can not explain the results, and it is attentional focus that has emerged as the important factor. Significantly, anonymity is not just important to consider in terms of lack of identifiability, or whether the interaction is anonymous. It is also the participants’ perception of their anonymity at the time that is important. For instance, if public self-awareness is reduced and the participants become unaware of others around them (Froming et al., 1984), they can become immersed in the task (Kiesler et al., 1984), and this could encourage feelings of anonymity. In the door-ajar condition these feelings of anonymity were disturbed, even though the task was still anonymous. It was, therefore, the CMC experience and not just what was happening on the screen that was important to consider, but what was happening around the participant at the time. This is particularly significant when returning to the literature as CMC experiments will inevitably involve a private computer cubicle (cf. Goh, 2001; Joinson, 2001), however CMC commonly takes place in cafes, public places and computer hubs.

Further measures
The importance of considering what was happening around the participant in CMC, was also evidenced by the self-presentation scores, where the participants’ whose door is ajar, showed greater self-presentation concerns (M=5.00, SD=1.85) than participants in the control condition (M=2.53, SD=1.06, p<0.005). Leaving the door ajar encouraged the participant in Experiment 1 to present what was suggested to be their ought to self (cf. Higgins, 1987), and in Experiment 2 they also exhibited what could be considered to be their ideal self (cf. Higgins, 1987). Presenting an ideal self in a dyadic situation was easily explained. However, presenting an ideal self in the socially isolated condition is more difficult to explain. The participants in the isolated door-ajar condition did not have an immediate partner to impress by their ideal self. This socially isolated door-ajar condition was however one where the reward of pursuing social motivations of self-disclosure were arguably reduced. There were rewards to be gained in pursuing personal motivations of self-disclosure, but in this instance the risks were seen to be too high. The participant therefore appeared to be not taking the time and effort to explore their true self, but presenting an ideal and less accurate self, which may have been activated by the increased threat to their privacy by the door being ajar. The participant may have been presenting this ideal and less accurate self for their distance anonymous partner, but it is argued here that if this
was going to have this effect then it would be evident in the socially isolated control condition. In addition, it was clearly the door-ajar condition that was having this effect. Despite these quite dramatic differences in the scores for self-awareness, self-disclosure and for accuracy and self-presentation, there were no other significant differences found for any other variables. The participants in the door-ajar conditions reported similar levels of enjoyment (M=6.07, SD=1.16, learning (M=5.00, SD=2.67) and isolation (M=3.00, SD=1.31) to the participants in the control condition (M=7.13, SD=1.13, p=0.99; M=4.87, SD=2.07, p=0.99; M=3.13, SD=2.16, p=0.81). The participants in the door-ajar condition also reported similar levels of embarrassment (M=3.60, SD=1.88), intimacy (M=5.07, SD=2.60) and accountability (M=3.60, SD=5.33) to the participants in the control condition (M=2.47, SD=1.41, p=0.18; M=3.20, SD=2.27, p=0.64; M=5.33, SD=2.29, p=1.00).

**Socially isolated door-ajar vs. dyadic door-ajar**

The differences for self-awareness, self-disclosure, accuracy and self-presentation between the control and door-ajar condition in the socially isolated experiment (Experiment 2) did seem to suggest that the effects of the manipulation were intensified when the participants were socially isolated. An inter-experiment comparison was conducted to try and gain more insight into why this might be the case. Surprisingly, the only significant difference between the scores for the participants in the socially isolated door-ajar and the dyadic door-ajar conditions was for accuracy. In the door-ajar condition if the participants were in the socially isolated condition, they reported themselves lower for accuracy (M=7.53, SD=1.41) than their counterparts in the dyadic experiment (M=5.93, SD=1.80, p<0.01). This was perhaps explained by the participants in the dyadic door-ajar condition still being able to chat to their partner whilst presenting a less accurate picture of themselves. This result was interpreted using the DDM (Omarzu, 2000). It was noted that even though there was a risk, the subjective utility was higher than in the dyadic door-ajar condition, as the participants could still pursue more social goals. However, in the socially isolated door-ajar condition, where there was less possibilities for achieving social goals, as the subjective risk was high, but the subjective utility was more limited. It is argued here that personal goals of self-disclosure are more linked to the true self, and this increased the subjective risk. In FTF communication, and often in everyday communication there are pressures and risks (Bargh et al., 2002), therefore, the opportunities to explore this
true self are fairly rare. It is argued here, that the reduced public and increased private self-awareness in CMC gives the participant the opportunity for the true self to explored with little interpersonal risk.

This increased feeling of risk in the socially isolated door-ajar condition was not captured in any of the measures of self-awareness. The participants who were socially isolated did not report any differences in private self-awareness (M=5.07, SD=1.58), or ratio (M=1.35, SD=0.41) when compared to the participants in the dyadic experiment (M=5.74, SD=0.99, p=0.99; M=0.80, SD=0.44, p=0.09). The participants did however report greater levels of public self-awareness in the isolated experiment (M=6.33, SD=1.29) than the participants in the dyadic experiment (M=4.27, SD=2.05, p=0.06). This result may not be significant, but considering the dyads actually had a partner to increase public self-awareness levels, in the socially isolated experiment the heightened public self-awareness is evidence that they were distracted by the manipulation. The participants in the socially isolated experiment also reported similar levels of breadth (M=6.07, SD=2.09) and depth (M=3.13, SD=1.64) to the participants in the dyadic experiment (M=5.33, SD=1.05, p=0.83; M=4.60, SD=1.18, p=0.26), for the door-ajar condition. H8 was therefore accepted.

The participants also reported similar scores for self-presentation, where it could be concluded that the participants in the door-ajar condition in both the socially isolated (M=5.00, SD=1.85) and the dyadic experiments (M=4.40, SD=1.64, p=0.94) were presenting a more positive image of themselves. The participants in the socially isolated experiment also reported similar levels of enjoyment (M=6.07, SD=1.16), isolation (M=3.00, SD=1.31), embarrassment (M=3.60, SD=1.88), intimacy (M=5.07, SD=2.60), and learning (M=5.00, SD=2.67), to the participants in the dyadic experiment for enjoyment (M=6.67, SD=1.29, p=0.82), isolation (M=2.13, SD=1.96, p=0.74) embarrassment (M=2.33, SD=0.97, p=0.19), intimacy (M=3.27, SD=2.12, p=0.07) and learning (M=4.47, SD=2.17, p=0.98).

It is therefore argued that the socially isolated door-ajar manipulation was more intense than its dyadic counterpart, due to the reduced possibility for pursuing social goals, and that in the isolated conditions there was more time to attend to the manipulation. This was also found in the projected-mirror manipulation.
The difference in the results between the participants who were isolated and those involved in dyadic interaction, can be explained by the different experimental situations, activating different motivational goals of self-disclosure. In the dyadic interaction the motivations were arguably more social, and social pressures were evident by the participants’ reduced accuracy and higher self-presentation scores. Even though they were anonymous the participants were still managing a social situation, and were more likely to present a self that was idealised than participants in the isolated conditions. This was evidenced in their higher scores for self-presentation that indicated they were more likely to present their ideal self than participants who were socially isolated. It is argued here that the participants in the socially isolated condition did not have an immediate partner to impress, and were as a consequence more likely to be engaging in personally motivate optimal self-disclosure, than participants in the dyadic interaction, which also added more risk to the situation.

**Overall correlations**

The overall results of all six conditions revealed some interesting associations between self-awareness and self-disclosure. These results are useful as they step away from considering the differences between the conditions, and seek to understand how varying self-disclosure and self-awareness across all of the conditions. An analysis using Pearson’s correlation coefficient revealed again a strong correlation between both breadth of self-disclosure and private self-awareness, $r(90)=0.45$, $p<0.001$, and depth of self-disclosure and private self-awareness, $r(90)=0.42$, $p<0.001$, and H9 was accepted This again confirmed the importance of being able to access innermost thoughts and feelings to be able to self-disclose.

Again the Pearson correlation analysis also revealed a significant negative correlation between accuracy and public self-awareness $r(90)=-.20$, $p<0.05$, H9 was therefore accepted. Moreover, when the results of Experiment 1 and 2 were combined it was also found that accuracy was also correlated with private self-awareness, $r(90)=0.28$, $p<0.001$. The participant feeling alone increased private self-awareness, and this in turn increased the accuracy of their self-disclosure. This supports Carver & Scheier (1981) who linked increased private self-awareness to an awareness of self-discrepancies, and extends Bargh et al. (2002) link of the lack of identifiability to an awareness of the true self, to consider self-
awareness. It was also found that depth was negatively correlated with public self-awareness, \( r(90)=-0.21, p<0.05 \). This suggested that to gain optimal self-disclosure, the participant needed to be away from distraction, and with as little threat from other people as possible. This again accounted for the deep self-disclosure that has been reported on-line. It is suggested here that one possible reason for the high self-disclosure found on-line is that it was an environment outside of their FTF interactions where the participants felt that they can ‘safely’ exhibit their true self. This supported Bargh et al.’s (2002) suggestion that the true self is more accessible in CMC. These findings also extend their work to suggest, that it is not just that the true self that is more accessible in CMC, but that the true self is more likely to presented within self-disclosure.

**General Discussion**

The greatest challenge for researchers interested in increased self-disclosure in CMC lies in understanding what type of self-disclosure is occurring on-line, measuring it, and identifying what properties of CMC are leading to this behaviour. It is argued in this thesis that what is particularly notable about the self-disclosure in CMC, is that, in some instances, it is surprisingly intimate and optimal, and that the experience of self-awareness in CMC increases the pursuit of personal motivations of self-disclosure. Moreover, it is argued that the anonymity, and increased private and decreased public self-awareness in some CMC interactions, can lead to the participant feeling almost alone (Manstead *et al.*, 2011), which may lead to the participant exploring their individual, or private self. Using a method similar to Goh (2004) it is argued that in the experiments presented in Part 1, that deep and intimate self-disclosure was elicited. This was particularly important as previous studies of self-awareness and self-disclosure only succeeded in eliciting low levels of breadth of self-disclosure (Joinson, 2001), and although depth of self-disclosure had been measured in a limited number of previous experiments (cf. Kiesler *et al.*, 1984; Goh, 2004), it was not examined in terms of self-awareness. It is, therefore, argued that the type of self-disclosure that was elicited in the Experiments 1 and 2, was similar to the more notable self-disclosure occurring on the Internet.
The next challenge in the experiments was to try and understand the role of self-awareness in the increased levels of self-disclosure in CMC. Most studies examining self-disclosure in CMC tended to focus upon the anonymity of CMC (Kiesler et al., 1984; Spears & Lea, 1994; Mckenna & Bargh, 2000; Goh, 2004). However, several studies also indicated the importance of considering self-awareness to explain behaviour in CMC (Weisband & Reining, 1995; Matheson & Zanna, 1998; Joinson, 2001; Lea et al., 2001). Significantly, the experiments in Part 1 of this thesis were the first to examine the effects of private and public self-awareness on intimate and deep self-disclosure in CMC. Furthermore, the results of the two experiments in Part 1 of the present thesis, were successful in finding that anonymity alone cannot explain increased self-disclosure in CMC, and that it is a combination of increased private self-awareness and reduced public self-awareness, that encourages optimal and intimate self-disclosure in CMC. Significantly, in the reported experiments it was an increase in private self-awareness that was particularly related to deep self-disclosure, whilst an increase in public self-awareness, seemed to inhibit accuracy.

This finding of a negative correlation between public self-awareness and accuracy was an interesting result, as it allowed another strand to be added to Bargh et al.'s (2002) argument that the lack of identifiability in CMC increases access to the true self. In the Part 1 experiments, it was argued that increased private self-awareness increased personal motivations of self-disclosure (cf. Miller & Read, 1987), and increased an awareness of self-discrepancies (cf. Carver & Scheier, 1981), which arguably gave the participant the potential to self-disclose from the true self. It was, however, also illustrated that for this to be translated into self-disclosure from the true self that public self-awareness had to be low. It had been reported previously that the lack of identifiability in CMC allowed the participants to be free to explore their true self with little risk (Mckenna & Bargh, 2000; Bargh et al., 2002). In the present experiments all the participants lacked identifiability, but within that constant, reducing public self-awareness was associated with accurate self-disclosure, which could be interpreted as self-disclosure from the true self. This clearly indicated the importance of attentional focus in increased self-disclosure in CMC. What is particularly interesting about the anonymous CMC interaction, is that it both raised private self-awareness (Matheson & Zanna, 1988; Joinson, 2001), which increased access to the private self (Bargh et al., 2002), and also reduced public self-awareness (Matheson & Zanna, 1988) that allowed for self-
disclosure from the true self to occur. In this situation, it is argued that the concerns of the relational self were reduced and the individual, or private self, was explored, using optimal and intimate self-disclosure. For this optimal and intimate self-disclosure to occur, it is argued here that both experiences of self-awareness are important.

In the experiments in Part 1, it also emerged that care needed to be taken when using the projected-mirror manipulation to raise private self-awareness. In the dyadic interactions used by Yao & Flanagin (2006) and Joinson (2001), it was successful in increasing private self-awareness, whilst also reducing public self-awareness. It was also a successful manipulation which was used to increase private self-awareness, whilst reducing public self-awareness in Experiment 1, where it also led to increased levels of depth of self-disclosure. However, in Experiment 2, where the participant were not managing a ‘real-time’ dyadic interaction, and was in a situation more akin to asynchronous email communication, the manipulation was reported to become too intense. It was suggested in the results of Experiment 2, that as the participants were not engaged in a ‘real-time’ interaction, that they had less attentional and cognitive demands to manage. It was further suggested that, in this instance, the projected-mirror manipulation may have become more like the large mirror manipulation, that had been previously reported to produce effects similar to future anticipation with others (Webb et al., 1989; Snyder & Monson, 1975), and also increase public self-aspects (Wiekens & Stapel, 2008). The projected-mirror manipulation was therefore reported to be a problematic manipulation, whose effects were difficult to predict. Shaffer and Tomarelli (1989) and Joinson reported that when attention is split, self-disclosure is reduced. There may have been many different, and possibility conflicting attentional demands, in the projected-mirror condition in Experiment 2, which may have led the participants to self-disclose less than their counterparts who were in the dyadic interaction in Experiment 1. It was also suggested in, the results section of Experiment 2, that the measurements of self-awareness were not adequate for capturing the attentional demands in the condition.

Although the projected-mirror manipulation was not a straightforward manipulation, it was an interesting manipulation. In Experiment 1, the reduced public and increased private self-awareness scores coupled with the participants
scoring their partner lower for sociability, led to the conclusion that the projected mirror was increasing personal motivations of self-disclosure. In Part 1 of this thesis, personally motivated self-disclosure was defined as self-disclosure where the recipient is less important. An example of this is the stranger on the train phenomenon where the motivation of self-disclosure may be to ‘get something off one’s chest,’ and the recipient may be just a sounding board (Rubin, 1975; Bargh et al., 2002). It had previously been argued that this situation was occurring online (Bargh et al., 2002), and in Experiment 1 it was thought that the participants motivations may have been moving towards this type of personally motivated self-disclosure. However, when this condition was compared to the projected-mirror condition in the socially isolated condition it was clear that the participants were presenting a more positive image of themselves in the dyadic interactions. This was consistent with previous work that had suggested that CMC encourages the hyperpersonality, or the idealisation of the self and others (Walther, 1996). Returning to Altman and Taylor’s (1973) onion analogy, it would seem that although in Experiment 1 it was concluded that the participants in the projected-mirror condition were presenting their true self, the results of Experiment 2 revealed that the participants in Experiment 1 had another layer of Altman and Taylor’s ‘onion’ to be revealed. This illustrates the difficulty of ever knowing whether the true self is being presented in research.

Whilst these results did suggest that the participants in the dyadic interaction were not presenting their true self, they also indicated that the participants in the socially isolated projected-mirror condition (compared to the dyadic condition) were presenting their true self. It was suggested, in the results section of Experiment 2, that in the socially isolated projected-mirror condition, the number of social goals that could be achieved were reduced by the elimination of the ‘real-time’ dyad. Moreover, it was argued that if the participant engaged in deep self-disclosure, that it would most likely be personally motivated self-disclosure. The participants did not have a ‘real-time’ partner to receive feedback from (cf. Swann, 1990; Baumesiter, 1999), or to make an impression on, or become intimate with (cf. Shaffer & Tomarelli, 1989). Without social goals of self-disclosure to pursue, it was argued that the participant could use the situation to ‘get things off their chest,’ and to dissolve worry (Borkovec et al., 1984). Returning to Shaffer and Tomarelli’s (1989) summary of the functions of self-disclosure, they could also have used it for self-expression, or identity
clarification. It has been argued that this asynchronous type of communication is ideal for pursuing these types of goals, as it gives the participant the freedom to explore themselves at a comfortable rate, and provides them clarity and reflection in communication (cf. Wright, 2002). It was argued in the introduction to Part 1 of this thesis, that what is particularly interesting about these types of more personally motivated self-disclosures is that they are associated with the presentation of the true self, or accurate self-disclosure. It is therefore argued that what lay at the crux of the self-disclosure decision in the socially isolated conditions, was whether the true self could be presented, or not.

In the socially isolated conditions of the present experiment, it is argued here that with fewer social goals salient that the participant had to make the decision of whether it was ‘safe’ to explore the true self in this way (cf. Bargh et al., 2002). In the DDM (Omarzu, 2000), the depth is the dimension which is reported to be most at risk, and it is also argued here that accuracy is also greatly at risk. This, in turn, suggests that the interpersonal ‘stakes’ were high in this condition. More specifically, when weighing up subjective utility and subjective risk (cf. Omarzu, 2000), the risks were high, and the rewards were arguably limited to goals linked to accurate and deep self-disclosure. Moreover, with the social, physical and psychological presence of the partner (cf. Manstead et al., 2011) reduced, it is further argued that the participant was almost ‘alone’ with the manipulation, and with the true self. In this instance, it is argued that the participant was more tentative about the self-disclosure that they revealed. It is even possible that the social isolation coupled with viewing a ‘real-time’ image of the self, increased the participants’ private self-aspects too much, or there could have been several activators of public and private self-awareness at play. Unfortunately, this was not backed up by the self-awareness scores, but this could again have been due to competing attentional demands that were not picked up by the measures. The socially isolated projected-mirror condition did, however, lead the participants to report significantly lower levels of self-disclosure than their counterparts in the dyadic condition. More research is, however, required to understand the projected-mirror manipulation further, but it is concluded that its effects will most likely be dependent upon what other attentional demands are present at the time.

It was also observed in Experiment 2 that the door-ajar manipulation was also intensified in the socially isolated condition, and produced the effects that had
initially been predicted. In Experiment 2, the door-ajar manipulation reduced private and increased public self-awareness, which greatly reduced self-disclosure. Moreover, the self-disclosure was reported to be less accurate and was reported to reveal an idealised image of the participant. Again, it is argued that in Experiment 2, the self-disclosure ‘stakes’ were higher, and with less social goals to pursue, the participant was more at risk. With no ‘real-time’ partner to achieve many of the social goals, the partner may have possibly wanted to pursue personal goals. However, when they weighed up the subjective risk with subjective utility, the risks were too high, and this resulted in them adjusting their self-disclosure to suit the situation. The results of this experiment again highlight the differences between the dyadic and socially isolated situations, and also emphasise the importance of not generalising about the effects of the manipulations. It was suggested earlier in the introduction to this study that CMC may provide a situation where the relational self is distanced and motives more associated with the individual self may be pursued. The relational self may, therefore, be more associated with, what are considered within this thesis as, the social goals, and the individual self may be more associated with what are considered the personal goals of self-disclosure. It may be that as private self-awareness increases and public self-awareness decreases information concerning the individual self may be gathered. In contrast, as public self-awareness increases and private self-awareness decreased information concerning the relational self may be gathered. Although the present experiments can be linked to these representations of the self, more research could be conducted to explore these links in the future.

It is argued here, that the effects of the manipulations will depend upon what other attentional demands, or activators of public and private self-awareness, are present at the time. The results did, however, also indicate that when the effects of self-awareness were marked, that the self-awareness scales were successful in capturing the differences. It is, therefore, the more subtle nuances, and specific different activators of public and private self-awareness that were not picked up in the scales. One of the merits of the reported experiments was the detail that was involved in the measurements, particularly of self-disclosure. However more detail can always be added, and more research would be useful which identifies, more specifically, the different activators of public and private self-awareness, and tests their individual effects on self-disclosure in CMC.
It is apparent that the more subtle changes in attentional focus were extremely difficult to capture in the reported experiments. The participant most likely shifted from being high or low in private or public self-awareness quite rapidly (cf. Omarzu, 2000), and the measurements of self-awareness were extremely limited. Private self-awareness seemed to be defined fairly well in the experiments, by how attentive, or not, the participant was to their internal thoughts and feelings (cf. Duval & Wicklund, 1972; Scheier et al., 1978; Carver & Scheier, 1981), but public self-awareness appeared more complex. Weikens and Stapel (2008) advised that it is important to specify, and be clear about, what self-aspects are being activated. In the present experiments, there were many possible types of public self-aspects that could be activated. The participant could be aware of the physical presence of the experimenter (cf. Jourard, 1971), which may have raised public self-awareness (cf. Froming et al., 1984). They could also have been bothered about how the other participant may have viewed them, which would also increase public self-awareness (Fenigstein et al., 1975). In the projected-mirror condition, they could even be aware of their public self-aspects from receiving an ‘other orientated’ perspective of themselves (Webb et al., 1989). Significantly, each of these possible activators of public self-awareness could have different effects upon self-disclosure, in addition to activating different motivations of self-disclosure (cf. Miller and Read, 1987), and encouraging different presentations of the self (cf. Higgins, 1987). These different types of activators of public self-awareness were not accommodated in the measures of public self-awareness, and this is one of the greatest limitations in the present study. In future research it would be useful to concentrate on identifying specific public self-aspects to activate, and operationalise them in the measurement tools.

This said, although the experiments in this thesis did not have particularly detailed measurements of self-awareness, they did capture some important changes in public and private self-awareness.

It is clear from Experiments 1 and 2 that there are many factors to consider when trying to understand self-disclosure in CMC. Strongly emerging from the results is the importance of self-awareness in explaining increased self-disclosure in CMC. It is argued that it is the participants’ levels of self-awareness that is the deciding factor in what to self-disclose. Returning to the DDM (Omarzu, 20000), the model begins with recognising the importance of dispositional factors in self-disclosure. This is an important starting point as self-monitoring and self-
consciousness have both been linked to self-disclosure in past research (Shaffer et al., 1982; Shaffer & Tomarelli, 1989). The DDM then indicates the target of the self-disclosure, and again the self-disclosure will depend on how aware the participant is of themselves in relation to this other (cf. Delerga & Chaikin, 1977). It was also illustrated in the reported experiments that the situational factors also greatly affect the level of self-disclosure. It is argued here that on all levels of the DDM a calculation of the levels of private and public self-awareness could be made, and it would be the sum of these individual experiences of self-awareness that would better predict the self-disclosure outcome. The DDM (Omarzu, 2000) is a model that began to attempt to structure some of the complex decisions that are made during the decision to self-disclose, which ultimately results in the weighing up of subjective risk and subjective utility. Although it is not explored in this thesis, it is emerging that parallels can be drawn between the process of weighing up the subjective utility and subjective risk, and those that are described in self-regulation models of self-awareness (cf. Powers, 1973a; 1973b; Carver & Scheier, 1981). In these models, the decision to self-disclose would be weighed up, consciously or subconsciously, by a process of checking internal standards with external reference points, and the discrepancy between these standards would be resolved by adjusting the self-disclosure behaviour (cf. Carver & Scheier, 1981). It is argued here that applying this type of model to the self-disclosure decision in future research could begin to accommodate for complexity of the decision, whilst also accounting for the more subtle nuances of attentional focus that are involved.

Moving into Part 2 of the present thesis there were many possible avenues for extending the experiments in Part 1. One finding that did however stand out as being particularly interesting was the ability of CMC, or more specifically of the increased private and reduced public self-awareness, to encourage the true self. This finding was very interesting in terms of the CMC literature, as it could be used to explain the acceleration of on-line friendships (cf. Mckenna & Bargh, 2000), the on-line ‘stranger on the train’ phenomenon (Bargh et al., 2002), and also the proliferation of self-help groups (Salem et al., 1998; Moon, 2000). It also highlighted the potential of CMC to investigate the more elusive parts of the self, such as the true self. It is reported that there is a great desire to explore and present the true self in everyday life (Rogers, 1951; Bargh et al., 2002), but this is not often possible due to social demands and pressures in everyday life (cf. Roger,
Moreover, when it is considered that the individual does desire to be the true self (cf. Rogers, 1931; Bargh et al., 2002), and may be aware of their self-discrepancies (Carver & Scheier, 1980), and this can cause discomfort (Higgins, 1987). Furthermore, that the exhibition of the true self is an important in not feeling alone in the world (Veltman, 2005), and is also associated with many of self-disclosure benefits associated with health (Jourard, 1961; Pennerbaker, 1989), an important question emerges. If the true self is so important and so beneficial, why is it not more easily exhibited in everyday life?

It is argued here that the vulnerability of the true self, which is arguably evidenced in Experiments 1 and 2 by the participants requiring specific and ‘safe’ conditions for it to emerge, is an example one of the habitual ways in which aspects of the self are managed. Moreover, it is argued that these behaviours, or the way in which the private and public self, or private and public self-awareness, is managed are learnt within society and are driven by cultural norms. Markhus and Kunda (1986) describe a dynamic self, in which a distinction is drawn between the working self and the cognitions that are stored in the long-term memory. The working self they describe as a changeable structure that draws on the cognitions in the long-term memory, which then adapts to ongoing situations and events (Markhus & Wurf, 1986). This theory is useful as it makes a distinction between the experiences of public and private self-focus that could be considered dispositional, such as self-consciousness and self-monitoring (Shaffer et al., 1982; Shaffer & Tomarelli, 1989), and the more situational and temporary changes of self-awareness, that are viewed in Experiments 1 and 2. The distinction also begins to recognise that the ongoing effects of differing levels of self-awareness could affect the individual’s disposition, and also that the disposition of the individual affects the way in which public and private self-awareness is managed.

It is, therefore, further argued that the habitual ways in which self-awareness is managed are learnt through society and are driven by cultural norms, and that as the participants in the Part 1 experiments were British, that they will have a particular way in which they manage their private and public self, and manage their levels of private and public self-awareness. In the reported experiments, it is argued that what was observed was the British people’s habitual ways of dealing with the aspects of the self, and that behaviours such as hiding the true self may be culturally specific. In the second part of this thesis, this will be tested by
replicating the experiments on a population from a different culture. There is a shift therefore in the second part of this thesis; rather than trying to understand how the self is affected in CMC, CMC will be used as a tool to try and understand more about the cultural self. The second part of this thesis will begin with a literature review of the cultural self, which will explore cultural differences in the managements of the private and public self, and will also explore cultural differences in self-disclosure. Experiments 1 and 2 will then be replicated on members of a different culture.
PART 2
CHAPTER 4: Introduction to Part 2

Introduction

By using CMC to study self-awareness and self-disclosure, it is possible to not only understand the impact CMC is having upon communication, but also how CMC may be providing new ways of gaining self-knowledge. Furthermore, CMC allows for well-researched topics, such as self-disclosure, self-awareness and self-knowledge, to be examined within a new context. In Part 1, of this thesis, it was illustrated that the CMC environment encourages intimate and optimal self-disclosure at least in certain circumstances. Significantly, it was identified that increased private self-awareness within CMC is associated with increased depth of self-disclosure, and that reduced public self-awareness within CMC is associated with increased accuracy of self-disclosure. Whilst these findings do go some way towards explaining why self-disclosure may be increased in CMC, they also indicate the presentation of the true self, which is argued to be less easily presented in FTF communication due to social pressures (cf. Bargh et al., 2002).

More specifically, it was observed in Part 1, that the lower public self-awareness was, the more likely the true self would be presented. It has been reported in the literature that self-disclosure of the true self is essential for good health (Pennebaker, 1995; Jourard, 1961) and it has also been reported to be important in the formation of close relationships (Altman and Taylor, 1973). It seems quite peculiar, therefore, that something as important as the true self need ever be hidden, and that a simple rise in public self-awareness, by leaving the door ajar, could cause the true self to retreat. To understand more about how the true self has become so vulnerable, and where the pressures have come from to keep the true self hidden, it is useful to trace back where and when the individual learnt that the true self should be hidden. These questions therefore, direct discussion to the socialisation process, and more widely to the cultural patterns that may lead to such pressures.

The ‘self, communication and culture are interrelated; the self grows through communication with others in the culture; culture is manifested in the communicative styles common to a society, and culture is reflected in the individual selves formed in a particular culture,’ (Asai and Barnlund (1998, p431-432). It is likely, therefore, that the British participants in Experiments 1 and 2
learnt at a young age the communicative styles that were common to their society, and this possibly included the need to be careful when they presented their private, or true self. There is a long history in psychology of research indicating behavioural change in the presence of others. In one of the earliest conducted psychology experiments, it was illustrated that children performed a simple task faster in pairs then when alone (Triplett, 1898). This theme of people acting differently, when in the presence of others has continued to run through many social-psychological theories such as Self-Discrepancy Theory (Higgins, 1987), Social-Identity Theory (Tajfel & Turner, 1979), Self-Presentation Theory (Goffman, 1959), and impression management (Schlenker, 1980) and are also recognised in empirical work through the acknowledgement of demand characteristics (cf. Asch, 1952). In terms of the self, these observations of people acting in different ways in the presence of other people are clearly highlighted in the distinction between the private and the public self, where the private self is described as the self that is only visible to the individual, whilst the public self is visible to both the individual and to others (Barnlund, 1975). Culture is ‘a powerful regulator of many aspects of human behaviour [that] directs perception, memory, and inferences concerning both oneself and others’ (Cross and Madson, 1997, p6). It is therefore argued here that the way in which the private and public self are constructed, and the way in which these selves are managed, will be regulated and driven by culture.

Given these factors, the results of Experiments 1 and 2 cannot be generalised outside of the British culture. It is further argued that British culture teaches its members communicative styles of self-disclosure that become norms in Britain, and that these styles will differ to the styles of self-disclosure that will drive the norms in other cultures. In Part 2 of this thesis, the experiments presented in Part 1 will be replicated on participants from a different culture in order to gain some understanding of cultural differences in the way that self-awareness affects self-disclosure in CMC. It is envisaged that the results will not only contribute to the literature on CMC, but will add an interesting cultural perspective to how self-awareness affects self-disclosure in different ways. Before these experiments are reported, quite a substantial literature review will be presented. This will start with a brief discussion of the importance of cross-cultural work, followed by a discussion of attempts to classify various differences between cultures. The literature review will then look more specifically at research that has been
conducted investigating cultural differences in self-disclosure and self-knowledge. Finally, the literature will be summed up in terms of the experiments that are to follow. The broad aims of the second part of this thesis are therefore twofold; first, to assess the cultural validity of the results of Experiments 1 and 2, by replicating the experiment on participants from another culture, and second, to compare the results of the participants from both cultures to try and understand how culture may drive self-disclosure, self-awareness and self-knowledge, which ultimately affects the construction of the private and public self.

**Cross-cultural research**

Producing sensitive, multi-cultural theory is extremely important. Although there has been an increase in international psychological research over the last 40 years (O’Donnell, 2006), Western research still oppressively dominates. In, for example, the best-selling American psychology text book *Social Psychology* (Baron and Bryne, 1994), of the 1,700 citations listed, only 100 refer to studies conducted outside of America (O’Donnell, 2006). Questions do therefore arise of how many of the 1,600 citations in the American psychology book are even relevant outside of the West. Hsu (1985), for example, argues that Western psychology is simply not relevant outside of the West, and notes that many of the celebrated studies such as those in conformity are not replicated outside of the West (cf. Bond and Smith, 1996). Reflecting this upon the results of Experiments 1 and 2, questions remain as to whether behaviours, such as hiding the true self, will be universal. It is argued here that CMC may be used in different ways, in different cultures, and the differing levels of self-awareness in CMC may have different effects upon self-disclosure in different cultures.

Cross-cultural work is however extremely challenging. An example of the difficulties that can arise can be clearly seen in the cross-cultural-trait approach to cultures, which literally ‘transports and tests,’ personality dimensions operationalised by Western measurement tools, to other cultures (Church , 2000, p18). In Western psychology, traits are often considered to be at the core of personality as this approach fits well within a scientific paradigm, because it allows personality to be understood systematically (McCrae, 2001). However, before even the transportation of personality dimensions begins, problems arise with the universality of the conception of even personality itself. Scholars such as Hsu (1985), for instance, argue that even the idea of personality is an expression
of the Western ideal of individualism. It is suggested here, that if even personality itself may not be relevant outside of the West, this has great implications for generalisation of the results of the experiments in Part 1. It is hoped, however, that by replicating the experiments on members of a different culture in Experiments 3 and 4, a greater insight will be gained into the role of personality and the true self, and how they affect self-disclosure.

Despite the challenges of cross-cultural research, the rewards are great, and this is recognised by several scholars. Baumesiter (2005) believes, for instance that the search for similarities between cultures will eventually allow for an understanding of the universals in human behaviour. Moreover, Hsu (1985, p46) believes that examining the basic elements of being human will ultimately ‘unlock the secrets of cultural stability and change.’ Furthermore, it is envisaged by Shen (2003) that contrasting cultures will ultimately lead to an upgraded form of multiculturalism that is one where the research facilitates the mutual enrichment of the compared cultures. In the following piece of work, similarities and differences will be observed in the way that members of different cultures use self-disclosure to explore themselves. Moreover, the effects of self-awareness on self-disclosure will be explored, and discussed in terms of how they could lead to different constructions of, and ways of managing the, private and public self. In the final discussion (Chapter 7) the results will then be used to achieve an upgraded form of multiculturalism.

**Culture and the self**

It is possible that behaviours such as the hiding of the true self may be symptomatic of a Western culture. Moreover, different cultures, with different norms, structures and practices, will lead to different motivations and goals of self-disclosure. Different cultures perpetuate different structures and values within their members, and cultural psychologists have made attempts to categorise these differences. In one of the most famous and defining studies in the history of cultural research a large-scale survey of 117,000 respondents in over 50 countries identified four dimensions that countries could be classified around (Table 4.1) and ranked 50 countries around these dimensions (Table 4.2; Hofstede, 1983). Although these categories are quite general, they do provide a useful starting point for any cultural investigation, and also allow rich discussions to ensue about cultural differences and similarities of particular countries. Of these dimensions,
it is the difference between individualistic and collectivistic cultures that has attracted the most research.

Western cultures are considered to be underpinned by individualism, which places emphasis upon personal goals, rather than goals associated with in-groups (Hamid, 1994). There is also an emphasis in these cultures to become autonomous (Cohen & Gunz, 2002), and independent and the members view themselves as separate from others (Markhus & Kitiyama, 1991). This has led to members of Western cultures being described as having an independent self-construal (Markhus & Kitiyama, 1991; Table 4.3). In these societies, the individuals look to pursue social goals in their relationships, and they look to gain information and give information about themselves (Hamid, 1994). A fair exchange is one where they self-disclose in such a way that poses minimal threat and maximum benefit to both parties, and this requires the individual to be sensitive to their partner, and to be successful in their presentation strategies (Hamid, 1994). The individual’s behaviour is organised and given meaning through their own internal thoughts, feelings and actions (Markhus & Kitiyama, 1991). Geertz (1973, p48) famously described the independent individual as, ‘bounded, unique….a dynamic centre of awareness, emotion, judgment, and action organised into a distinctive whole and set contrastively both against other such wholes and against a social background.’ In these cultures, the individuals are at the centre of their psychological and social field and the self is experienced as distinct from the group (Markhus & Kitiyama, 1991). In terms of culture being a powerful regulator of many aspects of human behaviour (Cross & Madson, 1997), in Western cultures much of this behaviour is driven by the independent construal, and various different types of behaviour have been explore in terms of this perspective (cf. Cross & Madson, 1997; Asai & Barnlund, 1998; Triandis, Bontempo & Villareal, 1998; Cohen & Gunz, 2002; Wagar & Cohen, 2003; Kito, 2005)
<table>
<thead>
<tr>
<th>Cultural Dimension</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Power-Distance</td>
<td>The amount of respect and deference between superior and subordinate,</td>
</tr>
<tr>
<td>Uncertainty-Avoidance</td>
<td>The focus on planning and creation of stability as a way of dealing with uncertainty</td>
</tr>
<tr>
<td>Individualism-Collectivism</td>
<td>Whether one’s identity is defined by personal choices</td>
</tr>
<tr>
<td>Masculinity-Feminism</td>
<td>Relative emphasis on achievement or on interpersonal harmony</td>
</tr>
</tbody>
</table>

**Table 4.1: Hofstede’s (1980) cultural dimensions and their descriptions**

<table>
<thead>
<tr>
<th>Country</th>
<th>Power-distance</th>
<th>Uncertainty avoidance</th>
<th>Individualism</th>
<th>Masculinity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa (East)</td>
<td>22</td>
<td>36</td>
<td>34</td>
<td>39</td>
</tr>
<tr>
<td>France</td>
<td>15</td>
<td>12</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>Germany (West)</td>
<td>43</td>
<td>29</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>Great Britain</td>
<td>43</td>
<td>47</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Japan</td>
<td>33</td>
<td>7</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>Korea (South)</td>
<td>27</td>
<td>16</td>
<td>44</td>
<td>41</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1</td>
<td>46</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td>Singapore</td>
<td>13</td>
<td>53</td>
<td>40</td>
<td>28</td>
</tr>
<tr>
<td>United States</td>
<td>38</td>
<td>43</td>
<td>1</td>
<td>15</td>
</tr>
</tbody>
</table>

**Table 4.2: A sample of the results of Hofstede’s (1983) study where fifty countries were ranked in terms of the different cultural dimensions**

<table>
<thead>
<tr>
<th>Cultural Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent view (Western)</td>
<td>Autonomous entity defined by distinctive attributes and processes</td>
</tr>
<tr>
<td>Interdependent view (Eastern)</td>
<td>Interdependent entity who is part of an encompassing social relationship</td>
</tr>
<tr>
<td></td>
<td>Consequence of being responsive to others. Origins in relationships and behavioural is the result of actions within a social relationship</td>
</tr>
</tbody>
</table>

**Table 4.3: Summary of the main features of independent and interdependent self-construals (Markhus & Kitiyama, 1991)**

In contrast, collectivist cultures, and typically East-Asian cultures, place less emphasis upon personal goals and place more importance upon the in-group and interdependence of members (Hamid, 1994). The members of these types of societies are therefore often described as having an interdependent self-construal (Markhus & Kitiyama, 1991; Table 4.3). In these cultures where the emphasis is upon interrelatedness (Cross & Madson, 1997) the individual is connected to
others, and group harmony, communion and cohesion are important (Ting-Toomey, Gao, Trubisky, Yang, Kim, Lin & Nishida, 1991). These individuals focus more upon the context and background detail in interactions, and are not driven by personal disposition. In Chinese society progress is considered to come from obeying rules, and from creating harmonious conditions, and this can be contrasted with the Western view of progress, which seems to be made primarily through the individuals’ capacities (Hamid, 1994). The self member of the collectivist culture who has an interdependent self-construal does possess internal thoughts, feeling and emotions, but these do not play a powerful role in regulating behaviour (Markhus & Kitiyama, 1991). The interdependent self-construal is therefore not bounded by changes with the changing social situation (Markhus & Kitiyama, 1991), and in this sense the private self, rather than being distinct or unique, becomes an extension of the collective self (Triandis et al., 1988, 1999) and with the self in harmony with the group the individual learns to interpret from the perspective of the other. In terms of culture being a powerful regulator of many aspects of human behaviour (Cross & Madson, 1997), in collectivist cultures, typically East-Asian, behaviour is regulated by this interdependent perspective, and various different types of behaviour have been explored in terms of this perspective (cf. Cross & Madson, 1997; Triandis et al., 1998; Cohen & Gunz, 2002; Wagar & Cohen, 2003; Asai & Barnlund, 1998; Kito, 2005).

**Self-disclosure and culture**

Culture is ‘a dynamic cultural creation [where the] individuals’ self-views, emotions, and motivations take shape and form within a framework provided by cultural values, ideals, structures and practices’ (Cross and Madson, 1997, p6). It does, therefore, follow that the process of self-disclosure, which is central in all communication and forms a link between the self and others, will be culturally driven. This has been confirmed by various studies, which have shown marked differences in the self-disclosure behaviour of members of collectivist and individualistic cultures. Commonly, for instance, members of Japanese cultures, which are considered to be collectivist, are found to be restrained, formal and cautious (Barnlund, 1975; Miyanaga, 1991; Asai and Barnlund, 1998; Kito 2005). Research conducted on Chinese participants has also revealed that a central facet of their communication is centred around saving ‘face’ (Gudykunst, Gao, & Franklyn-Stokes, 1996) and this results in non-intimate self-disclosure (Goodwin & Lee, 1994). Moreover, there are various reports of members of East-Asian...
cultures having group rules that centre round restraining emotional expression (Goodwin & Lee, 1994). In contrast, for members of North American cultures, who live in an individualistic culture, which drive the independent self-construal, verbal expression is encouraged and self-disclosure is open (Miyanaga, 1991). In addition members of North American cultures also partake in more risky interpersonal self-disclosure (Goodwin & Lee, 1994). There have been various pieces of research that have confirmed these assertions, that generally converge in the observation that members of individualistic cultures self-disclose more than members of collectivist cultures (Barnlund, 1975; Asai and Barnlund, 1998; Barnlund, 1989; Ting-Toomey et al., 1991; Kito, 2005).

Although these observations are widely supported, many questions arise as to what exactly is being reported in these studies. The complexity of researching the definition, measurement and operationalisation of self-disclosure, was clearly illustrated in Part 1 of this thesis. Questions arise therefore as to how comprehensively these issues are being met in the cross-cultural research on self-disclosure. One difficulty that arises, in understanding self-disclosure across culture, comes from the challenge of measuring self-disclosure. Whilst this was a concern throughout Part 1, the addition of culture adds further complexity to such methodological issues. Self-disclosure is, for example, commonly assessed by asking the participants to report retrospectively on their past self-disclosure behaviour, and this usually involves asking the participants which topics of varying intimacy they have discussed with various people (Jourard, 1971; Asai and Barnlund, 1998). This does, therefore, instantly raise the issue of whether the scales used are relevant to the type of the self-disclosure that is ‘normal’ within the culture. For instance, on examining the topics involved in these types of questionnaires it is apparent that they often describe topics that are more typical of individualistic cultures (Asai & Barnlund, 1998). An example of this is, assessing a person’s self-disclosure by asking the participant whether they discuss their personal habits with their friends (cf. Miller, Berg, & Archer, 1983). It is, however, clear from the descriptions of the independent and interdependent self-construal and their associated self-disclosure behaviour, that this would be a far more comfortable and relevant topic for a person with an independent self-construal. Members of individualistic cultures are reported to spend more time focusing and discussing their private self, and issues surrounding it (Asai and
Barnlund, 1998). This line of questioning in research methodology, may therefore favour the type of self-disclosure that is more typical in an individualistic culture.

It is likely that certain types of self-disclosure are more relevant to, and more evident in, certain cultures, and these differences may not be captured by the self-disclosure tools. If a self-view is directed and driven by a collectivist culture, or by an individualistic culture, the information that is more relevant to this self-view will be the information which supports the individual’s desires, opinions and characteristics. It has been illustrated, for instance, that individuals are more likely to pay attention to information that is self-relevant, and to resist feedback that is inconsistent with their self-view (cf. Fiske and Taylor, 1991). It follows, therefore, that members of individualistic or collectivist cultures will gather self-knowledge that they feel is more relevant to them, and inevitably this will be entwined with what is relevant within the culture. The member of the collectivist culture, who is considered to have an interdependent view of the self, will restrain their unique attributes to maintain harmony within the social context (Markhus and Kitiyama, 1991). In contrast, the individualistic individual, with an independent self-construal, will find ways in which to express the unique attributes of the self, and look to use self-disclosure to validate internal attributes (Markhus and Kitayama, 1991). They will, therefore, be motivated by these ideals in their social relationships (Cross and Madson, 1997), and will thus gather self-knowledge and decide whether it is consistent, or inconsistent, with their private, or individual, self-view. It is possible therefore that self-disclosure is more tactical than the research indicates, or illustrates.

Although there is no research that specifically examines tactical self-disclosure, there is cross-cultural research that examines tactical self-enhancement, and this can be used to inform the present discussions. In studies of self-enhancement, Heine and Lehman (1999; Heine & Ruby, 2010) did for example, compare Americans and Japanese for positive regard, and found that the Japanese rated themselves to be less self-descriptive, and also rated themselves to have less positive traits than other Japanese people. Heine and Lehman (1999) used this evidence to suggest that the Japanese do not try and enhance the individual self and do not construct a positive self-view. In subsequent research, however, Sedikides, Gaertner, & Toguchi (2003) illustrated that self-enhancement was more tactical, and that the motivations for self-enhancement were different for members
of individualistic and collectivist cultures. Furthermore, Sedekides et al. illustrated that Japanese participants with an interdependent self-construal self-enhanced on collectivist attributes such as communion, whilst American participants with an independent self-construal self-enhanced on individualistic attributes such as agency. This research does therefore support the notion that in a collectivist culture the motivations for behaviour are driven by interdependent ideals, and the motivations for individualists cultures are driven by goals that reflect independent ideals. To understand cross-cultural differences in self-disclosure, it would therefore be wise to understand more about the motivations that underlie the self-disclosure behaviour.

Further support for this more tactical type of self-disclosure also comes from the relationships that develop within the cultures. It would seem that members of individualistic cultures tend to pursue independent desires and motivations within their social relationships. In contrast, individuals from collectivist cultures have interdependent desires and motivations within their social relationships. Cross and Madson (1997) reported, for example, that in relationships between members of individualistic cultures, partners in relationships may act as mirrors to allow them to compare themselves, or as sounding boards for them to display their uniqueness (Cross & Madson, 1997; Markhus & Cross, 1990). Moreover, the partners are there to gain feedback from, and to reaffirm and validate aspects of, their unique self (cf. Swann, 1990). In contrast, individuals with interdependent construals are closer and more connected to others, and their boundaries are described as being open and porous, and more flexible (Cross and Madson, 1997). The goal in the relations of individuals with an interdependent construal is to maintain connectedness and to form harmonious relations (Cross & Madson, 1997). These individuals’ motivations in relationships may even be shaped by others, and other’s needs may be as important, or more important, than their own (Cross & Madson, 1997). These studies therefore, support the idea that culture drives and dictates not only the nature of the relationships they form, but also the way in which communication is conducted within this relationship, and how information about the self is gathered. Moreover, theses different cultural desires will also drive the motivations behind self-disclosure.

Another example of how culture can drive and motivate different behaviour is evidenced in research investigating cross-cultural differences in cognitive
dissonance. Hoshino-Browne, Zanna, Spencer, Zanna, Kitayama and Lackenbauer (2005) do, for instance, argue that the rationalization of decisions is part of human nature. Significantly, however, they also argue that culture shapes the way in which this rationalisation occurs. This was illustrated in an experiment by Heine and Lehman (1997) who investigated the link between cognitive dissonance and self-affirmation in Canadian and Japanese participants. Their results showed that whilst Canadians did need to justify their choices (although this was reduced when a self affirmation task was completed), the Japanese did not experience cognitive dissonance in a free-choice task. This led Heine and Lehman to suggest that if a person has an interdependent view of the self, the making of a non-optimal choice for the self is not as threatening as it is for people who have an independent view of the self. This study, and perspective on cultural variation in cognitive dissonance, has however met with several challenges. Sakai (1981) has for example, illustrated that Japanese participants in a public condition show more attitudinal change after giving a counter-attitudinal speech than Japanese participants in an anonymous condition. Sakai (1981) attributed this effect to dissonance reduction, and argued that this is evidence of the Japanese participants experiencing cognitive dissonance. Hoshino-Browne et al. (2005) have further illustrated that the experience of cognitive dissonance may differ depending on whether the participant has an independent view of the self, as compared to an interdependent view of the self. More specifically they found that whilst European Canadians justified choices made during an experiment chosen for their self, the Japanese were more likely to justify the choices they had made for a friend. Hoshino-Browne et al’s (2005) study clearly illustrates that Easterners and Westerners can both experience dissonance but that the arousal of dissonance will vary within different cultures. These studies do therefore emphasise not just the great effect that culture has upon different drives and motivations, but they also emphasise the care that must be executed in experimental work to ensure that the tasks do not favour a particular cultural view of the self.

This tendency of members of individualistic cultures to pursue individual goals, and for members of collectivist cultures to be driven by more communal goals, has led to discussions of the private self being primary in individualistic cultures, and the public or collective self being primary in collectivist cultures (Markhus & Kityama, 1991; Kashima & Kashima, 1998; Gaertner, Sedikides, Vevea, & Iuzzini, 2002). Returning to the descriptions of the independent and
interdependent self-construals (Table 4.3), and the distinctions between the
distinguished and collectivist cultures, these distinctions do seem to support the
notion that individual-self primacy is linked to individualistic cultures (cf.
Gaertner et al., 2002). Evidence to support the prevalence of the individual-self
primacy in individualistic cultures is argued from studies indicating that the
Japanese (collectivists) are less likely to use first person pronouns than
Australians (Kashima & Kashima, 1998), and also from studies of self-
enhancement, that suggest that members of collectivist cultures do not self-
esteem the individual, or private, self (Heine & Lehman, 1999). However,
participants from collectivist cultures have also been reported to show greater
preference for letters and numbers occurring in their own birth and name
(Kitayama & Karasawa, 1997), and also show very strong interest for the self in
cross-cultural comparisons of exchange principles (Fijeman, Willemsen, &
Poortinga, 1996), which does seem to indicate the primacy of the private self in
collectivist cultures. Sedikides and Gaertner (2001) do, therefore, provide a
sensible conclusion to the conflicting results in their Boomerang Model of the
Self, where they argue that the individual self is primary universally. They
describe the individual self as the ‘home base [and] as the secure and solid
springboard for exploration,’ and they describe how the person may go off and
explore the social world, but will always ‘boomerang’ back to the individual self,
or the ‘homebase’ (Sedikides & Gaertner, 2001, p.19). Given this, the individual,
or private self, is primary in both individualistic and collectivist cultures. It is
further asserted here that the individual, or private self, is primary in both cultures,
but their may be a tendency for the members of collectivist cultures to choose to
focus upon the more collective ideals that could develop the public or the
collective self, whilst members of individualistic cultures focus more upon
independent ideals, that could develop the private or individual self. If this is
accurate, and the members of collectivist and individualistic cultures tend to focus
on culturally self-relevant information, it follows that, rather than there being a
difference in the importance of the public or private self, there may be a difference
in the amount of self-knowledge that is gathered about the private, in comparison
with the public self, within the two cultures.

**Culture, self-disclosure and self-knowledge**

Another way of trying to understand the type of self-disclosure that is being
exhibited by members of collectivist cultures, is to recognise that self-disclosure is
a tool to both explore the self and the other, and gain more information about the self (Asai & Barnlund, 1998). The differences between the collectivist and individualistic self-disclosure behaviour can, therefore, also be understood in terms of self-knowledge. It has been argued, so far, that the private self is important to members of collectivist cultures, but that the norms of the culture may drive desires and motivations, which may be more associated with the public or collective self. Conversely, the private self is also important to members of individualistic cultures, but the culture may drive desires and motivations that may be more associated with the private, or individual, self. It is, therefore, argued that members of different cultures will differ in the habits they have, and in particular whether the private or public self is activated in daily life. This, in turn, will have implications on how complex they become in the long-term memory (Wagar & Cohen, 2003; Triandis, 1989). This will lead to further differences in the information that is stored in the long-term memory, more specifically members of individualistic cultures will have richer representations of personal cognitions, and members of collectivist cultures will have richer representations of collective cognitions (Waga & Cohen, 2001). Linking this to self-disclosure, it could be argued that as a collectivist may be more likely to self-disclose from their public, or collective self, they will gather more self-knowledge about their public self and this, in turn, will increase the complexity of their public self (Triandis, 1989). In contrast, a member of an individualistic culture may encourage its members to self-disclose from the private self and this could increase the complexity of the members of this cultures’ private self (Triandis, 1989).

Fortunately, this link between self-knowledge and self-disclosure has been examined empirically. In an interesting study, Asai and Barnlund (1998) set out to test a hypothesis that had been earlier presented by Barnlund (1975), which was that the Japanese may not know themselves as well as Americans, due to the Americans verbally and non-verbally sharing their private self with others, whilst the Japanese do not. Asai and Barnlund noted that verbal expression is not the only way of coming to know the self, and also suggested that the self can become known by keeping a diary, writing, introspection or simply pondering, in the absence of another (Derlega & Grezelak, 1979). Therefore, at this point Barnlund (1975) did not make a distinction between whether or not it was possible that the Americans knew more about their private self, and that the Japanese knew less.
Asai and Barnlund, therefore, proposed to examine the validity of these statements, and their study provided some insight into how the relationship between self-disclosure and self-knowledge differs between the two cultures.

Asai and Barnlund (1998) started their study with a useful depiction which makes a distinction between the different parts of the self (Figure 4.1). In Figure 4.1 the private self contains both the undisclosed self, which is accessible by the person but not by anybody else, and also a self, which is unknown even to the individual, described as the unconscious self. Asai and Barnlund suggest that the boundary between the unconscious and the conscious self is distinguished by self-knowledge, and that the boundary between the private and public self is distinguished by self-disclosure. Asai and Barnlund went on to propose two hypotheses about the relation between these selves, based upon Mead’s (1934) Social-Origin Theory. They first suggested that people who do not engage in verbal interaction will have less knowledge of their private self and therefore know themselves less well. The second hypothesis was based upon Duval and Wicklund’s (1972) theory of objective self-awareness, which suggests that it is possible to know the self in the absence of others, and therefore those low in verbal expression could know themselves well, but verbal expression to others could be restrained by their culture. Asai and Barnlund tested these hypotheses across the two cultures by examining how the self-disclosure patterns of Japanese and American participants were related to their level of self-knowledge.

Figure 4.1: Asai and Barnlund’s (1998) depiction of the public, private and unconscious (UC) self
In their study, using a combination of self-report questionnaires and semi-structured interviews, Asai and Barnlund (1998) found a high positive correlation between self-knowledge and self-disclosure, which supported the notion that an individual builds a self by self-disclosing and understanding the self from how others see them, which was true in both cultures. The findings also indicated a reciprocal relationship between self-knowledge and self-disclosure where the deeper the knowledge of the private self, the higher the self-disclosure; and the higher the self-disclosure, the deeper the knowledge. Significantly, Asai and Barnlund also reported evidence of different goals of self-disclosure being pursued in the two cultures. It seemed that whilst the Americans reported higher self-disclosure of personal matters, which was linked to them enhancing self-understanding, the Japanese suppressed these tendencies to maintain peaceful relations, with their aims being centred round harmony. Asai and Barnlund’s work does, therefore, support the suggestion that members of individualistic cultures tend to self-disclose more from the private self, thus increasing the complexity of the private self, and further increasing the likelihood they will self-disclose from this self (cf. Triandis, 1989; Wagar & Cohen, 2003). In contrast, members of collectivist cultures tend to self-disclose less from their private self, and this leads to the private self being less complex, which in turn decreases the likelihood of them self-disclosing from this less complex private self (Wagar & Cohen, 2003). Asai and Barnlund’s work therefore supports the notion that there are tactics at play within self-disclosure behaviour. Finally, Asai and Barnlund reported that their results, investigating whether the members of collectivist cultures had a more complex public or collective self than the members of the individualistic culture were, less conclusive.

This study by Asai and Barnlund (1998) provides the first, and only, attempt to understand how self-disclosure and self-knowledge are related, within a cultural context. The results do not just inform discussions on how cultures differ, but they also allow a more general insight into the relationship between self-disclosure and self-knowledge. Asai and Barnlund did however raise quite a serious criticism of their own work. They expressed concern that the level of self-disclosure that were measured in their study were based around how well the participants could verbally detail their feelings. Asai and Barnlund acknowledged that this could potentially favour Western participants and may not have reflected the self-knowledge of the Eastern participants. This limitation is particularly
problematic when it is noted that the study was based around the observation that member of East-Asian cultures are restrained verbally. Despite this, the study does raise some interesting issues, and opens the discussion on how self-disclosure relates to self-knowledge. Moreover, it highlights the reciprocal relationship between self-disclosure and self-knowledge, and the tendency of members of individualistic cultures to self-disclose more from the private or individual self, than members of collectivist cultures, and this is particularly pertinent within the present thesis.

The experiments presented in Part 2 of this thesis, therefore aim to delve deeper into this relationship between self-disclosure and self-knowledge, across culture. By using CMC, the experiments presented remove the issue of the verbal channel possibly favouring the members of the individualistic cultures, as CMC uses a textual channel. In the following experiments, the self-disclosure task involves communication using text, and this could be found to be more favourable to members of collectivist cultures. Asai and Barnlund (1998) did note that members of collectivist cultures may have different ways of exploring the self, and writing, or CMC, may be more appealing to members of collectivist cultures. In individualistic cultures, interactions commonly involve personal self-disclosures and the members are well practiced in this type of self-disclosure (cf. Hamid, 1994). CMC, and particularly the asynchronous type of CMC that will be explored in Experiment 4, gives the participant the time and freedom to explore their personal self (Wright, 2002), and this may be useful to members of collectivist cultures, who are not as accustomed to this type of self-disclosing.

There is no past research that has investigated cultural differences in self-disclosure using this medium. It could be concluded from Asai and Barnlund’s work that due to the different motives, desires and values that are perpetuated in different cultures, members of collectivist cultures simply have less of a need to explore the private self, than members of individualistic cultures. It is quite likely, therefore, that no matter how a self-disclosure task is mediated, that East-Asians will always self-disclose less about personal matters, than Westerners, simply because they have less self-knowledge to self-disclose from, and because they are simply less interested in doing so.

However, if the individual, or private self, is the ‘homebase’ of the self (Sedikides & Gaertner, 2001, p19), and an individual lives in a culture which does not
promote the exploration of the private self. There is the possibility that the member of a collectivist culture may desire to explore the private self, but their culture does not present many opportunities in which to do so. In Part 1 of this thesis, it was seen that in the experiments, anonymity, heightened private and reduced public self-awareness in the experiments led to a situation (particularly in Experiment 2) where the participant was almost alone. In this situation, the external, social and cultural demands were greatly reduced, and it was seen that the British participants were able to express their true self in certain conditions of the experiment. The situation allowed for an insight into the individual’s true desires of self-disclosure, rather than those that were mediated by cultural pressures. In Experiments 3 and 4, this situation will be replicated on members of collectivist cultures. It is, therefore, possible that what could emerge is an insight into the individual desires of the member of the collectivist culture, which could potentially differ from the desires intrinsically linked to their culture. In this situation, it is possible that the participants will continue to act in accordance with their cultural norms, and show little interest in exploring their private self. It is also possible, however, that when the participants are alone with their personal desires, and are communicating away from the cultural pressures of FTF communication, they may be observed to explore their private self using self-disclosure. Experiments 3 and 4, therefore, attempt to elucidate whether there are differences between the interdependent individual’s desires for self-knowledge of the private self, and the culture’s desire for the individual’s self-knowledge for the private self in a CMC context.

The question is, therefore, poised to whether the members of collectivist cultures will be interested in exploring the private self, if they are given the opportunity. If the private self is less relevant in collectivist cultures, there may not exist in the participants a desire to explore it. Although, deep self-disclosure on aspects of the private self is consistently linked to good health (Jourard, 1961; Pennebaker, 1989), questions remain to whether this could be an important process for members of individualistic culture. There is, however, some evidence of the relevance and importance of discussing personal issues and the private self for members of collectivist cultures, from the content of suicide notes of Singaporeans. Chia, Chia, and Yai (2008) studied 398 suicide notes of Singaporeans. The writers were mostly young, single, and did not tend to have mental or physical illness. Common reasons for suicide included school and
relationship, financial, and marital problems. Negative emotions of despondency, emptiness, guilt and shame, hopelessness, and anger were also expressed. These suicide notes do, therefore, suggest that the issues of the private self are relevant to collectivist cultures. Moreover, many of the personal motivations of self-disclosure discussed in Part 1, such as dissolving worry (Borkovec et al., 1995) and resolving personal problems (Pennebaker, 1989) would involve self-disclosing from the private self.

The Singaporeans’ suicide notes do, therefore, raise an important question. Namely, do members of collectivist cultures such as Singaporeans actually self-disclose less from the private self than the British, and if they do self-disclose less, whether it is cause for concern, or whether they have their own methods for dealing with problems? It has been reported, for example, that the Chinese have fewer skills for entering relationships, but they make life-long deep intimate relations where they self-disclose deeply (Wheeler et al., 1989; Gudykunst et al., 1996; Kito, 2005). The needs of the individual may, therefore, be met within these types of close relationship. However, Barnlund (1989) also found that regardless of how close the American participants were to a same-sex friend, they consistently discussed more than Japanese counterparts. Given this, it would appear that even though members of East-Asian cultures self-disclose more to close friends, as compared to other friends, they do consistently self-disclose less than people from the West. This leads to a further question of what consequences this self-disclosure behaviour may have upon the self, and well-being of members of East-Asian cultures? Before moving on to describe the experiments, there are two more areas that are worth discussing. It has been suggested in the present discussions that different cultures drive different motivations for self-disclosure. It is therefore useful to examine where these cultural drives originated, and how these drives may affect how the self is viewed between different cultures.

**Culture and consistency on the self**

Much of the work examining cross-cultural differences in self-disclosure focuses on American culture, which is suggested to drive individualism and disconnect the individual from society (Ting-Toomey et al., 1991). In contrast, much of the work investigating collectivism focuses upon East-Asian cultures, which encourage group harmony and cohesion (Ting-Toomey et al., 1991). Spencer-Rodgers, Boucher, Peng, and Wang (2009) point out that Westerners have a desire
for consistency, both in their lives and their selves, and this underpins many important theories in social psychology, such as Cognitive-Dissonance Theory (Festinger, Rieckens, & Schacter, 1956). It has, however, also been reported that theories such as Cognitive-Dissonance Theory have not been replicated successfully on East-Asians (Heine & Lehman, 1999). Spencer-Rodgers et al. also claim that the reasons why these studies have not been replicated on East Asians, can be traced back to the philosophical traditions of the two cultures. In particular, a difference in how consistency is accepted, or rejected, in the cultural traditions of East Asians compared with Western cultural traditions (Spencer-Rodgers et al., 2009) Spencer-Rodgers et al., note that East-Asians folk theories are underpinned by Taoism, where inconsistency is accepted, and contradiction is approached with compromise. In contrast, in Western folk theory consistency is sought and this, in turn, emphasises non-contradiction.

These differences, in the acceptance of consistency, have been illustrated in various studies and in particular, in research investigating self-esteem (Choi and Choi, 2002; Boucher, Peng, Shi, & Wang, 2009). East Asians are reported, for example, to have lower levels of self-esteem than Euro-Americans (Heine, Lehman, Markus, & Kitiyama, 1991), although Boucher et al., (2009) found convincing evidence that these results could be explained by differences in the acceptance criteria of inconsistency within the cultures. Boucher et al., argued that East Asians have an ability to possess and accept inconsistent self-esteem, and that an acknowledgement of this explains the results obtained by Heinie et al.. Boucher et al. then use this argument to reinforce that the important difference between the cultures is that East-Asians accept inconsistency, and Euro-Americans, do not. These discussions of whether consistency is accepted, or rejected, within a culture can also be extended to discussions of how inconsistency of the self, is accepted, or rejected, in different cultures.

In Western cultures, for instance, the individuals’ private self is reported to be relatively stable and consistent across contexts (English & Chen, 2007). However, in Eastern cultures the private self is suggested to be more variable. Several researchers have also argued that East-Asian cultures, in particular, have a self that is more variable than within Western cultures (Triandis, 1989; Markhus and Kitiyama, 1991). A consequence of this is that the Westerner desires stability and views inconsistency as a weakness, but the Easterner accepts inconsistency
and their private self adapts better to differing situations (English & Chen, 2007). Whilst these inconsistencies are fairly hidden, on an individual level, it is worth noting that in individualistic societies there are references to this inconsistency in everyday language. In Western conversation it would not be unusual to hear of people going off ‘to find themselves’ and praised for ‘being them self’. Significantly, however, this is only possible if an individual seeks a stable self. To an East Asian who does not desire a stable self and accepts a variable self, this wish would most likely be less understood.

These revelations could have a huge impact on the cultural validity of the results of Experiments 1 and 2. One of the main findings of the experiments in Part 1 was that the reduced public self-awareness in CMC, allowed the participant’s true self to emerge. However, it is highly possible that the notion of desiring, pursuing, and thus possessing a true self, is born from this individualistic desire for consistency. It follows, therefore, that by accepting contradiction, and not desiring consistency, the idea of a true self may not be desired in collectivist East-Asian cultures. Moreover, if the self is culturally and socially constructed, aspects of the self only exist if they are desired. In the experiments in Part 1, the British participants are seen to reveal their true self when public self-awareness is reduced, and are also seen to hide their true self when public self-awareness rises. Hsu (1985) described the Westerner to possess a mask, or *persona*, which shields their true self, and there was arguably some evidence of this mask appearing in Experiment 2. When public self-awareness rose in Experiment 2, the mask appeared, and the true self was no longer used to self-disclose from. If a member of collectivist culture does not desire a true self, they may have less need of a mask (cf. Hsu, 1985). Therefore, the participants who are members of collectivist cultures in Experiments 3 and 4, may not be affected by increased levels of public self-awareness in the same way.

**Culture and self-awareness**

Leary and Buttermore (2003, p 366) note that, ‘the ability to think consciously about the oneself, I, is perhaps the cardinal psychological characteristic that distinguishes human beings from other animals……[and that] the ability to think consciously about oneself also underlies introspection, self-evaluation and the development of the self-concept’ It is also true that the ability to be self-aware is a universal, and in the developing baby, self-awareness of the self, as different
from the mother, or the external world, is thought to develop at around six weeks (Greenspan & Greenspan, 1989). From this point, the child begins to understand themselves as distinct from the outside world and the other, and begins to draw a boundary line between what has been described as ‘is me’ as opposed to ‘not me’ (cf. Markhus, 1977). From a self-awareness perspective, the adult can at any given moment be aware of the private self, or can be aware of the public self, and can to some extent direct their attention where they choose (Duval & Wicklund, 1972). Whilst this is a universal ability, culture regulates behaviour (Cross & Madson, 2007), and affects the perspective the individual takes on the self and the other (Cohen & Gunz, 2001). More specifically, interdependence moves awareness away from the self and on to others resulting in people with interdependent self-construals being better at taking on other’s perspectives, than people with independent self-construals (Wu & Keysar, 2007). This difference is perspective taking, of how much the person views a situation from the other, or their own perspectives, has led to rich discussions of cultural differences in self-awareness.

There are various pieces of research that suggest that members of individualistic cultures may be more motivated to attend to goals associated with the personal self, and could therefore be higher in private self-consciousness (Fenigstein et al., 1975). In contrast, members of collectivist cultures may be more motivated to attend to goals associated with the self as a social object, and will therefore be higher in public self-consciousness (Fenigstein et al., 1975). Although these suggestions seem very reasonable, the empirical support for these assertions is fairly inconclusive. It has been found, for example, that the Japanese, Koreans and Americans show no differences in private self-consciousness scores, but Americans do score higher for public self-consciousness (Gudykunst Yang, & Nishida, 1987), and the Japanese score higher for private self-consciousness than the Koreans, with the Americans somewhere in between. Whether these inconclusive results are due to limitations in the tools of measurement, or whether these subtle differences are too difficult to capture, is open to question, but in general the results of cross-cultural work on self-awareness are limited. However, studying self-awareness does not have to rely on asking participants to fill out self-consciousness scales, and there has also been some interesting work that has investigated behavioural change in public and private situations.
One such study investigated how members of individualistic and collectivist cultures behaved when placed in a situation which is private and anonymous, as compared to one which was public (Bontempo et al., 1990). In this study, which attempted to investigate behavioural intention and perceived norms of pro-social behaviour, it was found that the behaviour of Americans (individualistic) and Brazilians (collectivist) differed depending on whether they were in a situation that was private, as compared to a situation that was public. In particular, it was found that the Americans were less likely to perform pro-social behaviours, with high personal, cost in a condition which was anonymous, than when the situation was public, whilst the Brazilians were reported to be happy to perform pro-social behaviour, with high personal cost, in both conditions. Bontempo et al.’s results revealed the Brazilians behaviour was consistent and did not depend upon whether the situation was public or private. Bontempo et al., used these results to argue that the Brazilians have internalised in-group norms, whereas the Americans illustrated compliance due to social desirability pressures in the public condition. Bontempo et al., further concluded that whilst the behaviour of members of collectivist cultures could be predicted from in-group norms, attitude also played a part in the behaviour of participants from individualistic cultures.

This study by Bontempo et al. (1990) adds several pertinent points to the present arguments. Although Bontempo et al. did describe the Brazilians as more consistent in their behaviour, this was due to them being less affected by social desirability pressures than the participants who were members of individualistic cultures. In Experiments 1 and 2, in this thesis, it was suggested that CMC gave the participants an environment where social desirability pressures were reduced in comparison to the FTF environment. In CMC, it was observed that when public self-awareness was reduced the accuracy of the British participants’ self-disclosure increased. Furthermore, when the situation became more public, and public self-awareness was increased the British participant was less likely to exhibit their true self. In Bontempo et al.’s study, the public condition encouraged the participant to ‘appear’ in a way they felt was compliant, whilst in the private condition the participants acted in a way, that they wanted to, and not in a way that was compliant. Furthermore, in the public condition, they carried out the pro-social activity with high personal cost, and it could be argued that they were presenting an ought to self (cf. Higgins, 1987). Comparisons can be drawn with the results of the British participants in Experiment 1 and 2, within the
present thesis. In Experiments 1 and 2, the participants self-disclosed in a way that they felt was more desirable when public self-awareness was raised. The Experiments 1 and 2, and the study by Bontempo et al., both illustrate that members of individualistic cultures are affected by rising levels of public self-awareness.

Bontempo et al.’s (1990) conclusions about members of collectivist cultures could therefore have implications for the experiments in the second part of the thesis. They found that participants from the collectivist culture were less affected by social desirability, and it is possible therefore that the members of the collectivist cultures in the replication of Experiments 1 and 2, may therefore be less affected by increased public self-awareness. Moreover, Bontempo et al. reported that the behaviour of members of collectivist cultures’ was more consistent across cultures, and less affected by attitude and directed just by in-group norm. Given this, in the experiments in Part 2, it is possible that the participants will follow in-group norms no matter how private and public self-awareness is manipulated. There may, therefore, be differences in how members of different cultures react to the manipulations of self-awareness. The findings of Bontempo et al. do, however, only really provide some insight into public self-awareness, and it is unclear how raising private self-awareness could affect members of collectivist cultures.

It was noted in Part 1, that an individual must be aware of the self and aware of the other for self-disclosure to take place. Moreover, it was purported that as an individual becomes more aware of their inner thoughts and feelings, they become high in private self-awareness and this increases personal motivations for self-disclosure (Miller and Read, 1987). Moreover, the individual who is high in private self-awareness will also be more aware of their self-discrepancies (Higgins, 1987). In Experiments 1 and 2, it was observed that increasing private self-awareness led to more intimate self-disclosure, and in Experiment 1 the manipulations that increased private self-awareness also activated more personal motivations of self-disclosure. There are many issues that arise when considering whether members of collectivist cultures will follow this pattern. It is unclear, for example, whether members of collectivist cultures will respond to the same manipulations to increase private self-awareness. Furthermore, when they are in a state of high private self-awareness it is unclear whether this will encourage them
to self-disclose more intimately. It is possible, for instance, that if increasing private self-awareness activates more personal motivations of self-disclosure, the members of collectivist cultures may be more likely to self-disclose from their private self. Moreover, it was argued in Part 1 that CMC gave the participants an opportunity to pursue their personal desire away from cultural pressures and it will therefore be of interest to see what effects the manipulations would have upon members of a collectivist culture.

It is, therefore, possible that raising private self-awareness may increase the members of collectivist cultures’ awareness of their private self, which could, in turn, increase their self-disclosure from the private self. However, it is also possible that their motivations for self-disclosure are driven by collectivist ideals, such as harmony and communion (cf. Markhus & Kitayama, 1991), and they may then have no desire to explore the private self. An individualistic culture requires the members to have a strong personality which bolsters their uniqueness. When, however, the cultural demands are lessened the individual may exhibit their desire to express their more vulnerable private self. Similarly, it may be found that the collectivists usually adhere to the cultural motivations of communion and harmony and do not explore their private self, to the extent the members of individualistic cultures do. By using CMC in Experiments 1 and 2, it was possible to differentiate between motivations that were driven by culture, and motivations that were driven by the individual. When cultural demands are lessened in the experiments by reducing public and increasing private self-awareness, it is possible that the collectivist may express more individually driven desires. Also, the members of collectivist cultures may be more consistent over differing conditions of public self-awareness, although it is not clear whether this consistency will hold across conditions of differing private self-awareness. Significantly, there is no past research that examines the role of self-awareness in self-disclosure, across cultures, and the experiments in Part 2 will therefore be the first to examine these issues.
Chapter 5: Study A and Experiment 3
Are there differences between Singaporean and British self-reported scores for openness, past self-disclosure, and self-monitoring?

Introduction

Singapore was selected as the collectivist culture that would be compared with the British culture in terms of their self-disclosure behaviour. Singapore and Britain, whilst being very different, also have many similarities. Both countries are for example islands, both multi-cultural, both economically successful, and both have English as their first language. Significantly, however, the British are considered to be an individualistic culture and the Singaporeans are considered to be a collectivist culture (Hofstede, 1983). The sentiment of Hsu (1985), that much of psychology is driven by individualistic ideals and is at most irrelevant outside of the West, has also been echoed by Singaporean scholars. Ho, Chan, Peng and Ng. (2001, p393), for instance, also suggest that ‘methodological individualism is alien to Eastern intellectual traditions.’ Ho et al. further argue that the relational (collectivist) concept of the self, which they consider Singaporeans to be, ‘has long been eclipsed by the individualistic view and [that] now the relational concept demands to be heard’ (Ho et al., 2001). In terms of self-disclosure behaviour, Singaporean participants were therefore deemed a suitable culture for comparison with the British participants.

Study A

Although the main part of this chapter consists of the replication of Experiment 1 on Singaporean participants (Experiment 3), before this is described, a pilot study (Study A) will first be considered, which was conducted to assess the participants’ perceptions of their self-disclosure behaviour. Members of collectivist cultures are commonly reported to self-disclose less than members of individualistic cultures (Barnlund, 1975; Asai and Barnlund, 1998; Barnlund, 1989; Ting-Toomey et al., 1991; Kito, 2005). Therefore, before the effects of the manipulations of self-awareness could be tested on Singaporean participants, it was first necessary to ascertain that the Singaporeans’ self-disclosure behaviour was typical of a collectivist culture. In Study A, British and Singaporean
participants were given several topics and were asked how much they would self-disclose about these topics to a friend and a stranger. This allowed a comparison to be made between how much Singaporean and British participants felt they would self-disclose on certain topics to strangers and friends. In collectivist cultures self-disclosure is also reported to be restrained, whilst in individualistic cultures it is reported to be open and free (Barnlund, 1975; Miyanaga, 1991; Asai and Barnlund, 1998; Kito 2005). The Singaporean and British participants were, therefore, also asked to rate how open they felt that they were to other people’s self-disclosure. These measures of self-disclosure allowed for an idea of the likelihood of Singaporeans and British participants’ self-disclosing on certain topics, and also how open they felt they were to other people’s self-disclosure. The measure of how open they considered themselves to be was also an indication of how much they recognised self-disclosure as a process of mutual reciprocity (cf. Miller et al., 1983). It was predicted that, in line with the collectivist ideal or interdependent self-construal, the Singaporeans would report themselves to be less likely to self-disclose on the topics than participants from Britain. It was also predicted that Singaporeans would also report themselves to be less open than the British participants.

**H1:** Singaporean participants will score lower than British participants when asked to score their self-disclosure of various topics to friends and stranger

**H2:** Singaporean participants will score themselves lower on a questionnaire measuring openness than the British participants.

**Method**

**Materials**

The questionnaire consisted of two sections. In the first section the ten items of Miller et al.’s (1983) openers questionnaire were presented. The participants were asked to rate how much they agree, or disagree, with the 10 statements on a scale from one to nine. The statements were designed to test how open (‘people frequently tell me about their self,’ ‘I’ve been told I am a good listener’) the
participant perceived themselves to be. The second section required the participant to rate how likely they were to self-disclose on 10 topics of varying intimacy from The Self-disclosure Index, to a stranger and to a friend (Miller et al., 1983). These measures described the participant’s likelihood of self-disclosure behaviour to a friend (‘To a friend I would disclose my personal habits’) and to a stranger (‘To a same-sex stranger I would disclose my deepest feelings’). The cronbach’s alpha internal consistency in previous literature ranges from 0.86-0.93 (Kito, 2005). In the present study the coefficient alphas for the scales ranged from 0.75-0.92.

Procedure

Ninety Chinese-Singaporean and White-British participants (mean age=20) were asked to individually complete an on-line anonymous questionnaire which examined their openness and past self-disclosure. Participants were recruited by email and poster adverts and either gained credits for their undergraduate course or received a five pound payment for taking part in the study of self-disclosure. The participants were met and then taken individually to an isolated computer cubicle where the questionnaire was visible on-line. They were told that they were taking part in a study to examine how much university students self-disclose about themselves. They were also informed that the questionnaire was anonymous and could not be traced back to them. The experimenter left the participant to complete the questionnaire in private and closed the door. The questionnaire was constructed using Statpac and the participants were asked to rate the items from the scales on a nine-point scale. When the questionnaire was completed they pressed ‘send’ and the questionnaire was sent to a holding account.

Results and Discussion

A MANOVA was conducted with culture (Singapore vs. British) compared across the three measures of self-disclosure (self-disclosure to a friend; self-disclosure to a stranger; and openness). There was a significant multivariate effect for condition (lambda=0.67 F(3,86) = 14.08, p<0.001). The differences were explored using ANOVA, and the results illustrated that Singaporeans consistently self-disclose less to both friends and strangers (Table 5.1). Moreover, they also
reported themselves to be less open than the British participants. H1 and H2 were therefore accepted.

<table>
<thead>
<tr>
<th></th>
<th>Self-disclosure to a friend</th>
<th>Self-disclosure to a stranger</th>
<th>Openness</th>
</tr>
</thead>
<tbody>
<tr>
<td>British</td>
<td>6.88&lt;sub&gt;a&lt;/sub&gt;</td>
<td>4.02&lt;sub&gt;a&lt;/sub&gt;</td>
<td>7.18&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>Singaporean</td>
<td>5.58&lt;sub&gt;b&lt;/sub&gt;</td>
<td>3.33&lt;sub&gt;b&lt;/sub&gt;</td>
<td>6.24&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
<tr>
<td>F</td>
<td>20.83</td>
<td>6.93</td>
<td>21.03</td>
</tr>
</tbody>
</table>

Table 5.1: Differences between Singaporean and British participants mean scores on the Opener questionnaire and the Self-Disclosure Index. Different subscripts indicated significant differences (Tukey; p<.05).

The results confirmed that Singaporean and Britain participants did report different self-disclosure behaviours and the results were consistent with the expected collectivist and individualistic dimensions. The Singaporeans consistently scored lower than the British participants on the likelihood that they would self-disclose on various topics to both strangers and friends. Various studies have previously reported members of individualistic cultures to self-disclose more than members of collectivist cultures (Barnlund, 1975; Ting-Toomey et al., 1991; Asia & Barnlund, 1998; Kito, 2005), and the here were consistent. These results combined with the results of the score for openness were also consistent with reports of members of individualistic cultures being open and members of collectivist cultures being restrained (Barnlund, 1975; Miyanaga, 1991; Asai and Barnlund, 1998; Kito 2005). The Singaporeans consistently reported that they would be less likely to self-disclose on certain topics than the British participants, and the reduced scores for self-disclosure and openness are illustrated in Figure 5.1, where they are compared with the British participants’ scores. Whilst these results were as expected and did highlight the Singaporeans as an excellent comparison with the British participants, in terms of their self-disclosure behaviour, it must however be noted that these results did rely on the participants reporting the likelihood they would self-disclose to a friend or a stranger on various topics. This type of self-disclosure could be argued to favour an individualistic style of self-disclosure, where members openly self-disclose from their private self (Asai and Barnlund, 1998). Most of the questions on the Self-Disclosure Index asked the participants to report on the likelihood they would self-disclose on topics that may be more typical of the topics discussed by members of individualistic cultures. Furthermore, asking the participants to consider how likely they are to self-disclose on various topics is in effect also asking them to personally self-disclose. It is possible therefore that, as was
demonstrated in the past studies on self-enhancement (Sedikides et al., 2003), the self-disclosure behaviour of the members of the collectivist cultures may be more tactical. Therefore, these items on the Self-Disclosure Index may therefore not reflect self-disclosure that is more typical of a collectivist culture. In a collectivist culture self-disclosure has been reported to be used to maintain harmony and bolster others (Cross and Madson, 1997), rather than being centred around the private self.

![Figure 5.1](image.png)

**Figure 5.1:** Illustration of how past self-disclosure to a friend and stranger, and openness varies across Singaporean and British participants

However, in defence of the present study examining self-disclosure items that were arguably about the private self, it should also be noted that the aim of Part 2 of this thesis is to compare personally motivated self-disclosure in CMC, across the Singaporean and British culture. The focus is not therefore upon tactical self-disclosure, but upon how self-disclosure from the private, or individual self, differs across culture. The participants self-reporting how likely they were to self-disclose on the various topics does, therefore, allow an understanding of how deeply the participants were willing to explore aspects of the private self, and this is what is of interest in Part 2 of this thesis. A main aim of Part 2 was also to use CMC to examine whether the Singaporeans self-disclose less from the private self, than the British, because they want to, or because they are not able to do so within their culture. It is argued in the present thesis that the private self is the
‘homebase’ of the self (cf. Sedikides & Gaertner, 2001, p.19), and that members of collectivist cultures may be interested in talking about private and intimate topics, but perhaps do not have as many possibilities to do so, within their collectivist cultures. It is for this reason that the main focus of the experiments in Part 2 was to examine whether differing levels of private self-awareness in CMC will encourage self-disclosure from the private self in Singaporean participants. From Study A, the Singaporeans were seen to be less open, and to self-disclose less, than the British participants, and they are therefore a good choice of culture to compare with the British participants in Experiment 1 and 2.

**EXPERIMENT 3: What differences do manipulations of self-awareness make on Singaporean participants and British participants self-disclosing in dyads?**

**Introduction**

In Experiment 3 the self-disclosure behaviour of Singaporean participants, interacting in dyads and using CMC, was investigated, and the results were compared to the British participants’ results in Experiment 1. No past research had investigated Singaporeans’ personally motivated self-disclosure in CMC, nor had any past research directly manipulated Singaporeans’ levels of self-awareness and tested the effects on self-disclosure in CMC. It was, therefore, unclear how the Singaporeans would respond to using CMC for self-disclosure, or to the manipulations of self-awareness in the experiment. It was possible, for instance, that the Singaporean participants would continue to self-disclose in line with the desires of a collectivist cultures. Members of collectivist cultures are reported to be driven by desires for harmony and communion (Markhus & Kitiyama, 1991) and are also reported to be less interested in exploring their private self (Asai & Barnlund, 1998). It could be argued, therefore, that the type of self-disclosure elicited by the task in the present experiment, would not suit the tactics of members of collectivist cultures (cf. Sedikides et al., 2003). If this was the case, in Experiment 3, due to the fact that the task in this experiment encouraged self-disclosure from the private self, this would result in the Singaporean participants reporting lower levels of self-disclosure than the British participants. Moreover, Asai and Barnlund have previously reported that members of collectivist cultures have less self-knowledge of the private self, and have consequently less to self-
disclose about the private self. If this assertion by Asai and Barnlund is accurate, it would be expected that again the Singaporean participants would self-disclose less than the British participants in the task.

Whilst members of collectivist cultures are generally considered to be verbally restrained (Markhus & Kitiyama, 1991; Asai & Barnlund, 1998; Kito, 2005), it is noted here, that most of these observations were based upon FTF communication. Asai and Barnlund reported that it was possible that members of collectivist cultures have other means by which they explore the self. It is, therefore, possible that the Singaporeans could find the textual channel more comfortable for self-disclosure. In Experiments 1 and 2, increased private self-awareness was used to explain heightened depth of self-disclosure in CMC. In the absences of any relevant past research examining the effects of self-awareness on Singaporeans’ self-disclosure, it is difficult to predict how the Singaporean participants would react to increased levels of private self-awareness in the experiment, and how this would subsequently affect their self-disclosure behaviour. In British participants it was suggested that the increased private self-awareness led to increased personal motivations (cf. Miller & Read, 1987), an increase awareness of self-discrepancies (cf. Carver & Scheier, 1980), and increased self-disclosure (cf. Joinson, 2001, Experiment 1 and 2). It is, therefore, of great interest to investigate what the effects of raising private self-awareness for the Singaporean would be. It is quite possible that a state of increased private self-awareness could, for instance, prove to be an enlightening prospect for the Singaporean. In collectivist cultures, the self is not highlighted as being unique (Markhus & Kitiyama, 1991; Hamid, 1994) and focus tends to be on the relational aspects of the self (Markhus & Kitiyama, 1991; Cross & Madson, 1997). The raising of private self-awareness could potentially increase the awareness of the private self for the Singaporean, which could, in turn, provide the Singaporean with a different perspective upon the self. It is suggested here, that this could then lead the Singaporean participants to self-disclose more than expected. A first hypothesis was therefore explored, which examined the difference between the Singaporeans and British participants self-disclosure, in what could be considered a typical ‘real-time’ dyadic CMC interaction, with no additional manipulations of self-awareness. Most of the literature on cross-cultural differences of self-disclosure has suggested that members of collectivist cultures self-disclose less than members of individualistic cultures; the first hypothesis was therefore based
upon these reports. It was predicted that the Singaporean participants would self-disclose significantly less than the British participants when asking and answering questions of varying intimacy using CMC (H1).

Next, the projected-mirror condition, and the door-ajar condition were explored for the Singaporean participants, and then compared to the results of the British participants. In the dyadic projected-mirror condition, the projected mirror was seen to increase the British participants’ private self-awareness, whilst decreasing their public self-awareness, which supported previous work by Joinson (2001) and Yao & Flanagan (2006). It also supported earlier work with mirrors that illustrated that the reflection of the self back on the self, increases private awareness (Scheier & Carver, 1980; Gibbons et al., 1979; Baldwin & Holmes, 1987). It was evident from the results of Experiment 1, that the image of the self, in this condition increased private self-awareness, which encouraged deep self-disclosure in the Western participants. Again however, it is unclear how the Singaporeans would react in the projected-mirror condition. As was suggested earlier increased private self-awareness could increase access to personal thoughts and feelings (Carver & Scheier, 1981), activate personal motivations (Miller and Read, 1987) and increase awareness of self-discrepancies (Carver & Scheier, 1981). If the effects were similar on the British participants it could also lead to increased personally motivated and deep self-disclosure, similar to that which was elicited form the British participants in Experiment 1. However, it was also possible that if the Singaporeans self-disclosure continued to be driven by collectivist aims and desires, that they would not be interested in exploring this part of the self, and even if their private self-awareness was increased, this would not translate into increased levels of self-disclosure in this condition. Again in the absence of any directly relevant experiments for comparison, H2 was based on the notion that collectivist participants would self-disclose less than members of individualistic cultures (H4).

Bontempo et al. (1990) reported members of collectivist cultures to be more consistent across public and private situations, than members of individualistic cultures. On closer examination of Bontempo et al.’s results, it is clear that it was the public situation in the experiment that activated the social desirability pressures within the participants from the individualistic culture. This resulted in members of the individualistic culture acting differently in the public to private
condition, whilst members of the collectivist culture did not. In the door-ajar condition in Experiment 1, the British participants’ public self-awareness was increased, and drawing parallels to Bontempo et al.’s study, the social desirability pressures seemed to activate. The British participants’ in the door-ajar condition were then seen to idealise themselves, their self-disclosure dropped, and significantly, their accuracy of self-disclosure decreased. It was concluded in Experiment 1, that whilst private self-awareness in CMC increases the British participants access to their true self (cf. Bargh et al., 2002), it was the reduced public self-awareness, and lowered subjective risk, that allowed them to self-disclosure, from their true self.

Two main issues are raised by comparing the results of Bontempo et al.’s (1990) study with Experiment 1. First, Bontempo et al. confirmed that members of collectivist cultures were not affected by social desirability pressures in the same way as members of individualistic cultures were. It was, therefore, predicted that reducing public self-awareness in CMC, would only have an effect upon British participants’ self-disclosure, and not upon Singaporean participants’ self-disclosure. The door-ajar condition in Experiment 1 was, however, seen to only affect the accuracy of the participants’ self-disclosure, and not their depth of self-disclosure. The hypothesis was, however, again based on the general observation in the literature that members of collectivist cultures self-report less than members of individualistic cultures. It was, therefore, predicted that in the door-ajar condition, in Experiment 3, the Singaporean participants would report lower levels of depth of self-disclosure than the British participants (H3).

The second main issue that was raised, when comparing the results of Experiment 1 to Bontempo et al.’s (1990) study, is the contentious and difficult issue of the cultural relevance of the true self. It could be argued that the British participants were particularly affected by social desirability pressures in Experiment 1, because they were protecting their true self. It has, however, been argued in the literature that members of collectivist cultures do not desire a true self (cf. Hsu, 1985), or a consistent and stable self (Chen & English, 2006). If the true self is not relevant in Chinese culture (Hsu, 1985), it could be argued that the Singaporean participants in Experiment 3, may not possess the persona, or mask, that shields the true self (cf. Hsu, 1985), and that this shield would not be seen to slip on, and then off, in the control and door-ajar condition, as was evidenced in
Experiment 1. In Experiment 1 in the door-ajar condition, when public self-awareness was increased, the mask slipped on, but as public self-awareness was reduced, the mask could come off. In the potential absence of this mask on the private, or particularly the true, self of the Singaporean (cf. Hsu, 1985), it was predicted that the Singaporeans self-disclosure would not be affected by differing levels of public self-awareness, and the levels of accuracy would not change between conditions for the Singaporean participant. The British participants’ accuracy of self-disclosure was, however, reduced by the door-ajar manipulation. It was, therefore, also predicted that as the British participants were more likely to be affected by social desirability pressures (cf. Bontempo et al., 1990), that the Singaporean participants would report higher levels of accuracy of self-disclosure than the British participants in the door-ajar condition (H4).

H1: The Singaporean participants will self-disclose significantly less than the British participants when asking and answering questions of varying intimacy in a control condition.

H2: Singaporean participants will self-disclose less than the British participants in the projected-mirror condition, when answering and asking questions of varying intimacy in an anonymous CMC situation.

H3: Singaporean participants will self-disclose less than the British participants when the door is left ajar, when answering and asking questions of varying intimacy in an anonymous CMC situation.

H4: The Singaporeans’ accuracy of self-disclosure will be higher than the British participants’ self-disclosure in the door-ajar condition.

Method

Overview and design

During the experiment the Singaporean and British participants were randomly assigned to one of three conditions: control; projected-mirror; or door-ajar. The experiment therefore compared six conditions, with culture (British vs.
Singaporean) and self-awareness (control vs. projected-mirror vs. door-ajar) manipulated as independent factors. Participants interacted individually with a trained female confederate, who the participants believed was another student, using a text-based computer conferencing system in a semi-structured discussion designed to elicit self-disclosures. Dependent measures also obtained post-experiment through an on-line questionnaire, which explored private and public self-awareness, self-disclosure and several interpersonal variables. The equipment, conditions and questionnaires were exactly the same as those used in Experiment 1, and these are described in detail in the method section of Experiment 1. The experiment was approved by the University Ethics committee and ethical consideration was shown at all stages of the experiment.

**Procedure**

Forty-five, British undergraduate psychology students, aged 18-24 (M=20) and 45 Chinese-Singaporean undergraduate students aged 18-22 (M=20) took part in the experiment in return for credits that they had to collect on their undergraduate course, or a five pound monetary reward. The students were matched for age (M=20), gender (all female) and first language (English). It was made clear to the participants at the beginning of the experiment that they would be interacting with another student from their culture. They were told that they were going to spend some time answering and asking various personal questions with each other using CMC. The participants were randomly assigned to one of the three conditions: control; projected-mirror; and door-ajar. In all of the conditions the participants were met and shown to a computer cubicle where the experiment would begin. They were asked to read the instructions and list of questions, which explained that they were going to spend 25 minutes exploring various questions with a partner. They were also told that they were completely anonymous in the interaction and that their answers would only be seen by the partner, and then would be accessed six months later for analysis. It was emphasised that their answers could not be traced back to them. The participants were then asked to wait for their partner to say ‘hello,’ and following this greeting were asked to ask their partner the practice question. The semi-structured discussion would then begin. This process continued for 25 minutes. After 25 minutes an alarm sounded and the participants were asked to fill in a post-test questionnaire.
Results and Discussion

A MANOVA was conducted to allow comparison between the British and Singaporean participants in the dyadic conditions. Condition (control x projected-mirror x door-ajar) and culture (British x Singaporean) were compared for various measures of self-disclosure, self-awareness and various other interpersonal variables. There was a significant multivariate effect for condition (lambda=0.67 F(22,148) = 1.50, p=0.83) and country (lambda=0.63, F(11,74) = 3.90 p<0.001). There was also an interaction between condition x country (lambda=0.56 F(22,148) = 2.26, p<0.005). Further analysis involved a series of one-way ANOVA and Post-hoc TUKEY tests to explore how the cultural differences in self-disclosure and self-awareness in each of the conditions manifest themselves. The results of the univariate analyses are reported in Table 5.2.
Table 5.2: Table illustrating the univariate effects and means and (standard deviations) of the British and Singaporean participants on all dependent variables across the conditions in Experiment. Different subscripts indicate significant differences (Tukey; p<0.05).

### Control condition

The first comparison that was investigated was how British participants and Singaporean participants differed in their self-reported scores for the control condition. The control condition involved no additional manipulations of self-awareness, and represented a typical ‘real-time’ chat situation that is often encountered on-line. In this situation the participant was alone in a room and was communicating to another person in a different location, and they were both visually anonymous. Although this condition employed no forced manipulation of self-awareness, it has previously been reported to be high in private self-

**Breadth, depth and accuracy of self-disclosure**

The Singaporean participants self-disclosed far more than was expected in the task. It was predicted that the Singaporeans would self-disclose at lower levels that the British participants, yet the Singaporeans reported themselves to self-disclose to a greater depth (M=6.27, SD=1.67) than the British participants (M=3.93, SD=1.75, \( p < 0.01 \)). Also the Singaporeans’ breadth of self-disclosure followed this trend where they self-disclosed higher levels of breadth (M=6.13, SD=1.41) than the British participants (M=5.13, SD=1.19, \( p = 0.30 \)), although this result was not significant. H1 was therefore rejected, noting that the Singaporean self-reported greater levels of depth of self-disclosure than the British participants. The Singaporean participants also reported (M=8.00, SD= 1.13) similar levels of accuracy in their self-disclosure to the British participants (M=7.40, SD=1.40, \( p = 0.78 \)). The finding that the Singaporean participants reported greater depth than the British participants was particularly interesting as it was consistently reported in the literature that members of collectivist cultures self-disclose less than members of individualistic cultures (Barnlund, 1975; Asai and Barnlund, 1998; Barnlund, 1989; Ting-Toomey et al., 1991; Kito, 2005). It was also reported in Study A that Singaporean participants were less likely to self-disclose, on topics, similar to those used in this experiment, to a stranger, than British participants. Moreover, it is widely reported that British people’s self-disclosure increases in CMC (Kiesler & Sproull, 1986; Parks & Floyd, 1996; Joinson, 2001; Goh, 2004). The Singaporean participants’ self-reported depth of self-disclosure does therefore surpass an already inflated observation of British participant’s depth. The results clearly indicated that there was something about the CMC environment which encouraged greatly inflated levels of self-disclosure in the Singaporean participants.

Returning to the literature review, the finding that Singaporean participants self-reported self-disclosing to a greater depth in CMC, than the British participants, is important. There are no studies prior to this that report members of collectivist cultures self-disclosing at a deeper level than members of individualistic cultures, even outside of the CMC literature (Barnlund, 1975; Asai and Barnlund, 1998;
Barnlund, 1989; Ting-Toomey et al., 1991; Kito, 2005). Asai and Barnlund (1998) reported that members of collective cultures have less self-knowledge about their private self, and as a result have less information to self-disclose. Clearly this was not the case in the control condition of this experiment, even if the Singaporeans did have less private self-knowledge, they managed to self-disclose what they considered to be, deep information from the private self. It is also reported in the literature that individuals in a collectivist culture are interested in goals that maintain harmony and suppress their unique attributes, whereas an individual in an individualistic culture looks to bolster their uniqueness in self-disclosure (Markhus and Kitayama, 1991). The task in this experiment asked the participant to answer questions that were arguably mainly associated with the private self. It could, therefore, be argued that if the Singaporean participant was not interested in exploring their private self, then they would not have answered the questions to such a deep level. This does therefore support the suggestion that the individual, or private, self is the cornerstone of the self (Sedikidies and Gaertner, 2001), as in the experiment the Singaporean was interested in exploring the private self. It also challenges research that has argued that the individual or private self is not primacy in collectivist cultures (cf. Kashima & Kashima, 1997; Heine and Lehman, 1999).

The Singaporean participants also reported their self-disclosure to be as accurate as the British participants. The score in the control condition for accuracy for the British participants was reported in Experiment 1 to support the assertion that the self-disclosure was from the true self. It could be suggested here that the Singaporean participants’ self-disclosure score was also accurate and therefore from the true self, although whether the true self has the same meaning in Chinese culture is still open to question. If the Singaporean participant possesses a self that is variable, and less stable (English & Chen, 2007), then questions arise of what baseline score their accuracy could be compared with. The British participant has their conception of a true self to compare the accuracy of their self-disclosure against. However, the Singaporean participant may just have been suggesting that they were not outwardly lying by their accuracy score in this condition. The Singaporean may hold equally valid but variable projections of the self, and this causes problems for assessing whether their accuracy score of self-disclosure can be related to the concept of a true self. Further research is therefore
required to understand more about the true self in Singaporean culture, although the self-presentation item which is discussed later may elucidate this further.

It is also possible that the textual channel within this condition may be a factor in the Singaporeans participants’ raised depth of self-disclosure. Members of collectivist cultures have been described as being verbally restrained (Markhus & Kitiyama, 1991; Asai & Barnlund, 1998), and it may be that the Singaporeans found it easier to self-disclose in this type of textual communication, rather than using a verbal channel. This would, however, need testing in an experiment which examines the channel as an independent variable and this was unfortunately not tested here. Irrespective of the reasons behind the surprise result, that Singaporeans reported exploring their private self in more depth than the British participants, the result is important. It could, for example, be argued that this CMC control condition revealed a side of the Singaporean that is not usually seen, or even exhibited, in their everyday interactions. The condition appeared to give the Singaporean participant an opportunity to explore their private self. Raised levels of depth of self-disclosure were associated with high levels of private self-awareness in Experiment 2, and it is possible to examine the self-awareness data in Experiment 3 to see if it was an increase in private self-awareness that encouraged the Singaporeans to self-disclose so deeply.

Private and public self-awareness

In Part 1 of this thesis, increased scores for depth of self-disclosure were linked to private self-awareness. It could, therefore, be suggested that the Singaporeans may have been experiencing greater levels of private self-awareness in this condition. This was not, however, the case as the Singaporeans reported only a slightly higher level of private self-awareness (M=5.73, SD=2.05) than the British participants (M=5.27, SD=2.49, p=0.98), which was not significantly different. It was also suggested that self-disclosure can increase if public self-awareness is reduced. However, the Singaporean participants reported higher levels of public self-awareness (M=5.00, SD=2.48) than the British participants (M=4.13, SD=2.26, p=0.90), although again this was not significantly different. In the experiments in Part 1 of this thesis a further measure of self-awareness was calculated, and this was the ratio of public to private self-awareness. This was investigated in Experiment 3, however there was also no difference found
between the ratio of public self-awareness to private self-awareness, for the Singaporean participants (M=0.90, SD=0.40) as compared to the British participants (M=1.08, SD=0.81, p=0.95). It did not appear, therefore, to be the differences in the levels of self-awareness that could explain the differences between the Singaporean and British participants’ self-disclosures.

**Further measures**

There were no differences found between the Singaporean (M=7.27, SD=1.28) and British participants for enjoyment (M=7.33, 1.05, p=0.95), and there was also no difference found for learning, and the Singaporean participants reported (M=5.00, SD=2.10) similar levels of learning to the British participants (M=3.93, SD=2.19, p=0.74). The Singaporeans did report that they were accurate in their self-disclosures and they also scored similarly (M=4.67, SD=2.23) to the British participants for self-presentation (M=4.33, SD=2.38, p=1.00). It was argued in Experiment 1 that the British participants were presenting a true self in this control condition. It is also argued here that the Singaporeans were not presenting a more positive image, nor being inaccurate. They did genuinely appear to be using this condition to present an accurate and non-idealised self in their self-disclosure. There were also no differences between the Singaporeans scores for intimacy (M=3.73, SD=2.46), accountability (M=4.87, SD=1.96) or embarrassment (M=2.40, SD=1.45), when compared to the British participant (M=3.87, SD=2.13, p=0.80; M=3.93, SD=1.22, p=0.82; M=1.73, SD=0.88, p=0.75). The Singaporeans also reported similar scores for learning (M=5.00, SD=2.10), how sociable they viewed their partner (M=7.00, SD=1.20), and the isolation of the condition (M=3.67, SD=2.16) to the British participants (M=3.93, SD=2.19, p=0.74; M=7.60, SD=1.05, p=0.82; M=1.93, SD=1.16, p=0.06).

There was, however, one important difference between the British participants and the Singaporean participants. The Singaporeans participants reported more trust in their partner (M=5.80, SD=1.57) than the British participants (M=3.87, SD=1.81, p<0.05). Trust is essential in the formation of a relationship, and in self-disclosing deeply (Altman and Taylor, 1972; Jourard, 1971), and the increased trust of the Singaporeans could, therefore, easily explain the increased self-disclosure in the control condition for the Singaporean participants. However, it was not clear why the Singaporean participants would trust their
partner more than the British participants. Although the Singaporean participants
did self-disclose deeply, it was not explained by the self-awareness scores, or the
other variables. Although trust was found to be a significant variable, it would
need further investigation, and it was raised again later, when the results indicated
that it was not that the Singaporean participants was more trusting, but that the
British participant was less trusting. The CMC environment is one which is
generally considered to be high in private and low in public self-awareness
(Matheson & Zanna, 1988; Joinson, 2001), and the control condition that was
reported here is typical of the type of CMC environment that these studies are
referring to. The Singaporeans did not report greater levels of private self-
awareness than the British participants, but the British participants were already
experiencing high levels of private self-awareness and reduced levels of public
self-awareness, and the Singaporean participants’ self-awareness scores indicated
they were having a similar experience. It would be necessary to compare the
Singaporean participants in this condition to another condition, where the
participants were perhaps communicating FTF to confirm this, but this was not
tested.

Whilst the control condition in this experiment gave the Singaporeans an
opportunity to explore their private self, of which there are arguably fewer
opportunities to do so than in British culture. It was also possible that the
Singaporeans’ deep self-disclosure was not driven by personal motivations, but
may have represented them acting within their cultural norms. It was possible, for
example, that the Singaporeans were matching their partners’ high self-disclosure
in the task, to achieve harmony and communion (cf. Markhus & Kitiyama, 1991),
and this type of behaviour would be typical of a member of a collectivist culture.
In replications of Asch’s (1952) conformity study, for instance, members of
collectivist cultures have been seen to match a confederates’ inaccurate answer to
keep harmony (Bond and Smith, 1996). It was therefore possible that this was
what the Singaporean participants were doing in this experiment, and they may
have been matching the confederate’s answers to achieve harmony. It was argued
earlier, in the interpretation of the results, that the Singaporeans were using this
situation to explore their private self, and that this represented their individual
desire, that may be different to their cultural norms. However, it was also possible
that the Singaporean participant did not desire this type of exploration and that
their self-disclosing deeply may not have been personally motivated, but rather, was for the benefit of their partner. The goal of a relationship in collectivist cultures has been reported to be to bolster the other person (Cross and Madson, 1997), and this may have been what was occurring in this condition. This would again be typical behaviour of a member of a collectivist culture. It was, however, possible to explore the Singaporean participants further by examining their behaviour in the manipulated conditions.

Projected-mirror condition

In Experiment 1, the use of the projected-mirror manipulation was seen to increase the ratio of private and public self-awareness. In other words it raised private whilst reducing public self-awareness. This resulted in the participants reporting increased levels of depth and breadth of self-disclosure. The British participants also reported themselves to not be presenting a more positive image in their self-disclosures, but they did report their partner to be less social than they did in the control condition. These results were taken to suggest that the projected-mirror manipulation was having the expected effect of turning the participants’ attention away from the social aspects of the interaction and more to the personal aspects. In the control condition, the Singaporeans self-disclosed more and trusted their partner more than the British participants. However, it was unclear, as there is an absence of any similar studies, how the projected-mirror manipulation would affect the Singaporean participants. It was reported that members of collectivist cultures do not change their behaviour across public and private situations (Bontempo et al, 1990). It was, therefore, predicted that the projected-mirror condition would not affect the self-disclosure of the Singaporean participants, and as the projected mirror had increased the self-disclosure of the British participants in Experiment 1, it was predicted that the Singaporeans would self-disclose less than the British participants in this condition.

Private and public self-awareness

The Singaporeans participants reported slightly higher private self-awareness scores in the projected-mirror condition (M=6.27, SD=1.67) than in the control condition (M=5.73, SD=2.05, p=0.97), although the result was not significant. The participants also reported slightly lower public self-awareness scores in the projected-mirror condition (M=3.60, SD=2.80) than in the control condition.
(M=5.00, SD=2.48, \( p=0.55 \)), although again the result was not significant. Surprisingly, the results did not follow the pattern of the British participants and no difference was found in the ratio of public self-awareness to private self-awareness between the projected-mirror condition (M=7.13, SD=1.55) as compared with the control (M=7.00, SD=1.20, \( p=0.92 \)). In this dyadic projected-mirror condition the manipulation did not significantly raise the Singaporeans’ private self-awareness whilst reducing public self-awareness, as it did for the British participants. In Experiment 1 the dyadic projected-mirror condition replicated the results of Joinson’s (2001) and Yao & Flanagin’s (2006) studies, where it raised private whilst reducing public self-awareness in dyadic communication. In this study, however, the participants were engaging in dyadic communication, but the manipulation did not have the desired effect of increasing private self-awareness. These results do, therefore, indicate the importance of understanding that manipulations of self-awareness could have different effects on participants from different cultures. It has been suggested that members of collectivist cultures are more consistent across private and public conditions (Bontempo et al., 1990). This could also suggest that members of collectivist cultures are less susceptible to situational manipulations of self-awareness. Support for this was found here, where the manipulation of the projected mirror did not affect the Singaporeans reported levels of self-awareness, but did affect the British participants’ reported levels of self-awareness. The manipulation is not successful in this instance, as it did not affect the Singaporeans self-reported self-awareness.

**Breadth and depth of self-disclosure**

Unsurprisingly, following on from the results for self-awareness, the Singaporean participants did not report any difference between breadth in the projected-mirror condition (M=6.13, SD=1.41), as compared to the control condition (M=6.67, SD=1.49, \( p=0.87 \)). For depth of self-disclosure, however, the projected-mirror manipulation seemed to inhibit self-disclosure slightly (M=5.67, SD=2.29) as compared to the control condition (M=6.27, SD=1.67, \( p=0.93 \)), although this was not significant, and H2 was therefore rejected. The projected-mirror manipulation did not have the effect on self-awareness that it did on the British participants, therefore it had no bearing upon the self-disclosure. It should, however, be noted that the Singaporean participants’ self-reported self-disclosure was higher in the
control condition than the British participants self-disclosure was. It follows, therefore, that the Singaporeans’ self-disclosure was still high in the projected-mirror condition as it was similar to that in the control condition, but the projected-mirror condition had not done anything more to increase it further. The British participants’ breadth (M=6.73, SD=1.28) and depth (M=6.33, SD=1.71) of self-disclosure were also high in the projected-mirror condition, as compared to the control condition, but the Singaporean participants’ self-disclosure was at a similar level for breadth (M=6.76, SD=1.49, \(p=1.00\)), and was slightly lower, but not significantly, for breadth (M=5.67, SD=2.29, \(p=0.89\)). It was, therefore, concluded that the Singaporeans were more consistent in their depth of self-disclosure across the control and projected-mirror conditions than the British participants, and this is clearly illustrated in Figure 5.2.

![Figure 5.2: An illustration of how the Singaporean participants’ depth of self-disclosure is more consistent across the control and projected-mirror conditions than the British participants’ depth of self-disclosure in Experiment 3](image)

**Accuracy and self-presentation**

The Singaporean participants reported themselves to present an accurate self in the projected-mirror condition (M=8.20, SD=1.15) and in the control condition (M=8.00, SD=1.13, \(p=0.99\)). They also presented a similarly positive image of themselves in the projected-mirror condition (M=5.33, SD=2.23) as they did in
the control condition (M=4.67, SD=2.23, p=0.95). Furthermore, the Singaporeans presented a similarly positive image (M=5.33, SD=2.23), and reported similar levels of accuracy (M=8.20, SD=1.15, p=1.00) in the projected-mirror condition as the British participants (M=5.47, SD=1.84, p=, M=8.33, SD=0.61, p=1.00). It was inferred from these results, that the projected-mirror manipulation did not seem to affect the participants’ accuracy of self-disclosure, and they continued to present a self that was not positively inflated. Using these results to draw conclusions about the Singaporean participants’ true self is, however, problematic. If the self is not consistent and is variable in collectivist cultures (English & Chen, 2007), it could be argued from this, that the collectivists’ true self is whatever is appropriate at the time. Moreover, if the member of a collectivist cultures self is variable (English & Chen, 2007) and they have a flexible boundary between the public and private self (Cross and Madson, 1997), the self varies according to the situation. Further research is required to understand how accuracy is linked to different self-images in collectivist cultures, and to further elucidate the meaning and relevance of a the true self in collectivist cultures. The self-presentation score also raises similar issues, as for the participant to perceive that they have been presenting a more positive image of themselves, they must be aware that they possess a self which is not inflated, that they can make this comparison against. The issues with these concepts is important as it raises questions of the relevance of these measures in this study, but it also raises questions as to the cross-cultural validity of many social-psychological theories, such as Self-Discrepancy Theory (cf. Higgins, 1987).

Further measures

The Singaporean participants reported similar levels of enjoyment (M=7.87, SD=1.30), and learning (M=5.67, SD=2.13) to the British participants (M=7.40, SD=1.40, p=0.77; M=5.93, SD=2.05, p=0.98). The Singaporean participants also reported similar levels of enjoyment (M=7.87, SD=1.30) and learning (M=5.67, SD= 2.13) in the projected-mirror condition as they did in the control condition (M=7.27, SD=1.28, p=0.77; M=5.00, SD=2.10, p=0.96). In addition, the Singaporeans also reported similar levels of isolation (M=2.73, SD=1.79), intimacy (M=2.60, SD=2.06), embarrassment (M=1.80, SD=1.57) and accountability (M=4.80, SD=2.76) to the British participants (M=2.13, SD=1.96, p=0.92; M=3.93, SD=2.12, p=0.99; M=2.33, SD=0.98, p=0.86; M=3.87,
SD=1.77, \( p=1.00 \)). The Singaporean participants did however report themselves to be slightly more sociable (M=7.13, SD=1.56) than the British participants (M=6.20, SD=1.52, \( p=0.41 \)), although this result was not significant. The Singaporeans also reported themselves to view the partner as being equally sociable in the projected-mirror condition (M=7.13, SD=1.56) as in the control condition (M=7.00, SD=1.56, \( p=1.00 \)). The projected-mirror condition was reported in Experiment 1 to lead the British participants to pursue more personal goals. The projected-mirror condition increased private whilst reducing public self-awareness, which reduced the socialness of the situation. This, in turn, increased self-disclosure. However, this was not occurring in this condition for the Singaporeans, who reported the partner to be similarly sociable in both the control and the projected-mirror condition.

In the control condition, although the Singaporean participants reported higher levels of trust than the British participants, in the projected-mirror condition, the Singaporeans reported similar levels of trust (M=5.80, SD=1.52) to the British participants (M=5.07, SD=2.05, \( p=0.84 \)). The Singaporean participants also reported similar levels of trust in the projected-mirror condition (M=5.80, SD=1.52) as in the control condition (M=5.80, SD=1.57, \( p=1.00 \)). Similar levels of trust were yielded in all these conditions and this makes it quite difficult to explain the Singaporeans reporting greater trust in the projected-mirror condition than the British participants.

The addition of a projected mirror did not seem to have any effects on the Singaporeans’ behaviour. It was suggested that the projected mirror could remind the Singaporean participants of their private self and this could lead to increased levels of self-disclosure. The Singaporean participants were reported to be self-disclosing highly in the control condition, and these high levels of depth of self-disclosure continued in the projected-mirror condition, but the projected-mirror manipulation did not further enhance them. It is difficult to make any suggestions about whether the goals were personally or socially motivated in the Singaporeans’ self-disclosure. It is unclear whether it was the feedback from the other participant, or the rapport that encouraged them, or whether they were matching their partner’s intimacy. Some of these issues will however be explored in Experiment 4. In Goh (2004) it was noted that participants, in their desire to
self-disclose and form a relationship, were not distracted by visual cues. Similarly in this situation the Singaporeans may have attended less to the manipulation than the British participants in order to achieve their goals. There was, however, no support gained that the projected mirror increased private self-awareness for Singaporean participants. The cultural generalisability of this manipulation is, therefore, in question. However, it may be that the task itself already raised the Singaporeans’ private self-awareness above and beyond that which is normal, therefore the participants in the control and projected-mirror conditions may both have had exaggerated private self-awareness scores. The notion that the Singaporeans are less aware of the manipulations by their drive to engage in the task can be examined by analysing their behaviour in the door-ajar condition.

**Door-ajar condition**

In Experiment 1, the door-ajar condition did not have the effect that was expected, and it was concluded that the manipulation was overridden by the British participants’ desire to socialise. There was, however, one significant difference that was found in Experiment 1 which was very important. It was found that the British participants were less accurate in their self-disclosures than the participants in the control condition. This finding suggested that the participants were actually aware (even if sub-consciously) that the door was ajar, and this affected their optimal self-disclosure. In Experiment 3, it was already evident that the Singaporean participants did not seem to be affected by the projected-mirror condition, and it is therefore of great interest to examine whether they were affected by this second manipulation of leaving the door ajar.

**Private and public self-awareness**

There was no significant difference between the Singaporean participants’ private self-awareness (M=5.67, SD=1.88), public self-awareness (M=5.20, SD=2.33), or ratio of self-awareness (M=1.01, SD=0.50) in the door-ajar condition, when compared to the control condition (M=5.73, SD=2.05, p=1.00; M=5.00, SD=2.48, p=1, M=0.90, SD=0.40, p=0.99). These results indicated that the door-ajar manipulation did not affect the Singaporean participants’ self-awareness during the task. This was a similar result to the British participants’ results in Experiment 1. The Singaporean participants did report similar levels of private self-awareness (M=5.67, SD=1.88) to the British participants (M=5.47, SD=0.99,
$p=1.00$) in the door-ajar condition. The Singaporeans also reported similar levels of public self-awareness (M=5.20, SD=2.33) in the door-ajar condition, to the British participants (M=4.27, SD=2.05, $p=0.87$). In addition, the Singaporeans reported similar levels of ratio of private self-awareness (M=1.00, SD=0.50) to the British participants (M=0.80, SD=0.44, $p=0.91$) in the door-ajar condition.

**Breadth and depth of self-disclosure**

In the door-ajar condition the Singaporeans reported similar levels of breadth (M=6.53, SD=1.36) and depth (M=6.13, SD=1.60), to the control condition (M=6.13, SD=1.41, $p=0.96$; M=6.27, SD=1.67, $p=0.13$). The Singaporeans breadth (M=6.53, SD=1.36) and depth (M=6.13, SD=1.60) were also similar to the British participants breadth and depth (M=5.33, SD=1.05, $p=0.13$; M=4.60, SD=1.18, $p=0.16$) in the door-ajar condition, and H3 was therefore rejected. Again the Singaporean participants’ behaviour seemed to be fairly consistent across the conditions. This again supports the work of Bontempo *et al.* (1990) who reported that members of collectivist cultures behaviour is stable across private and public situations. When the results of Study A are also considered, where the Singaporeans reported themselves much less likely to self-disclose on certain topics than the British participants, it is particularly interesting that the Singaporean participants self-disclosed at consistently high levels of depth in the control, projected-mirror and door-ajar conditions. Although the Singaporeans do not seem to be affected by the manipulations, in all the conditions there is evidence of deep self-disclosure. This could be argued to illustrate that the Singaporeans are interested in exploring their private self, and that their lack of private self-knowledge does not inhibit them (cf. Asai and Barnlund, 1998). It is argued that this type of CMC environment could provide an opportunity for the Singaporeans to explore their private self. Unfortunately, these results do not clearly identify whether it is the changes in self-awareness, the textual channel, the encouraging confederate, the task, or the high levels of self-disclosure from the confederate being matched to create harmony, that explain this result. Very little cross-cultural research exists that investigates self-disclosure in CMC, and more research is required to examine how each of these factors affects the self-disclosure of members of collectivist cultures.
Accuracy and self-presentation

A clear difference emerged in Experiment 1 between the British door-ajar condition and the control condition when examining accuracy of self-disclosure. It was seen in Experiment 1 that British participants’ accuracy dropped in the door-ajar condition. This was taken as evidence that the British participants were not entering into optimal self-disclosure and were not presenting their true self. It was concluded that the door being ajar disturbed their perception of privacy. The Singaporean participants did, however, not report any difference in accuracy (M=8.20, SD=1.15) or self-presentation (M=5.00, SD=1.81) in the door-ajar condition, as compared to the control condition (M=8.00, SD=1.13, p=0.99; M=4.67, SD=2.23, p=0.99). Unlike the British participants, the accuracy of self-disclosure seemed to stay relatively stable (M=8.20, SD=1.15) in the door-ajar condition and did not drop to the extent of the British participants (M=5.93, SD=1.80, p<0.001). H4 was therefore rejected. Again, this showed support for Bontempo’s et al.’s (1990) work that members of collectivist culture are stable across private and public situations.

Further measures

The Singaporean participants reported similar levels of enjoyment (M=7.73, SD=1.03), and learning (M=5.27, SD=2.12) in the door-ajar condition to the control condition (M=7.27, SD=1.28, p=0.90; M=5.00, SD=2.10, p=0.99). The Singaporean participants also reported similar levels of enjoyment (M=7.73, SD=1.30), and learning (M=5.27, SD=2.12) to the British participants (M=6.67, SD=1.29, p=0.18.; M=4.47, SD=2.17, p=0.91). The Singaporean participants also reported their partner to be as sociable (M=6.80, SD=1.57) as the British participants perceived their partner to be (M=7.40, SD=1.05, p=0.83). In the control condition, the Singaporean participants reported higher levels of trust than the British participants. However, in the door-ajar condition the Singaporeans reported similar levels of trust (M=5.53, SD=1.36) as the British participants (M=4.27, SD=1.80, p=0.33). The Singaporean participants also reported similar levels of trust in the door-ajar condition (M=5.53, SD=1.36) as in the control condition (M=5.80, SD=1.57, p=1). The Singaporeans also reported similar levels of intimacy (M=3.40, SD=2.06), accountability (M=4.13, SD=2.44), embarrassment (M=2.33, SD=1.88) and isolation (M=2.40, SD=1.30) to the British participants (M=3.27, SD=1.83, p=0.92; M=4.40, SD=2.03, p=1.00;
M=2.40, SD=0.99, \( p=1.00 \); M=2.27, SD=1.39; \( p=1.00 \). The Singaporean participants were arguably engaging in optimal and intimate self-disclosure across all of the conditions. However, the British participants were observed to be much more ‘cagey,’ and their accuracy dropped when public self-awareness was raised. This study does seem to support the idea that member of collectivist cultures, such as Singaporean, have a less complex (cf. Triandis, 1989), less shielded private self (Hsu, 1985). The Singaporeans behaviour was also consistent across the manipulations that attempted to raise private and public self-awareness, and this supports the findings of Bontempo et al. (1990), who reports members of collectivist cultures’ behaviour to be consistent across private and public conditions. The Internet is a place where the self can be experimented with (Turkle, 1984), and to some extent the anonymity and experience of self-awareness may release the participants from cultural pressures. For the British, this allowed them to be their true self, and for the Singaporeans it seemed to allow them to explore their private self. It is interesting to observe how culture affects the goals of self-disclosure, but also the decisions of what to self-disclose.

**Correlation results**

Experiments 1 and 2 showed that private self-awareness was related to depth of self-disclosure and that public self-awareness was related to accuracy of self-disclosure. The first correlation analysis in Experiment 3 focused only upon the Singaporean population. There was a significant correlation between depth of self-disclosure and private self-awareness, \( r(45)=0.38, p<0.05 \). In a similar way to the British participants, the Singaporeans did report that the more access to their inner thoughts and feelings they had, the more deeply they self-disclosed. There was also a very strong correlation between breadth and depth of self-disclosure \( r(45)=0.56, p<0.001 \). These results suggested that the Singaporean participants were experiencing high levels of private self-awareness, and that this increased their access to inner thoughts and emotions, which in turn increased their self-disclosure. The increased private self-awareness in CMC does, therefore, increase the Singaporeans depth of self-disclosure. Increased private self-awareness has been reported to activate personal motivations (Miller & Read, 1987), and, in this case, the Singaporeans may have had their personal motivations of self-disclosure activated. Increased private self-awareness is also reported to increase awareness of self-discrepancies (Carver & Scheier, 1981), and as Singapore is a collectivist
culture where deep self-disclosure is not generally encouraged (Barnlund, 1989; Miyanaga, 1991; Kito, 2005; Asai and Barnlund, 1998), giving the participants an opportunity to self-disclose from their private self did seem to have a positive effect upon the Singaporeans’ self-disclosure behaviour.

There was no negative correlation between accuracy and public self-awareness $r(45)=-0.28$, $p=0.85$. The British participants’ true self retreated when awareness of the external increased; this does not happen to the Singaporean participants, as when public self-awareness increased the Singaporeans’ self, that was presented in their self-disclosure stayed stable. For self-disclosure to be optimal, the British participants require public self-awareness to be low; this is however not an issue for the Singaporeans. This difference in the reaction to increased public self-awareness in the British and Singaporean participants supports Bontempo et al’s (1990) finding that members of individualistic cultures are more affected by social desirability pressures than member of collectivist culture are. It is argued in this thesis that the British have a persona, or mask (cf. Hsu, 1985), to use in public situations, and a true self that stays hidden until it is decided by the individual that it is safe to be disclosed. It is argued here that it is the discrepancy between the true self and the persona that leads to discrepancies within the self, for the British participant. Some of the consistency in the collectivists’ behaviour may therefore be explained by their acceptance of inconsistency and their lack of desire of a true self. More research is required however to understand these links to the self more clearly.

**General Discussion**

The greatest finding in this third experiment was that, despite the results of Study A, that suggested that Singaporeans were less likely to self-disclose on certain topics than the British participant, and were also less open. When the Singaporeans were involved in a CMC interaction they self-disclosed much deeper than had been expected. Moreover, in the control condition, which is fairly typical of a ‘real-time’ chat that occurs on the Internet, the Singaporeans reported greater levels of depth of self-disclosure than the British participants. The reasons why this occurred are not clear, and it may have been that the Singaporeans who come from a culture that is not open and where self-disclosure
is restrained, rather than encouraged (Barnlund 1989; Miyanaga, 1991; Kito, 2005; Asai and Barnlund, 1998), may want to self-disclose from the private self, but do not have the opportunity. It was evident, in the present experiment, that when the Singaporeans were given the opportunity to self-disclose they self-disclosed deeply from the private self. This deep self-disclosure by the Singaporean participants could represent a desire that is unrequited within their culture. If this is the case, then CMC has important implications for use as a medium for Singaporeans to outlet their stress, and work through their problems. Suicide is an issue in Singapore, and in the reasons that were given by Chia et al. (2008) for suicide, it is evident that they were all problems that could be helped by self-disclosing (cf. Rogers, 1951; Pennebaker, 1989). It is possible that CMC could provide an important outlet for Singaporeans to explore their private self and their problems. In a comments section at the end of the post-test questionnaire, several Singaporeans noted how refreshing the experience had been, with one participant noting ‘every Singaporean should be made to do this study.’ The conditions in the experiment provided an opportunity for the Singaporean to explore their private self, in a way that is arguably not forthcoming in their culture.

The different motivations for self-disclosure, within different cultures, raise other issues within this thesis, as it is possible for example that the task was Western orientated. It is unusual for a member of a collectivist culture to consider the private self in this much depth (Asai & Barnlund, 1998). It was, therefore, an unusual situation for the Singaporean to discuss, and even think about some of the questions that were raised. This does however raise the question of whether this type of deep, personal self-disclosure, serves any purpose for the collectivist. Granted, it may be important to dissolve worry or for the therapeutic situation, but Asai and Barnlund indicated that by self-disclosing from the private self the self-discloser also gains more self-knowledge about the private self, which will ultimately result in the private self becoming more complex (Triandis, 1989). It was apparent in Part 1 of the present thesis, that the complex private self of the British participants does cause issues within the self. It is arguably the complexity of the private self that leads to discrepancies that arise between the projected self and the true self (cf. Higgins, 1987), and the development of the persona (Hsu, 1985). The Singaporeans’ depth of self-disclosure was higher than expected in
CMC and this is an interesting finding, but more research is required to understand the full benefits of self-disclosing from the private self for the Singaporean, and the implications this could have for the Singaporean self.

Another interesting finding in Experiment 3 was the consistency in the Singaporeans’ behaviour across the conditions. The Singaporeans remained far more consistent across the conditions than the British participants, and this was not only within the self-disclosure dimensions, but also in the measurements for self-awareness. This provides support for Bontempo et al., (1990), who also noted that collectivists were more consistent across public and private conditions, and less compliant to social desirability pressures. This observation brings discussion back to the British participants desiring a stable true self, yet only letting this self be revealed in situations that they feel are safe, such as situations that are high in private self-awareness, and low in public self-awareness (seen in Experiment 3). Social desirability appears to be less of an issue for the Singaporean, who even when they self-disclose deeply are not affected by the manipulations. There were, however, only two manipulations of self-awareness presented in the experiments and more manipulations would be necessary to substantiate the assertion that Singaporeans are less affected by manipulations of self-awareness. Moreover, more research is required to understand whether the Singaporeans’ deep self-disclosure was personally motivated, or whether they were matching the confederates’ high levels of self-disclosure. This is however examined in Experiment 4.
CHAPTER 6: Experiment 4
What differences do manipulations of self-awareness make on Singaporean participants and British participants self-disclosing in a socially isolated CMC experiment?

Introduction

It could not be confidently concluded from Experiment 3 that the Singaporeans were using the experimental interaction to explore their private, or individual, self. It was also possible that the Singaporean participants’ high levels of self-disclosure occurred in order to match the high self-disclosures of their partner. Members of collectivist cultures are driven by the desire to keep harmony (Markhus & Kitiyama, 1991), and this type of matching behaviour would not be unsurprising. In Experiment 2, the social pressures of the interaction were arguably reduced by eliminating the dyad, and having the participant self-disclose into an anonymous e-mail window. They were told that their responses would not be read for six months, and could not be traced back to them. In this situation they had no immediate partner to match, and it was also argued in Experiment 2 that this situation reduced some of the possibilities of pursuing social motivations for self-disclosure. It was possible that the participant could self-disclose in order to complete the task, or to do what the experimenter had requested. It was, however, argued in Experiment 2, that these reasons did not explain the deep self-disclosure that was observed. It was, therefore, suggested that if deep self-disclosure was elicited in this situation, it was most likely to be personally motivated self-disclosure.

The writing that could occur in this situation was therefore reported to be more akin to the type of self-expressive writing that has been reported to be therapeutic in research investigating emails (cf. Wright, 2002). The participant may have used the situation to explore their self, their lives and their problems (cf. Wright, 2002). It was suggested in the introduction to Part 1, that there is much evidence to suggest that this type of self-disclosure is occurring on-line, and this was reportedly evidenced by the proliferation of self-help groups on the Internet (Salem et al., 1998; Morsund, 1997; Gackenbach, 2007; Moon, 2000). In Part 1 of the thesis, it was suggested that, the heightened private self-awareness in CMC
allowed the participant to become aware of their private self, and their inner thoughts and feeling (cf. Carver & Scheier, 1980), and that it also activated personal motivations (cf. Miller & Read, 1987) and raised self-awareness of self-discrepancies (cf. Carver & Scheier, 1981). It was also argued that the decreased public self-awareness in CMC reduced the interpersonal risk of the interaction (Walther, 1996), reduced the social desirability pressures (Bargh et al., 2002), and subsequently allowed optimal and intimate self-disclosure to occur. In self-help groups these conditions could be useful as the heightened private self-awareness allows the participant to have clear access to their thoughts and feelings, and the reduced public self-awareness makes it safe to self-disclose. These conditions may also be useful in relationship formation where the participant may perceive it to be safe to present their true self, and self-disclose deeply and intimately, thus accelerating the formation of the relationship (Mckenna & Bargh, 2000). It is therefore argued that by replicating Experiment 2 on Singaporean participants, it would be possible to gain a greater insight into whether the Singaporeans were interested in this personally motivated type of self-disclosure. Moreover, with the ‘real-time’ partner removed, it would also be possible to examine whether the participants in Experiment 3 were matching the high self-disclosures of their partner.

Experiment 2 was, therefore replicated on Singaporean participants, and the results were compared with the results from the British participants. However, without a high self-disclosing confederate to match it was unclear whether the Singaporeans would continue to use the situation for deep self-disclosure. The methodology in the experiment attempted to encourage deep and intimate self-disclosure. It was observed in the door-ajar condition in Experiment 2, that if the participant did not want to self-disclose, or was not motivated to self-disclose, they would not self-disclose. In this instance, it would be perfectly reasonable for the participant to write one sentence about themselves and then move on. If the Singaporean participants in the following experiment did continue to self-disclose deeply, it would be possible to conclude that the motivations were most likely personal. Moreover, it could be concluded that the Singaporeans were interested in exploring their private self, through self-disclosure. This would be an interesting finding, as past studies have suggested that members of collectivist cultures are less interested in expanding the private self than members of
collectivist cultures (Asai & Barnlund, 1998; Triandis, 2001). Whilst an individualistic culture drives a desire for a unique private self (Hsu, 1985; Markhus & Kitiyama, 1991; Triandis, 1989), and therefore self-disclosure is driven by these motives (Kito, 2005; Asai & Barnlund, 1998), a collectivist culture views the self as part of a social group (Markhus & Kitiyama, 1991) and self-disclosure does not tend to be driven by the private self (Asai and Barnlund, 1998; Kito, 2005). It would, therefore, be unusual to observe a situation where members of collectivist cultures were interested in exploring, and being highly motivated to self-disclose from the private self. If the Singaporean participants were seen to be interested in exploring their private self, it would also be an interesting finding as it could indicate that the Singaporeans have personal motivations of self-disclosure that differ from those that are prescribed by their culture.

It was argued in Experiment 2 that the heightened private and reduced public self-awareness, allowed the British participants’ true self to emerge. Whilst the true self may be less relevant to the Singaporeans (Hsu, 1985), it is interesting to consider whether there would be any evidence of a true self emerging in the conditions of the experiment, or whether other selves, or traits, that are less exhibited in their everyday life would emerge. It was also suggested in Experiment 2 that the removal of the dyad from the experiment led to the manipulations being intensified. It was therefore of interest to see if this was replicated in this final study. The hypotheses in Experiment 4 were based on the results of Experiment 3, and the positive response from the Singaporeans in the comments sections of the questionnaire at the end of Experiment 3. In Experiment 4 it was possible that the Singaporean participants would continue to self-disclose deeply and intimately in the control condition of the socially isolated experiment. However, it was also possible that the Singaporeans were self-disclosing to match the confederates high levels of self-disclosure in Experiment 3 and that their self-disclosure would drop in Experiment 4. The hypothesis that the Singaporean participants in Experiment 4 would self-disclose less than the British participants in the socially isolated control condition was therefore tested (H1). It was also predicted that the Singaporean participants would self-disclose less than they did in the dyadic control conditions (H2). It was also predicted, again based on the findings of Experiment 3, that the Singaporeans self-disclosure and self-awareness
levels would not be affected by either the projected-mirror, or the door-ajar manipulations. In addition, it was predicted that the Singaporean participants’ behaviour would stay consistent irrespective of whether the situation was private or public (cf. Bontempo et al., 2001). In Experiment 2, the British participants’ self-disclosure dropped in the projected-mirror and the door-ajar conditions, and therefore the it was predicted that the Singaporean participants would self-disclose at higher levels of depth than their British counterparts.

**H1:** Singaporean participants will self-report lower levels of depth of self-disclosure than the British participants when asking and answering questions of varying intimacy in an anonymous CMC situation (control).

**H2:** The Singaporean participants in the socially isolated control condition will self-disclose lower levels of depth of self-disclosure than the participants in the dyadic control condition, when asking and answering questions of varying intimacy using CMC.

**H3:** The Singaporean participants will self-disclose to a greater depth than the English participants when an image of themselves is projected upon their computer screen, when answering and asking questions of varying intimacy in an anonymous socially isolated CMC situation

**H4:** The Singaporean participants in the socially isolated projected-mirror condition will self-disclose at lower levels of depth than the participants in the dyadic projected-mirror condition, when asking and answering questions of varying intimacy using CMC.

**H5:** Singaporean participants will self-disclose to a greater depth in the door-ajar condition, than the British participants, when answering and asking questions of varying intimacy in an anonymous door-ajar CMC situation

**H6:** The Singaporean participants in the socially isolated door-ajar condition will self-disclose at lower levels of depth than the participants in the dyadic
door-ajar condition, when asking and answering questions of varying intimacy using CMC.

**Method**

**Overview, design, materials and procedure**

Forty-five, British undergraduate psychology students, aged 18-24 (M=21), and forty five Singaporean undergraduate students aged 18-22 (M=20) took part in the experiment in return for course credits, or for a monetary rewards of five pounds. Participants interacted individually in a semi-structured task that required them to compose an email to a distant partner, in which they answered questions of varying intimacy using CMC. Participants were randomly assigned to one of three conditions that aimed to manipulate private self-awareness: control; door-ajar; and the projected-mirror condition. The experiment therefore compared: culture (British vs. Singaporean); social isolation (socially isolated vs. dyadic); and self-awareness (control, projected-mirror or door-ajar). The dependent measures were: self-disclosure; self-awareness; and several interpersonal measures. The self-awareness manipulations were the same manipulations that had been used throughout the experiments in this thesis (for detailed descriptions see Experiment 1). Dependent measures were obtained post-interaction through an on-line questionnaire, which explored private and public self-awareness, self-disclosure and several interpersonal variables. Again this questionnaire was explained thoroughly in Experiment 1. The scales of trust and sociable were removed as the task in Experiment 4 did not involve dyadic interaction. The measures were therefore exactly the same as they were in Experiment 2, which also included the additional measure of word count. The equipment, materials and procedure were exactly the same as those used in Experiment 2.

**Results and Discussion**

A MANOVA was conducted over the whole dataset to allow comparison between the British and Singaporean participants’ self-disclosure in the socially isolated conditions (Experiment 2 x Experiment 4), and between the Singaporeans’ self-
disclosure in the control condition, in comparison with the projected-mirror and door-ajar conditions. Finally, it would also allow comparisons to be drawn between the Singaporean participants’ self-disclosure in the dyadic experiment and the socially isolated experiment (Experiment 3 x Experiment 4). The experiment was of a 2 x 2 x 3 design comparing culture (British, Singaporean), social isolation (socially isolated, dyadic) and self-awareness (control, projected-mirror or door-ajar) for self-disclosure, self-awareness and several interpersonal variables. There was a significant multivariate effect for condition (lambda=0.283 F(54,116) =1.892 p<0.005) and an interaction between condition x culture (lambda=0.160 F(54, 116) = 3.220 p=<0.001). There was also a significant multivariate effect for social isolation (lambda=0.37 F=1.88 (45,343), p=0.005). Further analysis involved a series of one-way ANOVAs and Post-hoc TUKEY tests to explore the main effects. There were three main comparisons of interest: whether there was a difference between the Singaporean and British participants in the isolated conditions; whether there were any differences between the Singaporeans within the conditions of the socially isolated experiment; and whether there were any differences between the Singaporeans in the isolated and the dyadic experiments. The results of each of these comparisons are given in turn within the following sections entitled: control; projected-mirror condition; and finally the door-ajar condition. Within each of these sections the cross-cultural comparison (Singapore vs British) is given first, followed by the inter-experiment comparison of the Singaporean’s behaviour in the dyadic experiment (Experiment 3) compared to the socially isolated experiment (Experiment 4). Finally, a comparison is made of how the Singaporeans’ behaviour changed between the conditions of the socially isolated experiment. The main results for the Singaporean and British participants in the isolated condition are shown in Table 6.1, and the main results for the Singaporean participants in the socially isolated experiment (Experiment 3) compared with the dyadic experiments (Experiment 4) are shown in Table 6.2.
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*p<0.05*

Table 6.1: A summary of the means and (standard deviations) and univariate effects across the conditions for the British and Singaporeans participants in the socially isolated experiment (Experiment 4). Different subscripts indicate significant differences (Tukey; p<0.05).
### Table 6.2: A summary of the means and univariate effects across the conditions for the Singaporean participants in the socially isolated (Experiment 4) and the dyadic experiments (Experiment 3). Different subscripts indicate significant differences (Tukey; p<0.05).

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The control condition

**Singaporean socially isolated vs. British socially isolated**

Throughout this thesis private self-awareness has been a good indicator of depth of self-disclosure, and the results in the control condition of Experiment 4, revealed the British participants to report slightly higher levels of private self-awareness (M=6.73, SD=1.16) than the Singaporean participants (M=5.40, SD=1.84, p=0.24), although not significantly. The British participants also reported similar levels of public self-awareness (M=3.93, SD=2.19) and ratio of public to private self-awareness (M=0.62, SD=0.40) to the Singaporean participants (M=4.07, SD=2.40, p=1.00; M=1.10, SD=1.26, p=0.42). The control condition was reported in the previous British experiment (Experiment 2) to
promote high levels of private self-awareness and to reduce levels of public self-awareness, which was followed by high levels of self-disclosure. This also appeared to be the same for the Singaporeans in the socially isolated condition when compared to the British participants in the socially isolated conditions. The Singaporeans (M=5.27, SD=1.91) self-disclosed to a similar level of depth of self-disclosure as the British participants (M=5.13, SD=1.96, p=1.00). H1 was therefore rejected. The British participants (M=7.60, SD=1.35) did, however, report higher levels of breadth than the Singaporean participants (M=5.20, SD=2.18, p<0.001). The Singaporean participants also typed fewer words (M=397.47, SD=150.71) than their British counterparts (M=517.80, SD=174.94, p=0.39), although this was not significant.

These measures suggested that the British participants talked more widely about themselves, but the British and Singaporean participants were equal in their depth of self-disclosure. Notably, compared to the past self-disclosure scores it is no surprise that the British participants self-disclosed deeply. However, particularly in a situation, which arguably encouraged more personally motivated self-disclosure, and where the Singaporean had no participant to match, the Singaporeans self-disclosed as deeply as the British participant. This provides evidence that the Singaporeans were interested in exploring their private self through self-disclosure. The findings do therefore refute the notion that members of collectivist cultures have less private self-knowledge and therefore less to self-disclose (Asai and Barnlund, 1998). Although they may have less complex private selves (Triandis, 1989) they do seem keen to explore and extend the complexity of their private self in this condition. Moreover, the results challenged past research that suggests that members of collectivist cultures are restrained, formal and cautious, in their self-disclosure (Barnlund 1989; Miyanaga, 1991; Kito, 2005; Asai and Barnlund, 1998). The result reported here highlighted that the level of self-disclosure depends on the circumstances under which the self-disclosure is measured. From the self-reported scores of self-disclosure in the control condition the Singaporeans’ self-disclosure did not reflect restrained, formal or cautious behaviour.

The British participants reported themselves to enjoy the experience (M=7.13, SD= 1.13) more than the Singaporean participants (M=5.67, SD=1.35, p<0.001). This is consistent with the suggestion that whilst British participants are more
used to self-disclosing intimately in their culture, members of collectivist cultures, such as Singapore, are not (Gudykunst et al., 1987; Ting-Toomey et al., 1991; Kito, 2005). The Singaporeans may thus have found the process less enjoyable. There was however no difference in the Singaporean participants (M=4.00, SD=1.25) levels of embarrassment, or intimacy (M=2.47, SD=1.36) compared to the British participants (M=2.47, SD=1.41, p=0.15; M=3.20, SD=2.27), The British participants may be more accustomed to this type of interaction, and also of discussing these types of topics, but this is only reflected in the score for enjoyment. These differences are summarised in Figure 6.1.

Notably, despite the Singaporeans enjoying the process slightly less and finding it more intimate, they still self-disclosed as deeply as the British participants. Clearly the Singaporean participants felt the subjective utility to be higher than the subjective risk in the situation. The results clearly illustrated that the Singaporeans do have something to gain from self-disclosing deeply in the task, and both the Singaporeans (M=4.73, SD=1.49) and British participants reported similar levels of learning (M=4.87, SD=2.07, p=1.00). It is argued here that the British and Singaporean participants used the condition to engage in personally motivated self-disclosure. They may have used the task to explore the self, and may have engaged in self-expressive writing (cf. Wright, 2002) where they may have explored their private self, their problems and issues in their lives. The Singaporeans (M=4.33, SD=1.95) also reported similar levels of isolation to the British participants (M=3.13, SD=2.16, p=0.50), and reported themselves to be slightly less accountable, although not significantly, for what they said during the interaction (M=3.60, SD=1.50), than the British participants (M=5.33, SD=2.29, p=0.51).
Interestingly, the Singaporeans also reported that although they were self-disclosing intimately and deeply, they also reported that they presented a more positive image of themselves in the condition (M=5.53, SD=1.30), than the British participants (M=2.53, SD=1.06, p<0.001; Figure 6.1). Whilst their self-presentation was more positive than their British counterparts, they did also report that their self-disclosures were as accurate (M=8.00, SD=0.85) as the British participants (M=8.60, SD=0.83, p=0.51). This comes as a surprise as it was the British participants who were thought to have the more complex private self (cf. Triandis, 1989). The Singaporeans did, however, in this safe and unthreatening situation, where there was no immediate partner to impress or match, present a more positive image. The question is therefore raised, of who this positive image was benefiting for in this control condition? It could have been for the benefit of the experimenter, or for the distant reader of their self-disclosures. However, it is also possible that it may have been for the Singaporean participants.

Hsu (1985) suggests that members of collectivist cultures do not have a true self, and that the true self is not relevant in collectivist cultures. Furthermore, Spencer-Rodgers et al., (2009) also report that members of East-Asian cultures do not desire a consistent self. It is argued here, that the true self is hidden in the British participants and that when public self-awareness is reduced the true self can emerge. If the British participant presents a more positive image of themselves, then this is thought to lead to a discrepancy between the true self and the ideal self.
(Higgins, 1987). However, if a true self is not relevant to a Singaporean, and the self can change depending on the situation, questions remain as to whether the distinctions between a true and ideal self are relevant for the Singaporean. In this condition, the Singaporean was socially isolated and anonymous, yet they still presented a more positive image of themselves, and this self may, therefore, be true for them in this situation. If the true self is defined, as the self that the participant feels to be ‘not me,’ as opposed to ‘is me,’ as it has been operationalised in past studies (cf. Markhus, 1977; Bargh et al., 2002), it might be that, if the Singaporean felt a positive image of the self ‘is me’ then, this may represent their true self. Given this, more research is required to understand the meaning of the true self in Singaporean culture, and whether the idealised self is synonymous with the true self.

**Singapore dyadic vs. isolated**

The high levels of depth of self-disclosure observed in the control condition did indicate that the Singaporeans’ self-disclosures were representing personally motivated self-disclosure, and not just matching the high self-disclosing confederate in Experiment 3. The Singaporean participants self-disclosed as deeply, broadly and accurately in the socially isolated control condition (M=5.27, SD=1.91; M=5.20, SD=2.18, M=8.00, SD=0.85) as they did in the dyadic conditions (M=6.27, SD=1.67, p=0.62; M=6.13, SD=1.41, p=0.62; M=8.00, SD=1.13, p=0.52). H2 was therefore rejected. It was confirmed that in the absence of a dyad the Singaporeans did wish to explore their personal self. Again this supports the idea that the Singaporeans were interested in expanding their private self, but as their culture is less open (Barnlund, 1975; Miyanaga, 1991; Asai & Barnlund, 1998; Kito, 2005) they have fewer opportunities to do so. This was also evidence of the importance of the private, or individual, self for the Singaporean participants, despite them being from a collectivist culture. Some researchers have argued for the primacy of the collective self in collectivist cultures (Kashima & Kashima, 1988) and there are many reports that collectivist cultures promote the relational self, rather than the individual, or private, self (cf. Triandis, 1989; Markhus & Kitiyama, 1991; Asai & Barnlund, 1998). It is argued here that, as Sedikides and Gaertner (2001, p.19) suggests, the individual self is the ‘homebase’ of the self, and the private self is important for the Singaporeans. This was clearly evident in this experiment, where the opportunity was given to
the Singaporeans to explore their private self, in a situation that was arguably set apart from social and cultural norms, and they used it to explore the self deeply.

The Singaporeans in the socially isolated experiment reported similar levels of private self-awareness (M=5.40, SD=1.84) and public self-awareness (M=4.07, SD=2.40), and ratio of public self-awareness to private self-awareness (M=1.10, SD=1.26), as the participants in the dyadic experiment (M=5.73, SD=2.05, p=0.24; M=5.00, SD=2.48, p=1.00; M=0.90, SD=0.40, p=1.00). They also reported similar levels of learning (M=4.73, SD=1.49), self-presentation (M=5.53, SD=1.30), isolation (M=4.33, SD=1.80), intimacy (M=2.47, SD=1.36), embarrassment (M=4.00, SD=1.25) and accountability (M=3.60, SD=1.50), to the participants in the dyadic experiment for learning (M=5.00, SD=2.10, p=1.00), self-presentation (M=4.67, SD=2.23, p=0.001), intimacy (M=3.73, SD=2.46, p=0.91), isolation (M=3.13, SD=2.17, p=0.45), embarrassment (M=2.40, SD=1.45, p=0.15) and accountability (M=4.87, SD=1.96, p=0.22). The only significant difference between the Singaporeans dyadic and isolated data comes from the enjoyment score. The Singaporeans reported that they enjoyed the dyadic interaction (M=7.27, SD=1.28) more than the isolated interaction (M=5.67, SD=1.35, p<0.05). This enjoyment of the dyadic situation for the Singaporeans, could suggest that they were enjoying some of the social benefits of interacting with the other participants, whereas when there was no partner in the isolated condition, they continued to self-disclose highly and broadly, in this instance, the motivation was less likely to be social, which may be perceived by the Singaporeans as less enjoyable. It has been reported in previous experiments by Goh (2004) that enjoyment is more associated with self-disclosure in social situations. In socially isolated conditions, the process of self-disclosure is personally motivated, and the participants may be exploring the private self, or dissolving worry. This type of self-disclosure can be considered, therefore, to be more serious, and may perhaps be less associated with enjoyment.

**Projected-mirror condition**

*Singaporean socially isolated vs. British socially isolated*

In Experiment 1, the projected-mirror condition seemed to increase the British participants’ private self-awareness and reduce their public self-awareness, which resulted in increased depth of self-disclosure. It also yielded a low score for how social they considered their partner to be, which supported the assertion that
increased private self-awareness increases personal motivations (Miller and Read, 1987), which, in this case, was argued to be personally motivated self-disclosure. In contrast, when the manipulation was examined in the British isolated experiment (Experiment 2) it did not have the same effect. It was concluded that the manipulation intensified in Experiment 2, due to there being less attentional demands on the participant, who was no longer managing an interaction. It was reported that in this situation, as more attention could be paid to the manipulation of the projected-mirror image, that the manipulation may have become more like the previously used large mirror manipulation. In the large mirror manipulation, it has been seen that the mirror could lead to similar effects as anticipated further meeting of a partner (Snyder & Monson, 1975; Webb et al., 1989). In Experiment 3, the projected-mirror had little effect upon the Singaporean participant and this was taken as evidence that the Singaporean is typical of a member of a collectivist culture, who is consistent in public and private situations (cf., Bontempo et al., 1990). It was, however, predicted that the Singaporean participants’ increased levels of self-disclosure were possibly due to them matching the confederate in Experiment 3. Therefore, it was predicted that they would self-disclose at lower levels than the British participants in the projected-mirror condition, and also lower than they had in the dyadic experiment (Experiment 3).

The Singaporeans reported greater levels of private self-awareness (M=7.20, SD=1.47) than their British counterparts (M=5.80, SD=1.97, p<0.001), and slightly lower levels of public self-awareness (M=3.40, SD=1.84) than their British counterparts (M=4.33, SD=2.23, p=0.80), although this was not significant. The ratio of public to private self-awareness for the Singaporeans (M=0.53, SD=0.37), compared to the British (M=0.93, SD=0.84, p=0.63), was also not significant in the projected-mirror condition. Increased private self-awareness was confirmed to be associated with depth of self-disclosure in the previous experiments reported within this thesis. This trend was followed here, where the Singaporeans’ greater private self-awareness led them to also report greater levels of depth (M=7.40, SD=1.18) than the British participants (M=4.27, SD=2.55, p<0.001). H3 was therefore accepted. The Singaporean participants also reported more breadth of self-disclosure in this projected-mirror condition (M=7.40, SD=1.18), than the British participants (M=5.67, SD=2.47, p=0.37), although this was not significant. They did, however, also type similar amounts of words (M=605.47, SD=160.78) as the British participants (M=449.33, SD=198.37)
SD=201.54, \( p=0.38 \)). The Singapore participants did, therefore, seem to self-disclose more deeply, on a similarly broad range of topics to the British participants, and these results are illustrated in Figure 6.2.

![Figure 6.2: An illustration of the surprise effects of the projected-mirror manipulation in the socially isolated experiment (Experiment 4)](attachment)

It was concluded that the increased private self-awareness in the projected-mirror manipulation, encouraged the Singaporean participants to self-disclose more deeply on less topics that the British participants. Again, this supported the projected-mirror manipulation as a way of increasing private self-awareness in experiments, which supported Joinson (2001) and Yao & Flanagin (2006). However, it should also be noted that the manipulation did not consistently produce this effect over all of the experiments. It also finds support for the assertion that increasing private self-awareness increases self-disclosure (Joinson, 2001), and this could be important in understanding heightened self-disclosure in CMC. Again, the Singaporean participants seem to use this opportunity, to explore themselves intimately, using the process of self-disclosure. This again refutes the premise that members of collectivist cultures have less private self-knowledge, and will therefore self-disclose less than members of individualistic cultures (Asai and Barnlund, 1998), and supports the notion that members of collectivist cultures are interested in their private self, but live in a culture which does not promote the gaining of this type of self-disclosure associated with the private self. It was, however, also suggested, based on the work of Bontempo et
al. (1990) and English and Chen (2007), that the Singaporeans would be consistent across all the conditions in their behaviour. The results of this isolated projected-mirror condition did not continue this finding of consistency. It is worth noting, however, that Bontempo et al.’s study did find that it was the British participants who reacted differently when a situation was public, as it activated social desirability pressures. Members of collectivist cultures may, therefore, be consistent across situations, which are high or low in public self-awareness. This was also confirmed by their being no correlation between accuracy and public self-awareness in Experiment 3. No studies have, however, been conducted to examine whether members of collectivist cultures are consistent in their self-disclosure in situations where private self-awareness is raised. This was tested in the present experiment, which illustrated that increased private self-awareness in Singaporeans, greatly increased their depth of self-disclosure.

In this condition the Singaporean participants also reported greater learning (M=7.00, SD=1.00) than their British counterparts (M=3.93, SD=2.46, p<0.005). This greater learning could be expected as the Singaporeans did appear to engage with the task more, using it to self-disclose deeply and learning more about their personal self. The Singaporean participants also reported themselves to present a similarly positive image of themselves (M=4.53, SD=0.92) to the British participants (M=3.53, SD=1.55, p=0.41). There were however, no differences in how intimate (M=5.60, SD=2.06), embarrassing (M=2.93, SD=1.83), or how accountable (M=5.93, SD=2.06) the Singaporean participants felt they were, in comparison to the British participants (M=5.47, SD=2.03, p=1.00; M=3.27, SD=1.83, p=0.99; M=4.40, SD=2.26, p=0.99). There were also no differences in how isolating the Singaporeans reported the condition to be (M=6.40 SD=1.64), compared to the British participants (M=2.67, SD=1.45, p=0.23). In this condition, the Singaporean participants also reported greater enjoyment (M=7.67, SD=0.98) than the British participants (M=5.80, SD=1.82, p<0.01). This finding is interesting as in the dyadic experiment (Experiment 3), the Singaporean participants did not seem to enjoy self-disclosing deeply, but their self-disclosure and learning increased in this heightened private self-awareness condition. It is possible, therefore, that Singaporeans can only enjoy this deep type of self-disclosure in this type of isolated situation. The projected-mirror manipulation appeared to have a marked effect upon the Singaporean participants in the socially isolated experiment (Experiment 4), but this was not the case in the dyadic
experiment (Experiment, 3). In Experiment 2, the social isolation seemed to intensify the manipulations for the British participants, and it was possible that a similar phenomenon was occurring here. It is possible to compare the data for the Singaporean dyadic and the Singaporean isolated experiments to explore this further.

**Singaporean dyadic vs. Singaporean isolated**

There were no significant differences in the levels of private self-awareness (M=7.20, SD=1.47), breadth of self-disclosure (M=7.07, SD=1.22) and depth of self-disclosure (M=7.40 SD=1.18) for the Singaporeans in the socially isolated experiment (Experiment 4) compared to the dyadic experiment (Experiment 3) (M=6.27, SD=1.67, p=0.18, M=6.67, SD=1.49, p=0.95; M=5.67, SD=2.29, p=0.36). The participants also did not report any differences in public self-awareness (M=3.40, SD=1.84) or ratio (M=0.53, SD=0.37) in the socially isolated experiment, compared to the dyadic experiment (M=0.70, SD=0.71, p=0.76) (M=3.60, SD=2.80, p=1.00). H4 was therefore therefore rejected, noting that the Singaporean participants’ self-disclosure was no longer consistent. There were also no significant differences between the Singaporeans self-reported accuracy of self-disclosure (M=8.20, SD=0.68), or their scores of self-presentation (M=4.53, SD=0.92), in the socially isolated experiment, when compared to the dyadic experiment (M=8.20, SD=1.15, p=1.00; M=5.33, SD=2.23, p=0.83). Nor did the Singaporeans in the socially isolated experiment report any differences in their enjoyment (M=7.67 SD=0.98), intimacy (M=3.53, SD=2.03), learning (M=7.00, SD=1.00), embarrassment (M=2.93, SD=1.83), or their accountability (M=5.93, SD=2.05), in comparison with their Singaporean counterparts in the dyadic experiment for enjoyment, (M=7.87, SD=1.30, p=1.00), intimacy (M=2.60, SD=2.06, p=0.94); learning (M=5.67, SD=2.13, p=0.36), embarrassment (M=1.80, SD=1.56, p=0.18), or accountability (M=4.80, SD=2.76, p=1.00). Compared with the British participants in the projected-mirror condition the manipulation had a far greater effect upon the Singaporean participants. However, the Singaporeans were fairly consistent in the dyadic and isolated experiments, indicating again that the Singaporean participants may not have been matching the confederate’s high self-disclosure. When the Singaporean participants were isolated, they continued exploring the self deeply. Again, this provided support for the argument that the Singaporeans were interested in
exploring their private self, but that in their culture there are less opportunities to do so.

**Singaporean control vs. projected-mirror condition**

The conclusion that the projected-mirror manipulation had a marked effect on the Singaporeans was confirmed when the data comparing the control and projected-mirror condition in this socially isolated experiment were compared. The Singaporean participants self-disclosed to a significantly greater breadth (M=7.07, SD=1.22) and greater depth (M=7.40, SD=1.18) in the projected-mirror condition, as compared with their breadth (M=5.20, SD=2.18, p<0.05), or depth (M=5.27, SD=1.91, p<0.001), in the control condition. From these results, it was clear that there was something about seeing a projected image of the self reflected on the screen, which led the Singaporeans to explore their self more broadly and deeply. This image had the reverse effect on the British participants whose projected-mirror image reduced how broadly they self-disclosed and had no effect on how deeply they explored their self, in the socially isolated condition. This difference could be due to the manipulations instigating different levels of private and public self-awareness in the Singaporeans and the British. This was supported by the Singaporean participants reporting significantly higher levels of private self-awareness (M=7.20, SD=1.47) in the projected-mirror condition, as compared to the control condition (M=5.40, SD=1.84, p<0.05). The Singaporean participants also reported lower levels of public self-awareness (M=3.40, SD=1.84) than in the control condition (M=4.07, SD=2.40, p=0.94), although this was not significant. The significantly higher levels of private self-awareness and self-disclosure for the Singaporeans, in the projected mirror condition, compared with the control condition, are illustrated in Figure 6.3.

In line with the scores for depth of self-disclosure, the Singaporeans reported that they found the task more intimate (M=5.60, SD=2.06) than participants in the control condition (M=2.47, SD=1.36, p<0.005). They also typed more words in the projected-mirror condition (M=605.47, SD=160.78), than in the control condition (M=397.47, SD=150.71, p<0.05). The Singaporeans also reported that they learnt (M=7.00, SD=1.00) more in the projected-mirror condition than they did in the control condition (M=4.73, SD=1.49, p<0.05), and again this was likely to be related to them self-disclosing to a greater breadth and depth. Other significant findings were that the Singaporean participants reported that they
enjoyed (M=7.67, SD=0.98) the projected-mirror condition more than the control condition (M=5.67, SD=1.35, p<0.005). They also felt more accountable in the projected-mirror condition (M=5.93, SD=2.05), as compared to the control condition (M=3.60, SD=1.50, p<0.05), but they felt equally as isolated in the projected-mirror condition (M=6.40, SD=1.64), as they did in the control condition (M=4.33, SD=1.95, p=0.61). There was however no significant difference between the self-presentation scores, for the Singaporeans in the control (M=5.53, SD=1.30), or the accuracy scores (M=8.00, SD=0.85) and the projected-mirror condition (M=4.53, SD=0.92, p=0.41; M=8.20, SD=0.68, p=0.99), although it was reported earlier that the Singaporeans’ self that they are presenting in both conditions was a more positive image than the British participants.

![Figure 6.3: Illustration of the greater scores of private self-awareness and self-disclosure the Singaporeans had in the projected-condition compared to the control](image)

**Door-ajar condition**

**Singapore socially isolated vs. British socially isolated**

The Singaporean participants in the door-ajar condition reported lower levels of public self-awareness (M=3.80, SD=1.74), than the British participants (M=6.33, SD=1.29, p<0.001). They also reported slightly higher levels of private self-awareness (M=6.33, SD=1.68) than their British counterparts (M=5.07, SD=1.58, p=0.24), although this was significant. Nor was the ratio of public to private self-awareness for the Singaporeans (M=0.66, SD=0.48) compared to the British (M=1.35, SD=0.41, p=0.09) significant. These results suggest that the British participants were far more distracted by the door-ajar manipulation that the
Singaporean participants. The Singaporeans also reported significantly higher depth (M=5.87, SD=1.68) than the British participants (M=3.13, SD=1.64, p<0.001), although the Singaporean participants reported similar levels of breadth of self-disclosure (M=6.53, SD=2.07) to the British participants (M=6.07, SD=2.09, p=0.99). They also typed more words (M=446.40, SD=205.29) during the task than the British participants (M=295.33, SD=108.91, p=0.16), although this was not significant. H5 was therefore accepted, as the Singaporean participants did self-disclose to a greater depth than the British participants in the socially isolated door-ajar condition. These differences can clearly be seen in Figure 6.4, where the British participant levels of public self-awareness are higher than the Singaporeans, and their levels of private self-awareness are lower than the Singaporeans, which lead them to self-disclose less deeply than the Singaporean participants. The door-ajar manipulation was clearly not having the same negative effect on the Singaporeans’ self-disclosure.

![Figure 6.4: Illustration of the negative effect the door-ajar condition had upon the British participants’ self-awareness and self-disclosure, compared to the Singaporeans participants](image)

These were however the only significant findings. The Singaporean participants reported their self-disclosure to be of similar accuracy (M=7.80, SD=1.01) to the British participants (M=7.53, SD=1.41, p=0.97), and they reported their level of self-presentation (M=4.47, SD=1.73) to be similar to the British participants (M=5.00, SD=1.85, p=0.91), although, returning to the results of Experiment 2, it was clear that the British participants were presenting a more positive image of themselves than in their control condition. Throughout the results, it was
emerging that the Singaporeans consistently presented a more positive image.

The Singaporean participants also reported similar levels of accountability
\((M=4.40, \text{SD}=1.60)\) to the British participants \((M=3.60, \text{SD}=2.61, \text{0.97})\), and a
similar amount of learning \((M=5.33, \text{SD}=2.26)\) to the British participants
\((M=5.00, \text{SD}=2.67, p=0.99)\). The Singaporeans also reported similar levels of
isolation \((M=5.73, \text{SD}=2.08)\) and intimacy \((M=5.07, \text{SD}=2.60)\) to the British
participants \((M=3.00, \text{SD}=1.31, p=0.37; M=3.93, \text{SD}=2.60, p=0.71)\). Finally,
they reported similar levels of enjoyment \((M=6.93, \text{SD}=1.62)\) and embarrassment
\((M=3.40, \text{SD}=1.92)\) to the British participants \((M=6.07, \text{SD}=1.16, p=0.52;
M=3.60, \text{SD}=1.88, p=1.00)\).

**Singapore door-ajar isolated vs. dyadic**

The differences between the British and Singaporean participants were mainly
explained by the British participants’ reaction to the condition, rather than
anything particularly notable in the Singaporeans’ self-reported behaviour. The
door-ajar condition was seen to make very little difference to the Singaporeans in
the dyadic condition (Experiment 3), and these results were replicated in the
isolated experiment (Experiment 4). For the British participants the effect of the
door-ajar was greatly intensified in Experiment 2, by the social isolation.
However, the door-ajar manipulation had a similar effect on public \((M=5.20,
\text{SD}=2.33)\) and private self-awareness \((M=5.67, \text{SD}=1.88)\) and ratio of self-awareness
\((M=1.00, \text{SD}=0.50)\) in the dyadic door-ajar condition, as compared to
the isolated door-ajar condition \((M=3.80, \text{SD}=1.74, p=1.00; M=6.53, \text{SD}=1.68,
p=1.00; M=0.66, \text{SD}=0.48, p=0.76)\). The breadth \((M=6.53, \text{SD}=1.36)\) and depth
\((M=6.13, \text{SD}=1.60)\) of self-disclosure, were also similar in the dyadic door-ajar
condition, as compared to the isolated door-ajar condition \((M=6.53, \text{SD}=2.07,
p=1.00; M=5.87, \text{SD}=1.68, p=1.00)\). H6 was therefore rejected, as the
Singaporean participants’ self-disclosures were consistent across the door-ajar
isolated and dyadic conditions.

There were also no differences between the levels of self-presentation \((M=5.00,
\text{SD}=1.81)\), or accuracy \((M=8.20, \text{SD}=1.15)\), in the dyadic door-ajar condition, in
comparison to the isolated door-ajar condition \((M=4.47, \text{SD}=1.73, p=0.76;
M=7.80, \text{SD}=1.01, p=0.89)\). Finally, there were no differences in the scores for
intimacy \((M=3.40, \text{SD}=2.06)\), enjoyment \((M=7.73, \text{SD}=1.03)\), learning \((M=5.27,
\text{SD}=2.12)\), embarrassment \((M=2.33, \text{SD}=1.88)\) and accountability \((M=0.97)\).
4.13, SD=2.44), between the dyadic door-ajar condition and the isolated door-ajar condition for intimacy (M=4.60, SD=1.36, p=0.71), enjoyment (M= 6.93, SD=1.62, p=0.35), learning (M=5.33, SD=2.26, p=1.00), embarrassment (M=3.40, SD=1.92, p=0.50), and accountability (M=4.40, SD=1.60, p=0.99). Again, these results found support for Bontempo et al. (1990), who suggested that members of collectivist cultures are consistent across public and private situations. The self-disclosure of the Singaporean participants was consistent, whether they had a partner or not. Significantly Bontempo et al. reported that members of individualistic cultures were more affected by social desirability pressures than members of collectivist cultures. This was supported here, where the British participants reported themselves to be less accurate in their self-disclosure and of presenting a more positive image of their self in the door-ajar condition, whilst the Singaporeans stayed more consistent. These results also supported the notion that the Singaporeans were not just matching their partner’s high self-disclosures in Experiment 4, but rather they were interested in exploring their private self by using CMC. Singaporeans, who under the umbrella term of being collectivists, would usually be expected to follow goals in a relationship, which maintain connectedness or harmony, were arguably pursuing more personally motivated goals of self-disclosure. In CMC, and particularly in the absence of a partner, the Singaporean was still highly motivated to self-disclose.

In Experiment 4, when the partner was removed, the Singaporean participants self-disclosed to similar level as they did in the dyadic condition. Moreover, the only significant finding between the dyadic and isolated data, was in the score for isolation, with participants in the dyadic experiment reporting lower levels of isolation (M=9-2.40, SD= 1.30) than participants in the dyadic condition (M=9-5.73, SD=2.09, p<0.001). Therefore, even if the self-disclosure in Experiment 3 was socially motivated and was to match their partner, in Experiment 4, this isolation made the social motivations less accessible. It is argued, therefore, that the motivation to self-disclose in Experiment 4 is personally motivated, and that the Singaporean uses the CMC situation to self-disclose more deeply than they do in their everyday life. The CMC situation does, therefore, have great implications for the Singaporeans, as it allows them the freedom to pursue more individual goals, rather than the group or partner based goals suggested by Cross and Madson (1997). The Singaporean participants’ self-disclosure far outweighed their reported past self-disclosure (Study A), and this again is evidence that the
Singaporeans did want to self-disclose from their private or individual self, but their culture is not one which is open to this type of behaviour (cf. Markhus and Kitiyama, 1991).

**Singapore door-ajar vs. control**

The door-ajar condition had quite a marked effect on the British participants. Compared with the control condition, their breadth, depth and accuracy of self-disclosure was significantly reduced. Again, this could be linked to self-awareness, where their private self-awareness was significantly reduced and their public self-awareness was significantly increased. They also typed far less words, and did not feel accountable for what they discussed, and they also reported themselves to present a more positive image of them selves. They also reported less intimacy in this task, than their counterparts in the control condition, and enjoyed the task less. It was, therefore, apparent that the differences between the British and Singaporean participants in the door-ajar condition were due to the great effect this condition had upon the British, compared with the little effect it had for the Singaporean participants. This was confirmed when the door-ajar condition was compared with the control condition just for the Singaporeans. The Singaporean participants self-disclosed similar levels of breadth (M=6.53, SD=2.07) and depth (M=5.87, SD=1.68) in the door-ajar condition, compared to the control condition (M=5.20, SD=2.18, p=0.95; M=5.27 SD=1.91, p=0.99). They also typed a similar amount of words in the door-ajar (M=446.40, SD=205.29) and control conditions (M=397.47, SD=150.71, p=0.97), and they also reported similar scores for private (M=6.53, SD=1.68) and public self-awareness (M=3.80, SD=1.74) to the control condition (M=5.40, SD=1.84, p=0.41, M=4.07, SD=2.40, p=0.99).

Moreover, the Singaporeans also reported similar scores for accuracy (M=7.80, SD=1.01) and self-presentation (M=4.47, SD=1.73) to the control condition (M=8.00, SD=0.85, p=0.99, M=5.53, SD=1.30, p=0.34). Similarly, there were no differences in the scores for enjoyment (M=6.93, SD=1.62) and learning (M=5.33, SD=2.26) when compared to the control condition (M=5.67, SD=1.35, p=0.13, M=4.73, SD=1.49, p=0.96). Nor were there any differences for embarrassment (M=3.40, SD=1.92), accountability (M=4.40, SD=1.60) or isolation (M=5.73, SD=2.08), when compared to the control condition (M=4.00, SD=1.25, p=0.93; M=3.60, SD=1.50, p=0.90, M=4.33 SD=1.95, p=0.76). The only significant
result found was for intimacy, with the participants in the door-ajar condition (M=4.60, SD=1.36) reporting lower levels of intimacy than in the control condition (M=2.47, SD=1.36, p<0.05).

The only difference found between the door-ajar condition and the control condition, for the Singaporeans was for intimacy. It was possible that the Singaporeans may have noticed the door being open and therefore viewed their self-disclosures as less intimate. It did not, however, affect how deeply they self-disclosed, and this again supports the findings that members of collectivist cultures are more consistent across public and private situation than members of individualistic cultures (cf. Bontempo et al., 1990; Experiment 3). The only similarity between the Singaporeans and the British came in the score for self-presentation, as the Singaporean participants also presented a more positive image. However, whilst the British participant presented a more positive image of themselves, due to the increased public self-awareness of the door-ajar condition, the Singaporean consistently presented a more positive image across all the conditions of the experiment. Again, this provides some support for the notion that the Singaporeans are consistent in their presentations of the self and, in this case, were consistent in their presentation of a more positive image of themselves.

Correlation results

A Pearson correlation coefficient analysis was conducted over the combined Singaporean dyadic and isolated data, to look for trends that were specific to the Singaporean population. The strong correlation, that had been found across both cultures between private self-awareness and depth, was again confirmed r(90)=0.46, p<0.001. There was also a strong correlation between breadth and private self-awareness r(90)=0.29, p<0.01, and also between breadth and depth r(90)=0.60, p<0.001. Surprisingly, there was a slight negative association between public self-awareness and accuracy for the Singaporeans r(90)=-0.31, p<0.05, although it was not as strong as the negative association observed for the British participants. This was quite a surprise finding as it was reported throughout Experiments 3 and 4 that the results indicated that the Singaporean participants were not as affected by public self-awareness as the British participants, which was consistent with the results of Bontempo et al.’s study (1990). It was, however, possible that public self-awareness, or accuracy, is only
an issue when the private self is salient, and it is possible that when private self-awareness is raised, awareness of such discrepancies are also raised (cf. Carver & Scheier, 1981). As this appears to be the first experiment which raises the private self-awareness of Singaporean participants, and as a consequence elicits deep and accurate self-disclosure, it is possible that this is a side of the Singaporean not really seen in research. If the true self comes into existence only when private self-awareness is raised, it may be possible that what was occurring in the experiment was an unusual view of the self for the Singaporeans.

**General Discussion**

The experiments within this thesis were designed to try and elicit intimate self-disclosure in an experimental situation. This was deemed important as it was argued, throughout this thesis, that what was particularly interesting about the self-disclosure which is being observed on-line is that it is intimate and optimal, and that it is also open and accurate. Moreover, many of the health benefits of self-disclosure (Pennebaker, 1989) require that the self-disclosure should be optimal, and often intimate. In the reported experiments, an intimate task, and high self-disclosing confederate were provided in an anonymous situation (Experiment 1 and 3), and this resulted in high levels of self-disclosure. However, it was difficult to conclude from Experiments 1 and 3, that what was being elicited was the type of personally motivated self-disclosure that was of interest in this thesis. This was particularly problematic in understanding the Singaporeans’ self-disclosure, since they are from a collectivist culture, which encourages harmony (Markhus and Kitiyama, 1991). It was possible, therefore, that their high self-disclosure in Experiment 3 was due to them matching their partner’s self-disclosure rather than engaging in deep personally motivated self-disclosure. However, in Experiment 4, although the dyad was removed and the participants were socially isolated, the Singaporean participants continued to self-disclose as deeply, broadly and accurately as they did in the dyadic experiment.

It is, therefore, argued that the Singaporeans must have had personal motivation to pursue in Experiment 4. Returning to the DDM (Omarzu, 2000) it was noted that if there are weak goals self-disclosure will not occur. However, self-disclosure was strong in Experiment 4 and, therefore there must have been clear and strong motivations for self-disclosure. It is further argued that the Singaporean
participants used the CMC interaction to gain more self-knowledge about their personal self, or to work through problems and dissolve worry, and to further clarify their personal identity. Although this was not reported in the results, it would be possible to explore this further using a qualitative analysis. It was also noted that the Singaporean culture is less open, than British culture (Study A), and there are less opportunities for this type of personal self-disclosure to occur, particularly to stranger. It is, therefore, an interesting finding that in the CMC conditions and, particularly when private self-awareness is high, that the Singaporeans relish the opportunity to explore their private or individual self. The results of Experiment 4 also, therefore, provide strong evidence that the Singaporeans are interested in their private self, and do have much to self-disclose, and refutes the assertion that members of collectivist cultures have less to self-disclose, as they have less private self-knowledge (Asai and Barnlund, 1998).

Finally, the results of Experiment 4 allowed some insight into what it was about the CMC interactions that allowed the participants to self-disclose deeply. The Singaporeans self-disclosed more deeply than has been reported in any past studies (cf. Goodwin & Lee, 1994), or that they had indicated they would (Study A) Evidence for the role of private self-awareness, in deep self-disclosure, was highlighted in the projected-mirror condition in Experiment 4. Increased private self-awareness is reported to increase private goals (Miller and Read, 1987), and may have increased private goals of self-disclosure in the experiments. Increased private self-awareness is also reported to increase access to inner thoughts and feelings (Scheier & Carver, 1980; Scheier & Carver, 1977). It is possible in Experiment 4, that this increased private self-awareness encouraged the Singaporean participants to view themselves from their private self. Although, usually in collectivist cultures the self is viewed as part of the social group, in Experiment 4 the projected mirror may have encouraged the Singaporeans to view the self as being distinct. Indeed, Singaporeans did report in the comments section of the questionnaire that they found that task to be quite a revelation, and this may have been due to the lack of encouragement for this type of introspection in their culture. Increased private self-awareness was therefore linked to both depth and breadth of self-disclosure in Experiment 4.
For the British participants optimal and intimate self-disclosure depends upon heightened private self-awareness and reduced public self-awareness, and heightened public self-awareness has a very negative effect upon self-disclosure. Bontempo *et al.* (1990) reported that members of collectivist cultures to be more consistent throughout public and private situations, and this was supported in this experiment. The Singaporeans were not affected by the door-ajar manipulation, and it is therefore suggested that Singaporeans are less affected by manipulations of public self-awareness than British participants. Bontempo *et al.* reported that members of individualistic cultures are more susceptible to social desirability pressures, and they are also reported to be more driven by the need for a true and unique self (Hsu, 1985). This experiment also supports these suggestions, as the Singaporeans were consistent and public self-awareness was difficult to increase effectively. Having reported this, there was, however, a slight negative correlation between accuracy and public self-awareness in the final correlations, which suggests that the Singaporeans did adjust their behaviour when others were around, but not to the extent that the British participants did. It did appear that increasing private self-awareness had the greatest effect on the self-disclosure of members of collectivist culture’s self-disclosure, as it arguably placed a lens on the more inhibited parts of the self. In contrast, it appeared that increasing public self-awareness had the greatest effect on the self-disclosures of the members of the individualistic cultures, as it arguably placed a lens upon their more hidden aspects of the self, with the potential to expose a discrepancy between their true and projected self.
CHAPTER 7: Final Discussion

The simple statement that self-disclosure is increased in CMC was explored in the present thesis. However this simple statement proved to be a springboard for many important discussions and topics to emerge. In this final discussion, the main points that were raised in the thesis will be discussed, and during these discussions various limitations of the present research, and avenues for future research, will also be raised. The findings of the experiments provide evidence that contribute to three main areas within the literature, and these will be discussed in turn. First, the findings will be discussed purely in terms of CMC and how they contribute to the CMC literature. Second, this will be extended to a discussion of culture and CMC. Finally, the findings will be discussed in terms of what they can contribute to wider discussions of the cultural self. A summary of the significant data collected across all four experiments is also presented in Table 7.1.
<table>
<thead>
<tr>
<th>British condition</th>
<th>Experiment 1 (dyadic)</th>
<th>Experiment 2 (socially isolated)</th>
<th>Experiment 3 (dyadic)</th>
<th>Experiment 4 (isolated)</th>
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<td>Breadth***, enjoyment***, self-presentation***,</td>
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<td>no significant results</td>
<td>Public self-awareness***, depth***</td>
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</table>

Table 7.1: A summary of the significant differences in means between groups (***p<.001, **p<.01, *p<.05)
The experiments in Part 1 of the thesis were successful in their aims. They aimed to investigate the role of self-awareness on deep self-disclosure in CMC. Only one study had previously examined self-disclosure in CMC, in a self-awareness context, and it had focused only on breadth of self-disclosure (Joinson, 2001). It was, however, noted in the introduction to Part 1, that what was particularly interesting about the self-disclosure that was occurring on-line was that, in some instances, it was surprisingly deep and open. This was evidenced by deep self-disclosure in self-help-groups (Salem, et al., 1998; Moon, 2000), instances of deep self-disclosure in relationship formation (Lea & Spears; 1995; Mckenna & Bargh, 2000) and in comparisons of forms being filled in by pen, FTF or by CMC (Greist et al., 1973). The experiments in Part 1 successfully elicited deep self-disclosure, and the results of the experiments clearly illustrated that it was not just anonymity, but a combination of heightened private self-awareness, and reduced public self-awareness, that were attributable to the deep and optimal self-disclosure reported in CMC.

It was further suggested, from the results of the experiments in Part 1, that the experiences of public and private self-awareness in CMC combine to create quite a unique situation for self-disclosure to ensue. In particular, the increased private self-awareness in CMC allowed the participants clear access to their thoughts and feelings (cf. Carver & Scheier, 1980), and also raised their awareness of their self-discrepancies (cf. Carver & Scheier, 1981). When trying to deeply self-disclose it is useful for the self-discloser to have a clear view of their thoughts, and this awareness of self-discrepancies could also be partially used to explain the self-disclosure from the true self, that was elicited in some conditions of the experiments. However, for this accurate and deep self-disclosure to take place, this awareness of the thoughts that occurred in the participants ‘private realm’ had to be conveyed in the public realm. Anonymous CMC interaction is particularly conducive to this process as it also reduces public self-awareness (Matheson & Zanna, 1998), and this makes it ‘safe’ for the participant to self-disclose this information. This finding was also important as it highlighted the importance of the accuracy of the self-disclosure, particularly as accuracy of self-disclosure is generally not given much consideration in the literature. It is not considered in the
Disclosure-Decision Model (Omarzu, 2000), nor has it been considered in recent research in CMC. It is, however, argued here that CMC encourages the presentation of the true self in self-disclosure, and that this is an important finding.

It is argued in this thesis that CMC provides the potential for being high in private self-awareness, whilst also being low in public self-awareness, and that this was particularly important for optimal and intimate self-disclosure to occur in the experiments. Moreover, it is also suggested that the breadth, depth, accuracy and the motivation of self-disclosure are determined by an interaction between various activators of public and private self-awareness. Consider a situation where a person is alone, and writing in a secret diary, and are engaged in a process of self-expression (cf. Wright, 2002). In this situation they have little threat or disturbance, and they are low in public self-awareness and high in private self-awareness. It is argued here that CMC can provide a situation where the awareness of the ‘other’ reduces (cf. Weisband & Reining, 1985; Bargh et al., 2002), and the awareness of the self increases (cf. Kiesler et al., 1984). CMC can, therefore, be compared to this diary situation, where the participant has clarity of thought, and the freedom and time to explore themselves (Wright, 2002), with few interpersonal risks (Walther, 1996). It is further argued that in this type of CMC situation, the reduced public self-awareness lessens the desire to pursue social, or relational, motivations. Moreover, the increase in private self-awareness leads the individuals’ motives to become more personal (cf. Miller & Read, 1987). It is for this reason that it was also argued in Part 1, that CMC may blur the boundaries of the individual and relational self (cf. Sedikides & Brewer, 2001). More specifically, the increased private self-awareness may increase motives that are associated with the private self, such as protecting and enhancing the self psychologically (cf. Sedikides & Gaertner, 2001). The present experiments investigated self-disclosure and self-awareness. Future research could, however, focus more specifically on how private and public self-awareness affects the salience of different representations of the self. A task similar to that used by Bargh et al., (2002), which tested how readily the true self was accessed in CMC, could be used to test the participants’ access to the individual and relational self in CMC interactions.

The experiments in Part 1 did try and explore the link between self-awareness and self-disclosure in CMC, by manipulating self-awareness. Two manipulations were
used and their effects were examined on self-disclosure. Although the manipulations allowed for variations in private and public self-awareness to be attributed to depth and accuracy of self-disclosure in CMC, the results also clearly illustrated that great care must be taken when using manipulations of self-awareness in CMC. The levels of self-awareness that the participants experienced in the manipulations were not just tied to the manipulation, but also to their partner, the task, and what was going on around the participant at the time. It was argued in the discussion of Part 1 that each of these different stimuli lead to different levels of private and public self-awareness, which ultimately affect the decision of how broadly, accurately and deeply the participant self-disclosed. This was raised in the introduction to Part 1 as a limitation of the present experiments. It was suggested that the measurements of self-awareness that were employed, did not account for these many possible activators of private and public self-awareness, and that further research was necessary using more specific scales. The experiments in Part 1 also gave no consideration of how the participants usually managed their levels of self-awareness. Various links between self-consciousness, self-monitoring and self-disclosure have been previously reported (Shaffer et al., 1982; Shaffer & Tomarelli, 1989), and it would have been useful to predefine the participants’ dispositional levels of self-awareness and then examine how high/low private and public self-monitors, or participants considered to be high/low in public/private self-consciousness, would respond to the manipulations. This would be interesting in terms understanding the links between the more temporary and situational activators of self-awareness and their relation to dispositional factors (cf. Markhus & Wurf, 1986). This was, however, recognised, in some respects in Part 2 of the thesis, where it was acknowledged that culture could drive the way in which the private and public self are managed, and that there could be cultural differences in the way the participants self-disclosed in CMC and reacted to the manipulations.

**CMC and Culture**

Moving into Part 2 of the thesis, where a cultural perspective was added, many interesting points were raised. The Singaporean and British participants were similar in that they all self-disclosed deeply in the control conditions of the experiment. The control condition provided an anonymous situation where the participant was alone in a cubicle using CMC. This situation had been previously
reported to be high in private and low in public self-awareness (Matheson & Zanna, 1988; Joinson, 2001). Although it was expected from the past literature, and from Study A, that the British participants would self-disclose deeply in this CMC situation, in contrast it was predicted that the Singaporeans would not self-disclose deeply. This prediction was based upon previous reports that in collectivist cultures self-disclosure is restrained (Markhus & Kitiyama, 1991), and that members of collectivist cultures are driven by cultural aims to maintain harmony and save ‘face’ (Gudykunst & Ting-Toomey, 1988), which often results in non intimate self-disclosure (Goodwin & Lee, 1994) In contrast, members of individualistic cultures have been reported to be open and free in their self-disclosures (Markhus & Kitiyama, 1991), and to be driven by cultural aims that bolster their uniqueness, which often results in open self-disclosure (Goodwin & Lee, 1994). The results of the experiments in Part 2 of the present thesis did therefore come as surprise.

The Singaporean participants self-disclosed higher than expected, throughout Experiments 3 and 4. In the control condition of Experiment 3, they even reported themselves to self-disclose to a greater depth than the British participants. It was argued that this illustrates that, given the correct circumstances, Singaporeans will report themselves to self-disclose, at similar levels, and sometimes even more than British participants. It was reported in a previous cross-cultural study of self-disclosure that members of collectivist culture self-disclose less from the private self, and as a consequence have less private self-knowledge, and conversely members of individualistic cultures self-disclose more from their private self and, therefore, have more private self-knowledge (Asai & Barnlund, 1998). Asai and Barnlund used this to argue that members of collectivist cultures have less private self-knowledge and therefore have less to self-disclose from the private self. The results of the present study challenge this argument. Members of collectivist cultures may have a less complex private self (Triandis, 1989), but it is argued that this may only be indicative of them having less opportunity to explore their private self within their culture. When the participants were given the opportunity to explore the private self in the presented experiments, the members of collectivist cultures explored the private self deeply. This provides strong support for Sedikides and Gaertner’s (2001) claim that the individual self is primary and prevalent in collectivist cultures.
Concerns had been previously been raised by Asai and Barnlund (1998) that self-disclosure tasks, like the ones that were used in the present experiments, could favour members of individualistic cultures. There was also evidence reported that suggested that certain social-psychological behaviours within cultures are tactical (Sedikides et al., 2003). There have been several studies investigating self-enhancement, for instance, which indicate that members of individualistic cultures self-enhance the personal or unique aspects of the self, whilst members of collectivist culture self-enhance aspects of the self that are more beneficial to the group (Sedikides et al., 2003). Concerns were raised in the introduction to Part 2, that the self-disclosure task would be more inline with tactics associated with members of individualistic cultures. Conversely, the presentation of a task, which arguably primed and encouraged self-disclosure from the private self, was however a strength of the experiment. It was argued that if the Singaporeans were not interested in exploring the private self then the self-disclosure rates would have been low. The Singaporeans were, however, clearly interested in exploring the private self.

It is, therefore, argued that CMC relieves some of the pressure of FTF communication to adopt social and cultural norms. It is argued that in CMC the participant is free to explore more personal desires (cf. Bargh et al., 2002), and in the present experiments the Singaporeans’ personal desires to explore the private self were revealed. CMC does, therefore, provide a unique situation for both the participant to explore personal desires, but also for the research to investigate the participants’ personal desires. This finding also challenges arguments that claim that the individual self is primary only in individualistic cultures (Kashima & Kashima, 1997; Heine & Lehman, 1999). In contrast, the results of the reported experiments suggest that, just because collectivist cultures drive interdependent ideals, this does not mean that members of the collectivist culture do not possess personal desires that differ from the cultural norms. In addition to providing strong support for Sedikides and Gaertner’s (2001) argument for the primacy of the individual, or private self, in collectivist cultures, this finding raises many interesting avenues for future research.

It would be interesting, for instance, to run a longitudinal study of self-disclosure employing the methodology used in the reported experiments. Although the reported studies have shown that CMC, and certain manipulations, can increase
self-disclosure during the task, further questions can be asked, regarding the long terms effects of self-disclosure. Self-disclosure is reciprocally related to self-knowledge, it is therefore very interesting to consider what the more enduring and long-term effects could be for participants in CMC, and more specifically what implications changes in self-disclosure could have upon the participant’s self-construal. In the experiments reported in Part 2, the Singaporeans appeared to be self-disclosing deeply from their private self, which is a fairly unusual occurrence according to the literature (cf. Barnlund, 1975; Miyanaga, 1991; Asai and Barnlund, 1998; Kito 2005) it would be useful to repeat this experiment several times within a six-month period and assess whether the task has any effects upon their everyday self-disclosure behaviour, and to also measure the more enduring effects of this self-disclosure upon their self-construal.

Ideally, various measures could be retrieved in a pre-experiment questionnaire, to investigate the participants’ levels of self-consciousness or self-monitoring and past self-disclosure behaviour. They could also be assessed as to how much their characteristics are in-line with the individualism and collectivism dimensions. These measures could then be repeated at various points within the six months to allow a clearer picture of how the Singaporeans self-disclosure within the experiments was affecting their self-construal, and their self-disclosure behaviour. It would also be interesting to examine whether the Singaporeans continued to self-disclose deeply, or whether their self-disclosure would change over time. This would allow more insight into the long-term implications of increased self-disclosure, and also how changes in self-disclosure can affect aspects of the self. The interests in a longitudinal study do not lie just with the Singaporean participants. It would also be useful to compare the long-term self-disclosure behaviour of the Singaporeans to the British participants, and try and relate any differences that are found to the culture, and cultural differences in the self-construal.

The finding that Singaporeans do have a private self they wish to explore and do exhibit high levels of deep self-disclosure in CMC is an important finding. Reports of high levels of self-disclosure by members of collectivist cultures are unusual in the literature, where members of collectivist culture and individualist cultures are consistently reported to disclose less (Gudykunst & Ting-Toomey, 1988; Goodwin & Lee, 1994; Kito, 2005). This finding could, therefore, have
important implications for help seeking and for on-line counseling for members of collectivist cultures. It does appear from the experiments that Singaporeans do respond well to discussing the private self in CMC. Returning to the Singaporean suicide letters which were analysed by Chia et al., (2008), many of the reasons given for suicide were personal and private issues that could potentially be resolved by exploring and self-disclosing from the private self. There is much research to suggest that discussing problems can help dissolve worry (cf. Rogers, 1951; Pennebaker, 1989). If Singaporean culture is less open than the British culture, it is possible that CMC could provide this outlet for this type of discussion. Although the reported experiments did allow some insight into how private and public self-awareness affected the Singaporeans’ self-disclosure, the role of the textual channel, the encouraging task and the anonymity are not clearly understood. Further research is, therefore, required to examine each of these aspects in isolation, to be able to understand their independent effects.

**The Cultural Self**

The past reports that CMC increases private self-awareness and reduces public self-awareness (Matheson & Zanna, 1989) which, in turn, increases levels of self-disclosure (Joinson, 2001) were confirmed in the experiments in this thesis. In terms of the cultural self, what was, however, particularly interesting is that the increased private self-awareness and reduced public self-awareness appeared to be particularly conducive to deep and optimal self-disclosure for the British participants. However, it was the increased private self-awareness, rather than the reduced public self-awareness, that appeared to be important for the Singaporean participants. It is argued here that these findings are consistent with past literature that describes the differences between the public and private selves of members of collectivist and individualistic cultures (cf. Markhus & Kitiyama, 1991). More specifically, the finding that British participants are more affected by manipulations of public self-awareness, than the Singaporean participants, is consistent with the individualistic self that is described in the literature and in the introduction to Part 2 in the present thesis. Moreover, the Singaporean participants being more affected by the manipulations of private self-awareness than the British is consistent with the collectivist self that is described in the literature and in the introduction to Part 2 of this thesis.
For example, the individualistic individual is reported to desire a true (Hsu, 1985), stable self (English & Chen, 2007), but is also greatly affected by social desirability pressures (Bontempo et al., 1990). It is suggested here that these factors lead to the member of an individualistic culture developing a tension between their desire to be true to their self (cf. Higgins, 1973), and a desire to be compliant and socially desirable (cf. Bontempo et al., 1990). To mediate between these two desires it is suggested here that they develop the persona, or mask (cf. Hsu, 1985), that reinforces their social desirability. The problems for the individualistic individual are accentuated by the philosophical underpinning of their culture, which desires logic and consistency (Boucher et al., 2009). When a gap appears between their personality/public self and their private self, they arguably feel they are in possession of inconsistent selves (Higgins, 1973). This inconsistency, or discrepancy, between what they consider to be their true self and their projected self leads to negative emotion (cf. Higgins, 1973), and they desire to resolve this discrepancy (cf. Carver & Scheier, 1980). These descriptions of the tensions within the independent self-construal were supported in the experiments reported in this thesis. The reported experiments illustrated the desire the British participant has to express their true self (when public self-awareness was low and private self-awareness was high), and also illustrated that when public self-awareness was raised, that their accuracy of self-disclosure dropped.

This was particularly evident in Experiment 2, when the attentional demands of the experimental task were reduced, and the manipulation was reported to intensify. Using Asai and Barnlund’s depictions (2001; Figure 1.1), and based on the literature and the results of the reported experiments, the effect of the door-ajar condition, in comparison with the control condition is illustrated in Figure 7.1. In Figure 7.1 the British self is presented with the thick black circle around the private self representing the persona, or mask (cf. Hsu, 1985). The figure on the left represents the British participants, in the control condition, when no public or private self-awareness manipulations are present. The depiction on the right illustrates what appeared to happen to the British participant when public self-awareness was increased. It can be seen in Figure 7.1 that as public self-awareness increased in the door-ajar condition, the persona took over, and the private, or what in the West could be considered the true self (cf. Bargh et al., 2002), became obscured. It could also be argued that the thickness of the segment
which represents the persona, or mask, also marks the discrepancy between the private and public self. Arguably the thicker, or the larger, this discrepancy is, the more room there is for discomfort (cf. Higgins, 1987), and perhaps someone praised for ‘really being themselves,’ would have a thinner, or perhaps weaker boundary between the public and private self. More research would is, however, required to substantiate these assertions.

![Diagram showing the public and private self in the control condition (left) and the door ajar condition (right)](image)

In contrast, members of collectivist cultures are reported not to be driven by a need to find a true self (cf. Hsu, 1985). They are able to hold inconsistent views of the self (Boucher et al., 2009), and are driven by the group rather than the individual (Markhus & Kitiyama, 1991). The member of a collectivist cultures is therefore arguably less selfish, possessive and protective over their private self than the member of the individualistic culture (cf. Triandis, 1989), and the self is less variable (English & Chen, 2007). They do not possess a persona, or mask, and the true self, as it exists in Western culture, is less relevant to them (Hsu, 1985). It is argued in this thesis that the Singaporean participants were less affected by raised public self-awareness, as they accept that the self is variable (Boucher et al., 2009), and were less concerned with inconsistency in the self (Boucher et al., 2009). In Experiments 3 and 4, the Singaporeans consistently self-disclosed a more positive image of themselves, than the British participants. It is argued here that the Singaporean does not view social desirability pressures as a threat to the true self, as the British participants do. In the reported experiments they were not, therefore, affected by the increased public self-awareness in the door-ajar condition, in the way that the British participants were.

The Singaporeans do, however, live in a culture where intimate self-disclosure and focus on the private self is not encouraged (Goodwin & Lee, 1994). They do,
therefore, possess less self-knowledge about the private self (Asai & Barnlund, 1998) and a less complex private self (Triandis, 1989). Given this, it was the increase in private self-awareness, particularly in Experiment 4, which caused the greatest behavioural change in the Singaporean participants. Increased private self-awareness is reported to: increase personal motivations (Miller & Read, 1987), increase awareness of self-discrepancies (Carver & Scheier, 1980); and lead the individual to be more attentive to their thoughts and feelings (Scheier et al., 1978). It is argued here that the increased private self-awareness in the socially isolated projected-mirror condition, gave the Singaporean participants greater access to their true self than they experience in their FTF communications. In Figure 7.2 the Singaporean self in the control condition is depicted with a smaller less complex private self (cf. Triandis, 1989) than the British participant, but with a larger public or collective self. Instead of a thick black shell around the private self, the boundary between the private and public self is dashed, to represent the changeable and porous nature of this boundary, between the private and public self (cf. Cross & Madson, 1997). The porous nature of the boundary also indicates that the private self is an extension of the public self (cf. Triandis, 1989). The second illustration in Figure 7.2 demonstrates what may happen to the Singaporean participant in the projected-mirror condition in Experiment 4. The Singaporean participant’s private self-awareness was raised, thus increasing their attentional focus on the private self. This led to the Singaporean participants’ private self expanding and coming more to the forefront of their attention. This is depicted in Figure 7.2 where the private self is drawn larger. These diagrams and these descriptions of the cultural self of the British and Singaporean participants (Figure 7.1 and 7.2) are fairly crude but they do aid conceptualisation, and could invoke interesting discussions about the boundaries of the cultural self.

![Figure 7.2: Depiction of the Singaporean participants' public and private self in the control condition (left) and the projected mirror condition (right)](image-url)
It is an interesting finding that the Singaporean and British participants both use the change of attentional focus within the manipulations to gain a different perspective upon the self. More specifically, the British participants respond most to the reduced public self-awareness, and the Singaporeans to the increased private self-awareness manipulations. It could be argued, that these different perspectives highlight and allow aspects of the self that are normally hidden or repressed to emerge. The greatest behavioural changes came in the socially isolated conditions for members of both cultures, and it was suggested in Experiments 2 and 4 that the manipulations were intensified. In Experiments 2 and 4 the amount of social motivations that the participants could pursue were reduced, and the participants, rather like in asynchronous CMC (cf. Wright, 2002), had time to explore the parts of the self that they desired. Arguably, this type of self-disclosure, where social pressures are reduced, may reflect personal and individual desires, rather than social or cultural desires. In some of the conditions, in the reported experiments, there was arguably some evidence of the participants exploring parts of the private self that they are less likely to reveal in FTF communication. It was argued in the introduction to Part 1, that as technology and concomitant methods of communication develop, the ways in which the self can be explored change and this will ultimately affect the construction and managements of the self. Experiments such as the ones presented here can possibly give some insight into how technology can lead to these changes.

Shen (1984, p12) championed the need for research that could be considered an ‘upgraded form of multiculturalism.’ In other words, Shen believed that comparative research could be mutually enriching for the compared cultures. In some respects, the present thesis has been fairly successful in achieving this. The experiments highlighted some cultural differences in how private and public self-awareness affect self-disclosure, and possibly the gaining of self-knowledge, in both the cultures. In terms of mutual enrichment, it could be a revelation to a British person to find that the true self, they struggle to come to know, is a cultural construction, and that they are, perhaps, debilitated by their persona (cf. Hsu, 1985). It could similarly be a revelation to a Singaporean to find that they could increase the complexity of, and develop, their private self, and recognise themselves as a unique individual. Moreover, the research also indicates where
the issues and problems could lie in both self-construals. The problems for the individualistic individual may, for instance, reside in their tension between the private and public self, which is mediated by personality. Problems for the collectivist could lie in their underdeveloped private self.

These assertions are speculative, but more research might be fruitful in understanding these associations more clearly. Whilst further research could explore these problems, it could also examine how the tensions could be resolved. For a member of an individualistic culture, observing the collectivist interdependent view of the self could be useful. The pressures of being a unique individual could, for example, be released by encouraging community and harmony (cf. Markhus & Kitiyama, 1991), in order to reconnect the independent self-construal to the public and the other. Similarly, it could be useful for the member of the collectivist culture to learn from the individualistic individual and explore their private self in more detail. Most likely, what would be useful for members of both cultures is an understanding of how to achieve a balance and harmony between the different aspects of the self. It is argued here that research investigating and manipulating attentional focus could be key to exploring these issues, and in the process could accomplish Shen’s (2003) vision. It was discussed in the very beginning of this thesis that technology could have a profound effect upon the self, and certainly there is within CMC, the tools for these types of changes to occur. It could be argued, that the cultural self that is presented in this final discussion, is a rather idealistic and simplistic view of the self, and there is no doubt that it is much more complex. The positive view of CMC, and the concomitant shift in attention that it provides, could also be criticised as too idealistic. It is convenient to suggest that CMC could bring these positive changes, and significantly even in the few years that span the beginning of the empirical work within the thesis and the writing up, there have been many advances in technology. Moreover, the popularity of CMC has continued to grow. However, although the Internet and CMC provide a plethora of opportunities for socialising (Joinson, 2002), experimenting with the self (Turkle, 1984), and gaining self-knowledge, this thesis has also explored only one small part of this huge communication revolution.

Furthermore, the sample used in the experiments was small and this is another limitation of the study. Only fifteen participants were used in each condition,
which could have affected the power of the statistical tests. There were many non-significant trends in the predicted directions that did not reach the significance levels and this is some concern, and it is possible that a larger sample could be studied in the future. The experiment sample also consisted of British and Singaporean female student participants and the results are therefore based on a select population, yet the Internet is a global phenomenon. There are reports of gender differences in the use of CMC (Herring, 1994), and the investigation of culture could also be expanded out to other countries and cultures. Another limitation of the present study was the umbrella use of the terms individualistic and collectivist, it is reported that there are differences within cultures as to how much the individuals fit theses descriptions. This has led to a distinction between allocentric and idiocentric individuals within a culture (cf. Bontempo et al., 1990). In hindsight, it would have been useful to have pre-tested the participants in the experiment as to how allocentric or idiocentric they were, or to have measured the extend to which they fitted the individualistic or collectivist dimensions. Having said this, with a small sample tested, quite convincing results were obtained, that allowed for the aims of the studies to be met.

Although this thesis examined self-disclosure in CMC, the results have clear implications for health. In this thesis a distinction was made between personally motivated self-disclosure and socially motivated self-disclosure, and both types of self-disclosure have long-term health implications. It is well documented, for instance, that self-disclosure is linked to good health (Jourard, 1961; Pennebaker, 1989; 1995), and conversely, that not self-disclosing can have a negative effect upon health (Pennebaker, 1989; 1995). Part of the possible health benefits of increased self-disclosure in CMC, comes from the anonymity, increased private self-awareness and reduced public self-awareness, allowing the participants to self-disclose whilst being free from social pressures (cf. Bargh et al., 2002). This type of behaviour is clearly evident in the growing number of self-help groups (cf. Morsund, 1997; Salem, Bogat, & Reid, 1998; Moon, 2000), where this type of cathartic type activity, or ‘getting something off the chest’ appears to take place frequently. The anonymity, increased private and reduced public self-awareness in CMC, allows the participants to self-disclose personal information which may otherwise be suppressed or concealed. Moreover, this type of suppression has been demonstrated to lead to both physical and psychological problems (Carpenter, 1987; Cooper & Leda, 1997). Jourard (1971) described a healthy
personality as being one where self-disclosure from the true self takes place, and arguably CMC can facilitate this happening. The advent of CMC, and the concomitant changes in attentional focus that it facilitates, could therefore have long-term health benefits for its users, as a forum in which ‘healthy’ self-disclosure can take place.

Self-disclosure is however not just important for personal reasons, self-disclosure plays a central part in most relationships, and is therefore important for social reasons. In Social-Penetration Theory, Altman and Taylor (1973) describe how self-disclosure is used to maintain and develop relationships. The partners may enter into mutual disclosure and reciprocate personal information in order to form and give impressions and also to possibly increase intimacy. This type of self-disclosure, which could be described as being more socially motivated, can also be linked to health. Veltman (2005) suggests that self-disclosure aids people in not feeling alone in the world, and this involves showing and sharing an ‘inner core’ with other people (Baumeister, 1999; Swann, 1990). Moreover, it has been illustrated that healthy relationships are important for well-being and happiness (cf. Lane, 2000; Layard, 2005). The research presented within this thesis demonstrated, particularly in Part 1, that an important part of what may be occurring on-line is that the increased private, and reduced public self-awareness, allows the participants to self-disclose from their ‘true’ self. This increased likelihood of presenting the true self in CMC, has been attributed to the acceleration of relationships in CMC (Mckenna & Bargh, 2000), which may also have implications for health. A healthy personality is one where the self-discloser, self-discloses from their true self (Jourard, 1971), therefore it could be argued that CMC relationships are encouraging healthy personalities and healthy relationships. The increased self-disclosure observed within the reported experiments, and particularly the self-disclosure that is deep and authentic, do therefore have clear implications for health.

Whilst this positive view of self-disclosure in CMC is relevant at this time of writing, it is also reasonable to predict that as CMC becomes increasingly part of everyday life, and of daily interactions, the levels of self-awareness within the medium may change for the individual. The desire to impress anonymous on-line friends will inevitably rise and the social desirability pressures will heighten. Social networking sites are already filled with people presenting more positive
and sometime unrealistic selves (Walther, et al., 2008). How this will affect discrepancies within the self is yet to be seen. Discrepancies may even become more complicated, with discrepancies emerging not just between the ideal, ought and real self, but between the on-line true and real-life true, the on-line ideal and the real-life ideal and the on-line ought and the real-life ought. Research in CMC is important to document some of these changes, but it also important as it provides interesting tools for manipulating attentional focus. Mediating communication is in itself interesting as it allows the facilitator to add and reduce certain aspects of the communication, and manipulate the levels of self-awareness. This could be useful in many areas, for instance, in marital guidance, where it may be useful to increase private self-awareness and reduce public self-awareness for angry couples. It could also have interesting implications for people with social phobias (cf. George & Stopa, 2008), where aspects of the social could be removed and gradually added over time, to minimise the stress of the interaction. CMC has therefore great potential for future research, both as a focus for research about the self, but also to use as a tool. This thesis was ambitious in its aims. It combined the complex subject areas of culture, CMC, self-disclosure and self-awareness, which led to a challenging study. However, through a few simple experiments, that may have had their limitations, deep and philosophical questions about the nature of the cultural self were explored.
REFERENCES


APPENDIX 1: Questions of varying intimacy

**LIST OF QUESTIONS**

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<td>1.</td>
<td>What are the sources of strain and dis-satisfaction within your family?</td>
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<td>2.</td>
<td>What are your preferences and dislikes in music?</td>
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<td>3.</td>
<td>Who are the person's in your life you most resent, and why?</td>
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<td>4.</td>
<td>What are you guiltiest secrets?</td>
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<td>5.</td>
<td>What are your personal religious views and the nature of your religious participation, if any?</td>
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<td>6.</td>
<td>Do you find it easy to talk to other people about personal matters or do you like to keep yourself hidden?</td>
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<td>7.</td>
<td>What were the occasions in your life when you were most happy?</td>
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<td>8.</td>
<td>What are the ways in which you feel most maladjusted or immature?</td>
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<td>9.</td>
<td>What are the actions you have most regretted in your life and why?</td>
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<td>10.</td>
<td>What usually causes you to feel depressed or unsatisfied and who if anyone would you talk to about your feelings?</td>
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<td>11.</td>
<td>What characteristics of yourself give you cause for pride and satisfaction?</td>
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<td>12.</td>
<td>What were the unhappiest moments of your life and why?</td>
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<td>13.</td>
<td>What makes you unhappy about being from Britain/Singapore?</td>
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<td>14.</td>
<td>What makes you proud about being Singaporean/British?</td>
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<td>15.</td>
<td>What are your personal goals for the next 10 years?</td>
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<td>16.</td>
<td>Do you feel that as a person you have much pressure on you and what direction does the pressure come from?</td>
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<td>17.</td>
<td>How would you describe yourself?</td>
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<td>18.</td>
<td>Describe a situation when you felt you let yourself or your family down?</td>
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APPENDIX 2: Paper instructions for dyadic participants

INSTRUCTIONS FOR PARTICIPANT X

You are anonymous during this interaction. Your partner is another student from a British University but you will never meet them. Your answers to the list of questions cannot be linked back to you in anyway.

Please answer the questions in as much detail as you can but try not to use slang or short forms of words, such as ‘OMG.’

During the interaction please do not ask extra questions, just stick to the questions on the sheet. You can ask any question from the list and you DO NOT NEED TO ANSWER THE QUESTIONS IN ORDER, NOR DO YOU HAVE TO ANSWER THEM ALL. You may like to spend more time on just a few questions.

Enjoy chatting!

- You are going to talk use a ‘real-time’ chat program
- Have a read of the list of 22 questions and the practice questions
- You and your partner are to take in turns answering and asking questions from the list. All the questions you ask will be asked to answer as well. Your answer can however be “I do not want to answer this question.”
- Your partner is waiting for you to say “hello” so please type “hello” in the box and then hit “return”
- Once they have replied they have been asked to ask you practice question A. They will do this by typing “Ask A”
- Please could you answer this question by typing on the screen and then hitting “return”
- Next it is your turn to ask a question, pick one off the list and type “Ask X” where X is the question number, or you can type the question out
- You will be able to see at the bottom of the screen if they are typing and then their answer will appear on your screen.
- They will ask you the question back by typing “And you?”
- Once you have answered this it is then their turn to ask you a question, they will type “Ask X” and you will answer
- Once you have answered you ask the question back by typing “And you?”
- Continue taking turns asking questions
- You will hear an alarm after 25 minutes, at this point you can fill in the questionnaire that you were shown at the beginning of the task
APPENDIX 3: Confederate script

Script for confederate

1. You will wait for your partner to say hello
2. Type back hello
3. If they try and start a conversation say hmm is it you or me that asks the first question, oh its me. Ok I will ask practice question A
4. They will answer with how they are today, they may ask the question back, but if they don’t prompt them by saying
5. I’m not bad at all, I’ve been quite busy but that’s what being a student is about I suppose
6. They are now supposed to ask you a question from the list, if they don’t prompt them with. Right, what are we supposed to do next, oh I see you have to choose any question to ask me
7. The participant will choose a question to ask and this will set off the intimacy level of the interaction. You will always choose the question of the next level of intimacy to the one that the participant has asked. You will answer the question and then you will ask the question back to them. When they have answered you will choose a question and they will ask you back.
8. At the end of the interaction say Good to meet you, take care

Things to note

Always type exactly what is in the box below, if they ask you extra questions about your answer, either answer agreeing with them, or apologise and remind them that you are not allowed to ask more questions.

Write the question you want to ask out in full. When they ask a question to you, you ask them it back. Instead of writing the question write…

   - How about you?
   - What about you?

If they answer the question with information that is very personal or needs some reply you can answer the following. If you use any extra phrases note them

Positive
   - that sounds like fun
   - sounds like you are really lucky
   - that’s great
   - that’s funny
   - fair enough
   - good for you
   - sounds good
   - I agree

Negative
   - that must have been hard
   - thanks for sharing that with me
   - sounds like you deal with that well
Even though it is tempting to start chatting and asking questions, especially if you are interested do keep to the questions and answers all the time.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are the sources of strain and dis-satisfaction within your family?</td>
<td>One source of strain in my family is that my auntie does not like my sister's boyfriend at all. When we are all together there are always fights between the two of them. My father also is very strict and my whole family are quite scared of him.</td>
</tr>
<tr>
<td>2. What are your preferences and dislikes in music?</td>
<td>I don't have a particular preference I like all sorts of music, just any sort that stir up your emotions. I even like weird Japanese songs</td>
</tr>
<tr>
<td>3. Who are the person's in your life you most resent, and why?</td>
<td>I think to resent someone is really tiring and we need to learn to forgive so no I don't resent anyone.......at most I just simply dislike and if I dislike someone I will not try to associate with them often. At the moment I dislike people who are nice in front of you and then bitch behind your back.</td>
</tr>
<tr>
<td>4. What are you guiltiest secrets?</td>
<td>Hmm.........that's hard to pinpoint once I broke an expensive pot and never owned up to it, that is against what I believe but sometimes I act as a hypocrite in a sense that I don't practice what I preach...........sometimes I hate myself for not being strong enough in my beliefs.</td>
</tr>
<tr>
<td>5. What are your personal religious views and the nature of your religious participation, if any?</td>
<td>I think there is no one religion superior that the others.......I am however religious there have been events in my life which have affirmed my belief in religion.</td>
</tr>
<tr>
<td>6. Do you find it easy to talk to other people about personal matters or do you like to keep yourself hidden?</td>
<td>I am quite open and find it quite easy to talk to others abt personal matters if I don't I feel constipated like I might burst so I don't have a choice really. Sometimes it is good to keep a part of yourself hidden as you can appear more mysterious!</td>
</tr>
<tr>
<td>7. What were the occasions in your life when you were most happy?</td>
<td>I am maybe happiest at the moment. I am working hard at the moment I have a boyfriend who I am happy with. My family are all well. I am older than I was last year and hopefully wiser</td>
</tr>
</tbody>
</table>
8. What are the ways in which you feel most maladjusted or immature?
Sometimes I worry that I am a jealous person. I look at things other people have got and want them myself. I am not bad because I never wish that they did not have these "good" things but sometimes it can make me sad that I don't have that too. It's quite silly really because I am happy with everything I have got but it is easy to want more sometimes. Maybe this "want" is good for me because it keeps me motivated!

9. What are the actions you have most regretted in your life and why?
I regret not working harder for my maths examsines as my life would be easier now. I also regret falling out with a friend of mine a few years ago over nothing really. It makes me sound quite bad but she just started to annoy me and I stopped seeing her and now when I see her I wonder what that was all about. Oh well life goes on............!

10. What usually causes you to feel depressed or unsatisfied and who if anyone would you talk to about your feelings?
i get depressed when i try hard to achieve something and the end result ain't what i expect it to be. I feel depressed when things in life don't go my way and unsatisfied when my boyfriend does not do as i say i usually talk to my dad, my boyfriend or friends

11. What characteristics of yourself give you cause for pride and satisfaction?
I am proud that I am a hard worker. I am proud that I am a very caring and thoughtful person. I look after members of my family and am a strong person. I am also proud that I get things done I don't sit around wasting my life. Or at least I hope I don't!

12. What were the unhappiest moments of your life and why?
the unhappiest moments of my life all surround when someone i love is in pain either physical or mental, that makes me very unhappy.

13. What makes you unhappy about being from Britain/Singapore?
Singapore is too small with too few places to hang out at the weekend. I am also unhappy about the stereotyping of Singapore and also that although it is developed in its structure and technology the people need to improve their attitudes to the poorer nations.

Britain is too small yet thinks that it is so big. I get unhappy as well that Britain although it is developed in its structure and technology the people need to improve their attitudes toward issues such as the environment and community.

14. What makes you proud about being Singaporean/British?
The fact that Britain is democratic and cosmopolitan, I really like the British people, it is a stereotype but they do have a great sense of humour.
The fact that Singapore is so multi-cultural, and has a good work ethic. Singaporean is very successful and I there are many opportunities

15. What are your personal goals for the next 10 years?
To be successful in business. I am either taking over and expanding my family business or setting up my own business I have several ideas that I am looking at. I also want be of support to my husband (when I get married) and start a family

16. Do you feel that as a person you have much pressure on you and what direction does the pressure come from?
a lot of the pressure on me comes from myself. I set high standards and then have to live up to them then I look and wonder whether this need to achieve is just an illusion. ...i think i have high expectations of myself. when i was younger..the pressure came from my mum..

17. how would you describe yourself?
Honest, caring, loving, funny, sharp and modest! Oh and very good looking ha ha not really.

18. Describe a situation when you felt you let yourself or your family down?
I think I said this before actually I let myself down by not studying as hard as I should have for my math exam. I did not do as well as everyone expected. My father is very good at maths and gave me extra tuition and I felt I let him down

1. In your life what gives you reasons for pride and satisfaction
I am proud of my family because we are a solid supportive unit. It is fun to be a member of my family it is often hilarious and we are a force to reckoned with if anyone crosses us!
APPENDIX 4: Cronbach and items

Questionnaire items

The cronbach alpha reliability statistic was calculated across the whole population. There were no notable differences between the Singaporeans and British participants’ reliability across the items. Reverse scored items are marked with a **.

Private Self-awareness

I’ve generally been very aware of myself, my own perspective and attitudes
Rather than thinking about myself in this interaction, I have been distracted by what is going on around me

Cronbach alpha

Public self-awareness

I have wondered about the way I have responded and presented myself in comparison to others, who are the same type of orientation to me
I have thought about how my partner might be responding to my answers when they read them

Learning

I felt I learnt something about myself in the interaction’
** I didn’t learn anything about myself in this interaction

Sociable

My partner is the type of person who enjoys socialising with people
**I don’t think my partner is a sociable person

Enjoyment

I enjoyed the interaction
** I didn’t enjoy interacting in this way

Self-presentation

I presented a more positive image of myself in the interaction
I could feel myself focusing on the more positive aspects of me and my

Intimacy

The interaction was intimate at points
I felt that the interaction was quite personal

Accountable

I felt in this experiment that I could say anything and not feel accountable for it
I did feel accountable for what I said during the interaction

Embarrassment

I felt embarrassed during the interaction
**I do not feel embarrassment interacting in this way

Isolation

I found the experience isolating
I felt alone when I was interacting this way
APPENDIX 5: Paper instructions for isolated participants

INSTRUCTIONS FOR PARTICIPANT X

You are anonymous during this interaction. Your partner is another student from a British University but you will never meet them. Your answers to the list of questions can not be linked back to you in anyway.

Please answer the questions in as much detail as you can but try not to use slang or short forms of words, such as ‘OMG.’

During the task:
You can ask any question from the list
YOU DO NOT NEED TO ANSWER THE QUESTIONS IN ORDER, NOR DO YOU HAVE TO ANSWER THEM ALL.
You may like to spend more time on just a few questions.

You will never meet your partner and they will not read your answers to the questions for 6 months, they will never know who you are and your answers will just be used as a guide for them to answer some questions.

Spend some time reading the questions now.

Decide on which question you would like to answer first and then just write the number of the question and then start writing your answer.

Take your time answering the questions and an alarm will sound after fifteen minutes and at that point please fill in the questionnaire.