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ABSTRACT

Self-awareness theory has generated considerable research, virtually all of which has been either survey studies or experiments in carefully controlled environments. In an attempt to study the relationship of self-awareness to affect by utilizing an experiential time sampling method, two studies were conducted. In the first, undergraduate volunteers (N=40) reported their feelings and activities during the 10-minutes preceding a buzz triggered by a randomly set timer. Data analyses focused on high and low private self-conscious subjects. In the second study undergraduate volunteers (N=23) completed a similar report of feelings following the same stimulus. Data analyses focused on states of private and public self-awareness. The results of both studies indicated that engaging in private self-awareness was not associated with negative affect. The only condition under which private self-awareness was related to affect occurred when the presence or absence of others was a factor. The results indicate that the time sampling method, as an alternative to experimental designs, can be an effective method of obtaining data from respondents providing that care is taken in the research design. (AG)

Studying Self-Awareness Using Experiential Time Sampling Methodology*

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ABSTRACT

The present research studied self-awareness by utilizing experiential time sampling methodology, which allows for the random sampling of individuals' thoughts and feelings as they go about their normal daily activities. In the two studies reported here, subjects were provided with an electronic timer preset to signal them at randomly determined time intervals over a two day period. Study 1 analyzed data obtained from high and low private self-conscious subjects, while Study 2 focused on the states of private and public self-awareness. In Study 2, while subjects' public self-consciousness trait scores were significantly related to the time they spent in the state of public self-awareness, there was no significant relation between subjects' private self-consciousness trait scores and time spent in the state of private self-awareness. The results of both studies indicated that engaging in private self-awareness, either habitually or momentarily, is not associated with the experience of negative affect in the manner suggested by Duval and Wicklund (1972) or Csikszentmihalyi and Figurski (1982). The only condition under which private self-awareness was related to affect was when the presence or absence of others was taken into account. Subjects in Study 2 reported being more privately self-aware when alone than when with others, and more publicly self-aware when with others than when alone. When subjects were alone and feeling sad and not a part of their surroundings, they tended to spend less time in the state of private self-awareness than when they were alone and feeling happy and a part of their surroundings. There also was a tendency for subjects to spend more time in private self-awareness when they were with others and feeling sad, low in level of activity, and not a part of their surroundings. Results are discussed in terms of current self-awareness theory.

Studying Self-Awareness Using Experiential Time Sampling Methodology

Self-awareness theory (Buss, 1980; Duval & Wicklund, 1972) has generated considerable research over the past ten years, with numerous studies exploring the relation between behavior and both the trait and state aspects of the concept. The state of self-awareness is self-reflexive consciousness; i.e., when a person is the object of his or her own attention. The tendency to engage in this state is referred to as the trait of self-consciousness. Fenigstein, Scheier, and Buss (1975), in constructing a scale to measure this trait, identified two distinct, but related, dimensions: private self-consciousness, which is concerned with habitual attention to one's thoughts, motives, and feelings, and public self-consciousness, which focuses upon habitual concern for one's social appearance and the impressions one makes on others.

Virtually all the research in this area has been either experimental studies, conducted in carefully controlled environments, or survey studies, largely conducted in classroom settings. The assumption has been that self-awareness and related behaviors can be adequately measured and understood in such settings and, further, what is learned can be generalized to more natural environments. While this reasoning may be correct, current technological resources provide the researcher with the opportunity to explore self-awareness and self-consciousness in the subjects' natural surroundings. The present research attempted to study self-awareness by utilizing an experiential time sampling method (Franzoi, 1981; Prescott, Csikszentmihalyi, & Graef, 1981) which allows for the random sampling of individuals' thoughts, feelings, and experiences as they go about their normal daily activities. Experiential time sampling has the advantage of being a highly flexible procedure and relatively unobtrusive. Through the use of an electronic timing device that

randomly emits signals, participants are interrupted periodically to describe what they have been doing and thinking about just prior to the interruption. With this method, subjects, in a sense, collect data on themselves within prescribed parameters determined by the researcher. In the present research, the focus of attention was on the relation between the state and trait concepts of self-awareness, the relation between self-awareness and negative affect, and the situational factors associated with private and public self-awareness.

Daily Self-Awareness and Self-Consciousness Scores

Since Fenigstein, Scheier, and Buss (1975) first introduced the Self-Consciousness Scale (SCS), it has been generally assumed that the two self-consciousness subscales measure the degree to which individuals were attentive to their private and public self-aspects. While this assumption is generally held, no study has attempted to determine whether the two subscales actually measure the tendency to engage in private and public self-awareness during the day. That is, do individuals who score high on the trait concept of private self-consciousness spend more time during the day in the state of private self-awareness than those who score low on private self-consciousness? Likewise, do people who score high on the trait concept of public self-consciousness spend more time during the day in the state of public self-awareness than those who score low on public self-consciousness? Experiential time sampling methodology (ETSM) makes it possible for researchers to move outside the artificial confines of the laboratory and classroom so that they can measure the amount of time individuals generally spend in the different states of awareness as they go about their normal daily activities. With this method researchers can empirically test the correspondence between the state

concepts and the trait concepts of self-awareness. In line with this thinking, Study 2 sought to determine the amount of time individuals spent in the states of private and public self-awareness during the day and to investigate the relation between the state and trait concepts of self-awareness.

Self-Awareness and Negative Affect

When self-awareness theory was first developed, Duval and Wicklund (1972) argued that the state of self-awareness is aversive because it necessarily involves an evaluation of one's actual behavior in comparison to ideal standards. Such a self-evaluative process results in negative affect, since these standards can seldom be realized in actuality. While Wicklund (1975) has modified the theory to account for individuals who exceed their aspirations, he maintains that such positive affect would be short-lived, since the old standards would quickly be modified to reflect the recent behavioral successes. As a result, negative affect will again be experienced the next time one becomes self-aware. This perspective on self-awareness has implications not only for the experiential quality of a particular self-aware state, but also for the general daily mood of individuals who habitually analyze themselves (Wicklund & Frey, 1980). According to this perspective, high private self-conscious individuals should experience more negative affect during the day than individuals who are low in private self-consciousness.

This belief in the aversive nature of self-awareness has not gone unchallenged. Carver (1979) claims that awareness of a discrepancy between a current state of affairs and an ideal standard is followed by an assessment of the probability that the discrepancy can be reduced. If the probability of discrepancy reduction is high, negative affect will not result. Thus, the self-evaluation resulting from self-awareness can be positive in nature; it

will only be negative when one cannot change one's performance and reduce the discrepancy. This negative affect may occur in the self-aware state when the performance in question is fixed in the past or if there is no opportunity to repeat the performance. This was, indeed, shown in a study by Steenbarger and Aderman (1979), where they found that when subjects were confronted with a negative behavioral discrepancy that could not be appreciably reduced, they tended to avoid becoming self-aware. However, when the impression had been created that improvement was a real possibility, self-awareness was not avoided.

Another perspective on the relation between self-awareness and negative affect is offered by Hull and Levy (1979). In contrast to Duval and Wicklund (1972) and Carver (1979), they propose that self-awareness does not necessarily involve evaluation of one's behavior, but merely makes one more aware of social stimuli relevant to oneself and one's actions. Studies pertinent to this perspective (Geller & Shaver, 1976; Hull & Levy, 1979) suggest that self-awareness does not correspond to a bidirectional attentional phenomenon resulting in negative affect as suggested by Duval and Wicklund (1972), but rather corresponds to an organizational phenomenon associated with a greater sensitivity to specific forms of environmental information.

In the two studies reported here, the relation between self-awareness and negative affect was investigated while subjects interacted in their normal daily social environments. The specific purpose of this aspect of the present research was to test the theoretical perspective of Duval and Wicklund (1972), which states that self-awareness is associated with negative affect. A second purpose was to attempt to replicate the findings of a recent study investigating the relation between self-awareness and aversive experience using ETSM.

This study, conducted by Csikszentmihalyi and Figurski (1982), attempted a critical test of Duval and Wicklund's theory with Carver's theory. Noting that Carver emphasizes the presence or absence of opportunity to alter behavior as critical to the corresponding positive or negative affect, Csikszentmihalyi and Figurski sought to determine whether the relation between self-awareness and affect is conditional on one's sense of personal control.

In their study, working adult subjects went about their normal daily activities and were periodically signaled by electronic timers, whereupon they would describe in a short questionnaire booklet, their thoughts and affect at that time. A thought content was coded as being an instance of self-awareness if the main focus of awareness appeared to be on the states of the responding individual. Measures were also obtained on subjects' affect, activity level, voluntariness in activities, and involvement in the surroundings. Personal control was assumed to be present when subjects were engaged in an activity voluntarily rather than through some obligation. Results seemed to support the notion that self-awareness is a particularly unpleasant experience. Self-thoughts ranked lowest in involvement of all the thought categories, as well as ranking low in activity level and positive affect. Furthermore, affect and activity level were significantly related to the interaction of self-awareness and personal control. That is, when individuals felt they were personally controlling the activities they were engaged in, they experienced less positive affect, activity level, and involvement when they were thinking about themselves than when they were thinking about something else. Csikszentmihalyi and Figurski interpret these findings as basically supportive of Duval and Wicklund's (1972) position that self-awareness is associated with negative experiences. They add, however, that this relation holds only

when individuals believe they are experiencing personal choice in the activities with which they are engaged ("The evidence indicates that the ideal experience is one in which the person is engaged in an activity voluntarily and is not focusing attention on the self." p. 25). While Csikszentmihalyi and Figurski believe these results basically support Duval and Wicklund's theory, they believe the findings contradict Carver's position on self-awareness. In fairness to Carver, however, they acknowledge that control over one's activity is not identical with control over one's level of performance. Since Carver emphasizes the possibility of improving performance rather than voluntarily changing activity, the study may not be an adequate test of his theory.

While the Csikszentmihalyi and Figurski study is noteworthy for its use of ETSM to investigate self-awareness, it contains a methodological flaw that confounds the findings and makes any generalization to previous work questionable. The problem lies in the manner in which self-awareness was operationally defined and classified. Self-awareness was assessed through the item: "What were you thinking about when you were beeped?" A thought content was coded in the category of "Self" thoughts when the main focus of awareness appeared to be on the states of the responding individual, whether physical or emotional (e.g., "It hurts." "Why did I get this fat?"). Self-directed thoughts were discriminated, not only from thoughts about other objects, but also from thoughts specifically about one's performance (e.g., "Am I doing well on the job?"). With this type of measurement, less than 8% of the thought content data was categorized as being of the self-aware type. By measuring self-awareness in this narrow manner, Csikszentmihalyi and Figurski departed from the broader definition used in the past by researchers and,

thus, their results may be descriptive of only a very limited type of self-awareness. For this reason, the Csikszentmihalyi and Figurski study is not a valid test of the relation between self-awareness and aversive experience.

Unlike the former study, the present research operationally defined self-awareness in the same manner as it has been defined in past experimental work (e.g., Carver & Scheier, 1978). Study 1 investigated the relation between the trait of private self-consciousness and average daily affect, as well as the relation between private self-consciousness and daily affect fluctuation. Study 2 explored the relation between the state of private and public self-awareness and level of affect, activity level, and involvement with one's surroundings, as well as investigating how self-awareness interacted with personal control.

Self-Awareness and the Presence or Absence of Others

Since James (1890) first observed that individuals have as many social selves as they have individuals who recognize them, social theorists have analyzed the nature of our attention to and concern for our social identities. Goffman (1959) has described social interaction as similar to theatrical performance, where individuals are consciously attempting to control the impression others have of them. Similarly, Alexander has proposed that social settings can be characterized by a pattern of social behavior conveying particular identities appropriate for individuals to assume (e.g., Alexander & Knight, 1971). In these social encounters, people strive to create the most favorable "situated identity" for themselves.

The common thread running throughout these works is the belief that social interaction requires awareness of oneself as a social object that others attend to and often evaluate. Viewing social settings from this

perspective, it seems likely that individuals will be more publicly self-aware when with others than when alone. When with others, they are more likely to be aware of themselves as social objects, while when alone, these more public self-aspects will be less salient to their situated identities. Likewise, since the presence of others will tend to induce public self-awareness, degree of private self-awareness should be affected by this tendency to focus on the public aspects of oneself. That is, individuals should be less privately self-aware when with others than when alone. Public settings induce or actually require attention to oneself as a social object more than nonsocial settings, and this characteristic of public settings should reduce the degree of attention to the more private and less social self-aspects.

While the presence of others was expected to induce public self-awareness, what effect would being alone have on the focus of self-attention? Westin (1970), in a phenomenological analysis of privacy, proposes that one function of being alone and inaccessible to other people's observation is to provide the opportunity for self-evaluation. Solitude provides the opportunity for meditation, self-analysis, and undisturbed pursuit of ideas, activities often not possible in the presence of others. It was expected that, when alone, self-attention would be focused more on the less public, more private, self-aspects. Just as the presence of others was expected to induce public self-awareness, being alone was expected to induce private self-awareness.

Given the fact that the presence of others was expected to induce or require increased public self-awareness, thus resulting in decreased private self-awareness, and being alone was expected to induce private self-awareness and reduce public self-awareness, what would possibly make one go against these situational inducements? That is, what would explain why people would

ignore or actively choose to go against situational inducements for private and public self-awareness? There is experimental evidence suggesting that it is the mood or affective level of the individual that is related to their tendencies to avoid self-awareness. Duval, Wicklund, and Fine (cited in Duval & Wicklund, 1972), for example, demonstrated that when subjects were provided with information that led them to believe they were less intelligent and creative than they believed themselves to be, they withdrew sooner from a setting that induced private self-awareness than from a setting that did not. Similar results, with some variation, have been found in other studies (e.g., Greenberg & Musham, 1981; Steenbarger & Aderman, 1979).

Viewing these findings from a broader perspective, it could be argued that they reflect a general principle dealing with situational inducements for self-awareness and experienced mood of individuals in the situation. From this perspective, what would be the reported mood of individuals who engaged in little private self-awareness when alone and of individuals who engaged in a great deal of it when with others? In both situations, the individuals' degree of private self-awareness is out of step with the situational demands/inducements. Since the presence of others should induce attention to public self-aspects, people who spend a good deal of time reflecting on private thoughts and feelings when with others may be attempting to escape the psychological dynamics of their present surroundings through such self-awareness. The reasons for this psychological escape may be due to boredom with what is going on around them or feelings that they do not fit in with their surroundings. Since being alone should induce attention to private self-aspects, a person who spends little or no time when alone reflecting on private thoughts and feelings may also be attempting to escape the psychologi-

cal dynamics of their present surroundings. The emotions aroused by this type of private self-awareness may be unpleasant and aversive. It was reasoned that, by analyzing situations where individuals go against the situational inducements for self-awareness, there would be an association between attention to private thoughts and feelings and aversive experience. When with others, it was predicted that individuals would experience lower affect, activity, and involvement the more time they spent in private self-awareness. It was also predicted that, when alone, individuals would experience lower affect, activity, and involvement the less time they spent in private self-awareness. In both situations, the individuals would be behaving in ways inconsistent with the situational inducements. It was believed that the reason for this counter-situational behavior would be associated with negative experiences in the situation itself.

Study 1

Previous experimental research (e.g., Carver & Scheier, 1978; Hull & Levy, 1979) has found that increased private self-awareness is not accompanied by negative self-affect. However, other studies have found this relation (e.g., Csikszentmihalyi & Figurski, 1982; Duval & Wicklund, 1972). Study 1 attempted to test this controversial topic in self-awareness theory by studying individuals who were either high or low in private self-consciousness. According to the perspective of Duval and Wicklund, high private self-conscious individuals should experience more negative affect during the day than individuals who are low in private self-consciousness. According to the findings of Carver and Scheier (1979) and Hull and Levy (1979), the two groups should not differ in experienced affect. In addition to studying the mean affect level of subjects during the day, Study 1 also investigated the varia-

tion in affect experienced by the high and low private self-conscious subjects. There is evidence suggesting that habitual self-reflection would be related to greater awareness of variation in daily affect. In a series of studies (Scheier & Carver, 1977), subjects who were more self-attentive appeared to be more aware of their own transient emotional states. Another study (Scheier, 1976) found that high private self-conscious subjects seemed to be not only more aware of their own affective states, but also tended to be more responsive to those states. In this study, high private self-conscious subjects, when angered by an experimental accomplice, expressed more aggression toward the accomplice when given the opportunity. Assuming that in a normal day one is likely to meet with both small successes and failures that will either further or hinder one's immediate tasks or activities, it was predicted that high private self-conscious individuals' affective levels would be more affected by these situational factors than would the affective levels of the low private self-conscious individuals.

Method

Subjects and Procedure

Forty undergraduate volunteers (20 males and 20 females), randomly sampled from a pool of students scoring either one standard deviation above or below the mean of a larger sample on private self-consciousness, served as subjects in a two day study of daily experiences. Subjects were provided with an electronic random timer equipped with an audible buzzer which was preset to go off at randomly determined time intervals (mean 90 minute intervals) over a two day period. Each person was asked to fill out a one page report concerning what they were thinking about and doing during the past ten minutes whenever the timer buzzed. Included in each one page report was a seven point

Likert affect scale with bipolar markings of "sad" and "happy." Mean affect for each subject was determined by averaging the individual affect reports during the two day study. Variation in affect for each subject was determined by using the computed affect variance for each subject across the multiple self-reports of affect during the two day study. Subjects turned on the timer when they awakened in the morning and turned off the timer when they went to sleep in the evening. On the average, subjects completed 20 self-reports during the two day study. Since the timers signaled subjects approximately every 90 minutes, the 20 self-reports for each subject reflects 15 hours of "awake time" per day for the two day study. This indicates that subjects did follow the researcher's instructions as to when the timers should be turned on and off for data collection.

Results and Discussion

No differences were found between males and females for any of the variables, and thus, their data were combined in subsequent analyses. All data were analyzed using a one-way analysis of variance procedure with private self-consciousness being the classification variable. There were no differences in the mean affect of the high and low private self-conscious subjects during the day ($\bar{x}$ = 3.62 vs. $\bar{x}$ = 3.61, respectively, $F_{(1,38)}$ = .00). This nonsignificant finding supports previous experimental work by Carver and Scheier (1978) and Hull and Levy (1979) indicating that high private self-awareness is not accompanied by negative self-affect. Counter to expectations, high private self-conscious subjects did not report greater variation in daily affect ($\bar{x}$ = 2.31 vs. $\bar{x}$ = 2.30, $F_{(1,38)}$ = .00). Thus, high and low private self-conscious individuals not only do not differ in terms of averaged affect during the day, but also do not appear to be aware of different varia-

tions in daily affect.[1]

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Insert table 1 about here

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Study 2

Based on the results of Study 1, a second study was undertaken to investigate, for the first time, the following issues: (1) Are the state and the trait concepts of self-awareness related to one another? (2) Is the amount of time spent in the self-aware state during a particular ten minute period related to lower affective and cognitive states?, and (3) How much time do people spend in the different states of awareness during the day and how do situational factors affect this awareness? Since self-awareness is not an intersubjective experience, it was reasoned that reliance on outside observers to rate whether subjects' thoughts and feelings were of the self-aware type might misrepresent the subjects' state of mind. As a result, it was decided to enlist the subjects themselves in assessing the self-directed nature of their own thoughts.

By having subjects provide self-reports over a ten minute period, Study 2 was able to investigate the relation between the amount of time spent in self-awareness and the degree of self-consciousness. While there is no doubt that the private and public self-consciousness subscales identify people who differ on a number of behavioral dimensions, no one has ever determined that these differences are due to their tendencies to engage in different amounts of private or public self-awareness. Do people who score high on the private self-consciousness or the public self-consciousness subscales actually spend more time during the day in private or public self-awareness than those indi-

viduals who score low on one or both of these subscales? According to the perspective of those who developed the SCS (Buss, 1980; Fenigstein, Scheier, & Buss, 1975), private and public self-consciousness differentiates people in terms of their tendencies to focus attention on the private and public aspects of themselves. From this perspective, it would be predicted that the mean time spent by subjects in private and public self-awareness during the two day study would be, respectively, positively related to private and public self-consciousness.

To test the construct validity of the two self-awareness measures, the effect on them of another state variable was analyzed. It was predicted that the number of minutes spent in private self-awareness during a ten minute period would be related to the number of minutes spent daydreaming, since day-dreaming is a particular type of private self-awareness. It was also expected that daydreaming would not be related to the number of minutes spent in public self-awareness, since the two are not conceptually linked.

As in the Csikszentmihalyi and Figurski (1982) investigation, Study 2 sought to determine whether the relation between self-awareness and affect is conditional on one's sense of personal control. However, unlike the Csikszentmihalyi and Figurski study where personal control was assumed to be present when subjects were engaged in voluntary activities and absent during obligatory activities, the present study made no such assumptions; subjects directly rated their sense of personal control over their surroundings. It was expected, as in the Csikszentmihalyi and Figurski study, that subjects' emotional experiences would be related to their sense of personal control. When subjects felt they were exercising a good deal of personal control over their surroundings, it was predicted that they would experience more positive

affect, involvement, and activity level. Based on the results of Study 1, which were contrary to the Csikszentmihalyi and Figurski findings and the theoretical perspective of Duval and Wicklund, increased self-awareness was not expected to be accompanied by lower affect, activity level, or involvement, even when individuals felt they had a good deal of personal control over their surroundings.

In addition to analyzing the relation between self-awareness and affect under high personal control situations, Study 2 also investigated how the presence or absence of others affected private and public self-awareness, and how this was related to level of affect, activity level, and involvement with the surroundings. Following the reasoning that the presence or absence of others was expected to induce different types of self-awareness, it was predicted that individuals would be more privately self-aware when alone than when with others, and more publicly self-aware when with others than when alone. It was also reasoned that, by analyzzing situations where individuals go against the situational inducements for self-awareness, there would be an association between attention to private thoughts and feelings and aversive experience. When with others, it was predicted that individuals would experience lower affect, activity, and involvement with their surroundings the more time they spent in private self-awareness. It was also predicted that, when alone, individuals would experience lower affect, activity, and involvement the less time they spent in the state of private self-awareness. It was believed that the reason for this counter-situational behavior would be associated with negative experiences in the situation itself.

Method

Subjects and Procedure

Twenty-three undergraduate volunteers (12 males and 11 females) were provided with an electronic random timer which was preset as in Study 1. Over a two day period, each subject completed a one page report whenever the timer buzzed. Half the subjects were administered the Self-Consciousness Scale (Fenigstein, Scheier, & Buss, 1975) immediately prior to the two day study and half filled out the scale immediately following the study. Whenever the timer signaled them, subjects were asked to describe where they were, what they had been doing, how many people were in their immediate presence (able to see and/or talk to them), and how many minutes they had spent during the past ten minutes engaged in private self-awareness ("How much time did you spend thinking about the more personal and covert aspects of yourself? That is, reflecting about and/or analyzing your thoughts, feelings, and motives."), public self-awareness ("How much time did you spend thinking about yourself as a social object that other people look at and react to? That is, being attentive to and/or concerned about how other people see you and think about you."), and other awareness ("How much time did you spend thinking about other people or things? That is, matters not directly connected with you?). Subjects were instructed to be sure that the times for these three types of awareness summed to ten minutes. Subjects also indicated how many minutes they had spent daydreaming ("A daydream is a wandering of your thoughts away from your present surroundings. The thoughts usually are of a wish fulfillment variety."). Using a seven point Likert scale, they were also asked to describe their affect (from sad to happy), their control over their surroundings (from complete control to no control), and their activity level (from active to passive). Finally, subjects indicated, by drawing a circle around a

dot enclosed in a three quarter inch by one and one eighth inch rectangle, how much a part of the setting they felt ("How much did you feel a part of what was going on around you, or if nothing was really 'going on,' how much did you feel as though you fit in with the setting?"). The dot represented the subject and the rectangle represented their surroundings. The area of the drawn circle served as the measure of involvement with their surroundings. As in Study 1, subjects completed, on the average, 20 self-reports, during the two day study.

Results and Discussion

Timer and scale effects on self-reports. Since there was a possibility that answering questions over a two day period about personal thoughts and experiences would affect level of private and public self-consciousness, subjects who completed the SCS before participating in the timer study were compared to those who completed the scale following participation. No differences were found in the private self-consciousness scores of subjects who were tested at these two different stages of the study ($\bar{x}$ = 24.78 for those prior vs. $\bar{x}$ = 23.11 for those after, $F_{(1,21)}$ = .55, n.s.), nor in their public self-consciousness scores ($\bar{x}$ = 17.90 for those prior vs. $\bar{x}$ = 17.60 for those after, $F_{(1,21)}$ = .02, n.s.). There was also a possibility that answering questions on the SCS about habitual private and public self-attention would affect later self-awareness reports in the two day study. To rule out this possibility, subjects who completed the SCS before participating in the timer study were again compared to those who completed the SCS following participation. Again, no differences were found in the mean private self-awareness of subjects who were tested at these two different stages ($\bar{x}$ = 2.70 minutes for those before vs. $\bar{x}$ = 3.13 minutes for those after, $F_{(1,21)}$ = .74, n.s.), nor

in their mean public self-awareness ($\bar{x}$ = 1.79 minutes for those before vs. $\bar{x}$ = 2.05 minutes for those after, $F_{(1,21)}$ = .38, n.s.). These findings provide evidence that the use of random timers in studying self-awareness does not appear to affect responses to the SCS, nor does the exposure to the SCS affect responses to the timer self-awareness items.

Mean Awareness Times. Awareness of other people or things was how subjects spent most of their time during the ten minute periods ($\bar{x}$ = 5.24 minutes), with private self-awareness being second ($\bar{x}$ = 2.86 minutes), and public self-awareness least ($\bar{x}$ = 1.93 minutes). On the average, subjects reported spending 2.37 minutes out of ten minutes daydreaming. With the presence or absence of others serving as the two treatment conditions, subjects' mean awareness was examined by employing a randomized block design (Kirk, 1968) to control for within subject variation. Three subjects' self-reports contained fewer than two instances where they were alone, and thus, they were excluded from this aspect of the data analysis. As predicted, subjects reported being more privately self-aware when alone than when with others ($\bar{x}$ = 3.45 minutes vs. $\bar{x}$ = 2.56 minutes, $F_{(1,18)}$ = 7.25, $p < .05$), and more publicly self-aware when with others than when alone ($\bar{x}$ = 2.08 minutes vs. $\bar{x}$ = 1.09 minutes, $F_{(1,18)}$ = 9.96, $p < .01$). Time spent in awareness of things other than oneself was not affected by the presence or absence of others ($\bar{x}$ = 5.28 minutes when alone vs. $\bar{x}$ = 5.33 minutes when with others, $F_{(1,18)}$ = .02, n.s.).

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Insert table 2 about here

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Based on these findings, it appears that the presence of others does not

affect the degree of general self-attention, but rather, affects the focus of that self-attention. Self-awareness shifts from predominantly private aspects of oneself when alone, to a greater awareness of public self-aspects when with others. Yet, even when with others, individuals are still substantially aware of private self-aspects. In general, private self-awareness appears to be engaged in more frequently than public self-awareness ($\bar{x}$ = 2.86 minutes vs. $\bar{x}$ = 1.93 minutes, $F_{(1,22)} = 12.50$, $p < .005$).

Private self-awareness and daydreaming. In order to determine the relation between the two types of self-awareness and daydreaming, while controlling for within subject variation, two partial correlation coefficients were computed for 423 self-reports. As predicted, time spent in private self-awareness was related to time spent daydreaming ($r = .42$, $p < .05$), but daydreaming was not related to time spent in public self-awareness ($r = .02$, n.s.). Based on these findings and the findings that people are more privately self-aware when alone than when with others and more publicly self-aware when with others than when alone, it appears that the two questionnaire items are valid measures of private and public self-awareness. The fact that subjects reported spending approximately 48% of their time in a self-aware state (29% private and 19% public) is in sharp contrast to the less than 8% time figure reported in the Csikszentmihalyi and Figurski (1982) study. Even if only the private self-awareness measure was used as a comparison figure, the present results still represent over three times more attention to private self-aspects. It is possible that these differences may reflect real differences in the quantity and quality of self-awareness between the college students in the present sample and the older non-college respondents in the former study. However, a more likely explanation is that the Csikszentmihalyi

and Figurski (1982) study's classification scheme was overly conservative and not representative of this state of consciousness.

Self-awareness and self-consciousness. Subjects' ratings of amount of time spent in private and public self-awareness across all time intervals were summed and averaged yielding a mean private and public self-awareness score for each respondent. These scores were then compared to subjects' self-consciousness scores. Data were analyzed using Pearson product-moment correlations.

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Insert table 3 about here

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As expected, public self-consciousness was significantly related to mean public self-awareness ($r = .43$, $p < .05$), and was not significantly related to mean private self-awareness ($r = .18$, n.s.). Counter to expectations, however, private self-consciousness was not significantly related to mean private self-awareness ($r = .19$, n.s.), but was significantly correlated with mean public self-awareness ($r = .46$, $p < .05$). There are two possible interpretations of these findings, one which raises doubts about the private self-awareness measure, the other raising questions about the meaning of the private self-consciousness subscale. Based on the significant relation between private self-awareness and daydreaming, as well as the relation between private self-awareness and the presence of others, and finally, the face validity of the questionnaire item itself, it does appear that private self-awareness was being measured in the present study. It is possible that the lack of an association between the state and the trait measures of private self-awareness is because the private self-consciousness subscale is not a

measure of the amount of time spent in private self-awareness but, rather, is a measure of some other aspect of private self-attention.

Self-awareness and aversive experience. Employing partial correlation analysis to control for within subject variation in the 423 self-reports, the relation between self-awareness and affect, activity level, and involvement with the surroundings was investigated. As predicted, no overall relation was found between the amount of time spent in the state of private self-awareness and level of affect ($r = -.03$, n.s.), activity level ($r = -.05$, n.s.), or involvement ($r = .04$, n.s.). This was also the case for public self-awareness and activity level ($r = .00$, n.s.) and involvement ($r = .02$, n.s.). The relation between public self-awareness and affect, while significant and in the opposite direction to what would be predicted from the Duval and Wicklund (1972) model, was substantively insubstantial (affect: $r = .09$, $p < .05$). To test hypotheses concerning the relation of one's mood to one's sense of personal control, partial correlation coefficients were calculated for degree of control and level of affect, activity level, and involvement. Consistent with the Csikszentmihalyi and Figurski (1982) study, subjects' emotional experience was related to their sense of personal control. The more subjects felt in personal control of the situation the more they experienced positive affect ($r = .29$, $p < .001$), higher activity levels ($r = .17$, $p < .001$), and greater involvement with their surroundings ($r = .55$, $p < .001$). To test hypotheses concerning the relation of mood to private self-awareness under conditions where subjects reported having a good deal of control over the situation, individual self-reports were classified as either representing a feeling of personal control, lack of personal control, or ambiguous. A self-report was classified as ambiguous if the subject marked the midpoint of the seven point

personal control scale. Responses closer to the "complete control" endpoint were classified as indicating a measure of control over their surroundings, while a response falling closer to the "no control" endpoint was classified as representative of little personal control. In contrast to the Csikszentmihalyi and Figurski (1982) findings, when subjects reported having a good deal of control over the situation (67% of the time), there was no relation between the amount of time spent in private self-awareness and affect ($r = .00$) and level of activity ($r = .00$). There was a small relation of private self-awareness to involvement with the surroundings under these conditions ($r = .13$, $p < .05$), directly opposite to the Csikszentmihalyi and Figurski findings. These results, while counter to the Csikszentmihalyi and Figurski (1982) findings, provide a conceptual replication of the self-consciousness trait findings of Study 1. There does not appear to be any simple relation between private self-awareness and negative affect as suggested by Duval and Wicklund (1972), nor does there appear to be a mediating role for private self-awareness in terms of affect under high personal control situations. It should also be pointed out that, while Study 2 was able to replicate findings by Csikszentmihalyi and Figurski not dealing with self-awareness, not one replication was achieved when the self-awareness variable was involved. It is argued that this failure to replicate is due to the inadequate manner in which self-awareness was operationally defined in the Csikszentmihalyi and Figurski study.

While no relation was found between self-awareness and affect under these conditions, results did indicate a relation between private self-awareness and affect as a function of the presence or absence of others. Again, partial correlation analysis was employed to control for within subject variation. As

predicted, when alone (73 self-reports), the less time spent in private self-awareness, the less positive affect ($r = .21$, $p < .05$) and involvement ($r = .25$, $p < .05$) reported. The relation between private self-awareness and activity level when alone, while in the expected direction, was not significant ($r = .13$, $p < .15$). These results indicate that when subjects were alone and feeling sad and not a part of their surroundings, they tended to spend less time thinking about their own private thoughts and feelings than when they were alone and feeling happy and a part of their surroundings. When subjects were in the presence of others (333 self-reports), while the relations between private self-awareness and the three measures were significant and in the expected direction ($r = -.10$, $p < .05$, with affect; $r = -.08$, $p < .10$, with involvement; $r = -.10$, $p < .05$, with activity level), all were relatively weak. These correlations, however, do indicate a tendency for people to spend more time in the state of private self-awareness when they are with others and feeling sad, low in level of activity, and not a part of their surroundings. Using Fisher's Z Transformation (Cohen & Cohen, 1975) of the obtained correlation coefficients for affect, involvement, and activity with private self-awareness when alone and when with others, the normal curve deviations were calculated to determine whether the relation between these measures and private self-awareness differed in the private and public settings. Analyses indicated that the relation between private self-awareness and affect, activity level, and involvement when alone was different from the relation when with others ($Z = 2.38$, $p < .05$ for affect; $Z = 2.51$, $p < .05$ for involvement; $Z = 1.76$, $p < .10$ for activity level). These results provide support for the argument presented here that when individuals go against the situational inducements for private and public self-awareness, their state of

awareness will be associated with more negative experiences.

Finally, in an attempt to replicate the findings of Study 1, subjects' private self-consciousness scores were correlated with their mean daily affect scores and with their variation in affect. As in Study 1, private self-consciousness was not significantly related to mean affect during the day ($r = -.19$, $p > .25$), nor was it significantly related to variation in affect ($r = -.11$, n.s.).

General Discussion

A number of generalizations are suggested by the findings in the present investigation. First, Study 2 raised questions concerning what exactly is being measured by the private self-consciousness subscale. Results suggest that the subscale measures some aspect of private self-awareness other than amount of time spent in this state of consciousness. Individuals who score differently on this subscale seem to spend approximately the same amount of time during the day aware of private thoughts and feelings. While the present study provides no clues as to what aspect is being tapped by the subscale, future work could investigate the possibility that the subscale measures differences in the value or importance placed on this type of awareness by people. It is also possible that the subscale measures tendencies to encode information about the world in terms of its self-relevance. Hull and Levy (1979) believe that theorists have largely ignored the organizing function of self-awareness in their stress on the function of self-evaluation. From their perspective, self-awareness corresponds to a particular form of encoding process which has its effects on behavior by rendering the person sensitive to those aspects of the environment which are potentially self-relevant. Future

research employing experiential time-sampling methods could be instrumental in achieving a better understanding of the quality of both the state and trait aspects of private and public self-awareness if these different theoretical perspectives are taken into account in project design and execution.

Regarding the relation between self-awareness and social context, it appears that the presence or absence of others does not affect awareness of things other than oneself or the degree of general self-awareness. Rather, it seems that the presence of others induces, if not requires, increased attention to public self-aspects, and this increased public self-awareness is associated with a decrease in attention to one's own private thoughts and feelings. Yet, despite this self-awareness shift from predominantly private self-aspects when alone to a greater awareness of public self-aspects when with others, in general, people are more attentive to their "private self" than their "public self."

Finally, studies 1 and 2 investigated the possible relations between the state and trait aspects of self-awareness and affect. While people's emotional experience is related to their sense of personal control over their surroundings, it is not related to their degree of self-awareness in the manner suggested by Duval and Wicklund (1972) or Csikszentmihalyi and Figurski (1982). Engaging in private self-awareness is not associated with the experience of more negative affect. Whenever people believe they have a good deal of personal control over their surroundings, increased private self-awareness is not associated with less affect, activity level, or involvement. Further, both the results of Studies 1 and 2 indicated that high private self-conscious individuals do not experience a greater variation in affect during the day than low private self-conscious individuals. While there is some question as

to what exactly the private self-consciousness subscale measures, the present results do suggest that individuals who are attentive to private thoughts and feelings are not more likely to expereince negative affect or fluctuations in affect than those people who do not attend to their more private self-aspects. It appears, based on the results of these two studies, that there is little direct association between self-awareness and affect.

The only condition under which private self-awareness was related to affect was when individuals went against the situational inducements for private self-awareness. While these results could be interpreted as suggesting that private self-awareness is simply a more positive experience when alone than when with others, an elaboration of this interpretation makes more theoretical sense. Since being alone tends to make one aware of private self-aspects and being with others tends to make one aware of public self-aspects, individuals who are having negative experiences when alone may avoid private self-awareness in an attempt to change their mood, while people who are having negative experiences when with others may engage in private self-awareness in an attempt to change their mood. In both instances, the individuals are either avoiding or engaging in private self-awareness in an attempt to escape psychologically from their present surroundings. The aspect of this interpretation dealing with the avoidance of private self-awareness when alone is consistent with two previous experimental studies. Duval, Wicklund, and Fine (cited in Duval & Wicklund, 1972) found that subjects receiving negative personal feedback exited more rapidly from a room with a mirror and a television camera trained on them than did subjects who received positive feedback, and subjects who were not confronted with self-awareness inducing stimuli. Similarly, Greenberg and Musham (1981) reported that when individuals were

confronted with attitudinally discrepant behavior, they avoided stimuli (mirrors) that would induce private self-awareness. Likewise, in the present study, when subjects experienced negative affect in a situation that induced private self-awareness, they tended to avoid this state of consciousness. However, the present results also suggest that people have a tendency to actually engage in private self-awareness when they are with other people and are feeling sad, low in level of activity, and not a part of what is going on around them. If this finding can be replicated in future studies, the argument that private self-awareness can serve as a psychological escape from negative experiences in public surroundings will be strengthened.

Viewing self-awareness from this perspective makes it clear that there is no direct link between self-focused attention and negative affect. First, reactions to situations that induce private self-awareness seem to depend upon the affective reactions encountered while experiencing the self-aware state. As Scheier and Carver (1977) suggest, affective reactions may be intensified by self-focusing conditions and thus, people may avoid private self-awareness under these conditions when they are in a bad mood. Second, when people are experiencing negative affect in situations that induce awareness of public self-aspects, they may psychologically escape their surroundings by retreating into a state of private self-awareness. In public settings, private self-awareness can be an escape to an inner world less associated with the current aversive conditions. Thus, in order to understand the relation between self-awareness and mood, it is necessary to take into account inducements for self-awareness in the social setting.

In closing, some final comments are in order concerning the measurement of self-awareness and of the general research methodology presented here. In

Study 2 it was assumed that private self-awareness, public self-awareness, and awareness of others were mutually exclusive concepts. Subjects were instructed to be sure that their estimates of time spent in these three states of awareness summed to ten minutes whenever they were signaled. While the separation of these states is an assumption generally held by researchers in the field, it may not be an accurate representation of one's awareness of private and public self-aspects. For example, when one is daydreaming about an upcoming social engagement with a potential romantic partner, are the thoughts and feelings associated with the daydream aspects of the state of private self-awareness since they can only be observed by the experiencing person (Buss, 1980), or are they aspects of public self-awareness since the fantasy deals with one's social behavior? In these situations, private and public self-awareness may be indistinguishable. In line with this possibility, future studies employing ETSM should not assume that these two states of awareness are mutually exclusive, but their relation should be empirically tested.

Regarding the general methodology of Studies 1 and 2, one purpose of the paper was to demonstrate the feasibility of the experiential time sampling methodology in self-awareness research. It was believed that if this method could be successfully applied to the analysis of the self-awareness process, it would represent a significant contribution to the field since it would mean that data could be collected as subjects went about their normal daily activities. Further, a method allowing participants to report their states of awareness in natural rather than artificial settings could provide information on the relation between self-awareness and situational factors that could then be compared to the results obtained in the more controlled experimental

environments. Yet, while the time sampling method is an alternative to experimental designs, the present research illustrates the importance of operationally defining concepts of interest in the same manner as they have been previously defined in the more traditional experimental literature. If such care is taken in research design, the results presented here demonstrate that the use of random timers is an effective means of obtaining repeated self-reports from respondents concerning their degree of self-awareness in situations normally not accessible to investigators.

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Footnote

1. One possible conclusion some readers might draw from Study 1 is that the nonsignificant findings concerning affect are due to some peculiarity of the subject sample and not to a lack of a relation between private self-consciousness and negative affect. This conclusion is not warranted, however, since high and low private self-conscious subjects did indeed differ on one relevant self-consciousness dimension not reported in the main body of the present paper. Included on each subject's timer questionnaires was a unique list of adjectives previously designated by the subject as being self-descriptive. These self-descriptive adjectives were chosen from Gough and Heilbrun's (1965) 300 item Adjective Check List. As expected, high private self-conscious subjects checked a greater number of adjectives on the timer questionnaires during the two day study than did the low private self-conscious subjects ($\bar{x}$ = 10.42 vs. $\bar{x}$ = 5.29, $F_{(1,38)} = 5.26$, $p < .05$), as well as tending to check a greater percentage of available adjectives on the timer questionnaires (15% vs. 9%, $F_{(1,38)} = 2.74$, $p = .10$). These findings replicate previous research (Turner, 1978), and indicate that this sample was a fair representation of high and low private self-conscious individuals.

Table 1

Private Self-Consciousness and Affect

	High Private Self-Consciousness	Low Private Self-Consciousness
Mean Affect	$\bar{X}$ = 3.62 sd = .83	$\bar{X}$ = 3.61 sd = .80
Variation in Affect	$\bar{X}$ = 2.31 sd = 1.34	$\bar{X}$ = 2.30 sd = 1.72

Note. The mean affect score range is from 1.00 to 7.00, with higher scores indicating greater positive affect. No significant differences were found between groups for either mean daily affect or variation in affect. In each cell, n = 20.

Table 2

Awareness Times During the Ten Minute Periods

	Alone	With Others	Across All Situations
Private Self-Awareness	$\bar{X} = 3.45_a$ sd = 1.25	$\bar{X} = 2.56_a$ sd = 1.12	$\bar{X} = 2.86$ sd = 1.12
Public Self-Awareness	$\bar{X} = 1.09_b$ sd = 1.10	$\bar{X} = 2.08_b$ sd = 1.15	$\bar{X} = 1.93$ sd = .96
Awareness of other people or things	$\bar{X} = 5.28$ sd = 2.05	$\bar{X} = 5.33$ sd = 1.71	$\bar{X} = 5.24$ sd = 1.70

Note. All scores indicate the mean number of minutes subjects spent in each state of awareness during the ten minute periods. Comparisons were made between the "alone" vs. "with others" situations for each state of awareness. Means sharing a common subscript are significantly different at the .05 level or beyond. In each cell, n = 20, except for the awareness scores across all situations, where n = 23.

Table 3

Mean Self-Awareness and Self-Consciousness Correlations

	Private Self-Consciousness	Public Self-Consciousness
Mean Private Self-Awareness	.19	.18
Mean Public Self-Awareness	.46*	.43*

Note. Pearson correlation coefficients with an asterisk are significant at the .05 level or beyond. In each cell, n = 23