

**SELF-CONSCIOUSNESS AND THE FIVE FACTOR MODEL OF PERSONALITY:  
DISTINGUISHING RUMINATION FROM REFLECTION**

by

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## ABSTRACT

A distinction between ruminative and reflective forms of dispositional self-focus is introduced and the theoretical utility of this distinction is evaluated in a program of eight studies. Study 1 examined for the presence of this distinction among natural language trait descriptors. Study 2 evaluated whether this distinction provided a sufficient summary of relations between the Fenigstein, Scheier and Buss (1975) Self-Consciousness scales and the Five Factor Model of personality (FFM). In Study 3, two brief questionnaire measures of ruminative and reflective tendencies were developed, and their convergent and discriminant validity evaluated with respect to the FFM, and the Fenigstein et al. (1975) Public Self-Consciousness (PUSC) and Private Self-Consciousness (PRSC) scales. Study 4 investigated the extent to which rumination and reflection separately account for PRSC associations with measures of psychological distress (e.g., Beck Depression scale) and intellectual dispositions (e.g., Need for Cognition scale), respectively. Study 5 evaluated, using a sample of dormitory roommates, the extent to which self-estimates of ruminativeness and reflectiveness correspond with the judgments of a knowledgeable observer. Studies 6, 7, and 8 evaluated the extent to which the traits of rumination and reflection separately account for previously reported PRSC associations with three theoretically relevant criteria of private self-consciousness: state indices of self-focused attention (Study 6), the asymmetry effect in self-other similarity judgments (Study 7), and research volunteerism (Study 8). Findings suggest that the PRSC scale confounds two relatively independent, and motivationally distinct dispositions, rumination and reflection, and that latent ruminative and reflective components of PRSC scores separately and fully account for PRSC correlates and effects. These findings provide a straightforward explanation of the "self-absorption" paradox implicit in

the PRSC research literature, i.e., the consistent but apparently contradictory finding of more accurate and extensive self-knowledge, yet *higher* levels of subjective psychological distress, among persons high in private self-consciousness. It is likely that the PRSC's associations with psychological distress are uniquely due to its neurotic component (rumination), and that the PRSC's self-knowledge effects are uniquely due its intellectual component (reflection). It is argued that rumination and reflection represent statistically and functionally independent self-focusing tendencies. Their strong and unique associations with the FFM dimensions of neuroticism and openness, respectively, imply a basic dichotomy of self-attentive motives: anxiety/fear and curiosity/exploration: rumination represents a useful summary conception of self-attentiveness motivated by perceived threats, losses, or injustices to the self; reflection represents a useful summary conception of self-attentiveness motivated by intrinsic curiosity, or epistemic interest in the self. It is concluded that the spatial metaphor of "direction" may not be an appropriate basis for a useful scientific conception of dispositional self-consciousness. The concept of a purely cognitive tendency to have attention chronically directed toward the self versus away from the self, construed independently of the emotional and motivational determinants of such a tendency, is probably untenable.

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## INTRODUCTION

Since Duval and Wicklund's (1972) introduction of self-focused attention as a variable in psychological research, self-attention concepts have infiltrated a vast array of research areas in social, personality, abnormal, and health psychology, and including such venerable topics as dissonance (Zanna & Aziza, 1976), deindividuation (Diener, 1980), bystander apathy (Wegner & Schaefer, 1978), self-disclosure (Shaffer & Tomarelli, 1989), as well as recent developments in social cognition (Srull & Gaelick, 1983), attitudes (Wilson, Dunn, Kraft, & Lisle 1989), depression (Pyszczynski & Greenberg 1987) and health and coping (Frone & McFarlin, 1989; Suls & Fletcher, 1985). Duval and Wicklund's self-awareness theory has itself been expanded and extended by a number of researchers, including Wicklund (1975; 1979; 1980), Fenigstein, Scheier, and Buss (1975), Buss (1980), Carver and Scheier (1981), and most recently, Gibbons (1990).

The core idea of Duval and Wicklund's (1972) theory was the notion that self-focus would instigate efforts to self-regulate behavior. Adapting principles from control theory (e.g., Powers, 1973), Carver and Scheier (1981) developed the self-attention/self-regulation concept into a general model of behavioral self-regulation that has taken a prominent place in research on depression, anxiety disorders, stress and coping, and health psychology. Carver and Scheier's (1981) theory also incorporated two controversial departures from the self-awareness theories of Duval and Wicklund (1972) and Wicklund (1980) which will be the focus of the present discussion. Both of these departures originated in a paper by Fenigstein, Scheier, and Buss (1975) who proposed a dispositional form of self-awareness and reported the development of a trait measure of self-awareness shown to contain two virtually uncorrelated dimensions. The authors

suggested these two factors corresponded to distinct varieties of chronic self-directed attention: public self-consciousness and private self-consciousness.

The view that there exists a trait or dispositional counterpart to Duval and Wicklund's state of self-awareness, and secondly, that there exist two forms of this trait, public and private, was subsequently developed by Buss (1980), and the two ideas forge vital links among the propositions and empirical evidence surrounding Carver and Scheier's general theory of self-attention processes. The Fenigstein et al. (1975) Private and Public Self-consciousness scales (PRSC and PUSC, respectively) were made a central part of Carver and Scheier's self-attention research program, providing for "interlocking conceptual replications" of each study involving laboratory manipulations of self-focus (1981, p.40).

From the beginning, however, both the private and public distinction and the assumption of parallelism between trait and state self-awareness effects has been the subject of criticism, and these criticisms have grown in recent years (e.g., Gibbons, 1990; Gollwitzer & Wicklund, 1987; Wicklund & Gollwitzer, 1987). Most recently, psychometric problems surrounding the PRSC scale have been the subject of an extended debate in the literature (see Bissonette & Bernstein, 1990).

The general purpose of the present series of studies was to introduce and articulate an alternative two-factor model of dispositional self-consciousness more closely aligned with the Five Factor model of personality (FFM). The heuristic value of this self-attentiveness model is illustrated by applying the model to an important, and presently unresolved contradiction in the private self-consciousness literature, the "self-absorption paradox" (described below). In chapter one, conceptual and psychometric criticisms of the Fenigstein et al. (1975) "public-private" model are briefly reviewed. These criticisms call into question (1) the construct validity of "public" self-consciousness, (2) the

structural integrity of the Fenigstein et al. (1975) "private" self-consciousness scale, and (3) self-attentional interpretations of private self-consciousness correlates and effects. Together, these criticisms support recent suggestions that substantial revision of the Fenigstein et al. (1975) scales, or alternative conceptions and measures of self-focusing tendencies are needed to advance psychological research in this area.

Following this review, a program of eight studies is described which advances a fundamental distinction between "neurotic" and "intellective" forms of self-attentiveness associated with Factors IV (neuroticism) and V (openness) of the Five Factor model, respectively. The first two studies investigated the nature of self-attentive dispositions from the perspective of the Five Factor model of personality. In the third study, a questionnaire measure of ruminative and reflective forms of self-attentiveness was developed, and its convergent and discriminant validity evaluated in that and three additional studies. Studies 7 and 8 re-evaluated previously reported findings involving the Fenigstein et al. (1975) Private Self-Consciousness scale (PRSC). The purpose of this program of studies was to demonstrate that the two self-attention constructs advanced here, rumination and reflection, account for most PRSC findings reported in the literature, and provide a straightforward explanation for contradictory aspects of this literature.

#### Is the "Public-Private" Model of Dispositional Self-consciousness Valid?

Conceptual issues. Following Fenigstein et al. (1975), and Buss (1980), Carver and Scheier (1981) proposed that self-attention effects on behavior depended on which "self" was being attended to, the private or the public self. Like Fenigstein et al. (1975) and Buss (1980), Carver and Scheier define the private self as "the person's own personally held feelings and attitudes, his or her

covert thoughts, and other self-aspects that are hidden from the view of others" (1983, p.126). Private self-consciousness refers to the relative frequency with which one focally attends to one's " thoughts, feelings, attitudes, motives, and behavioral tendencies" (1981, p.46). Carver and Scheier (1981) define public self-consciousness as "the tendency to be aware of the publicly displayed aspects of the self" (1981, p.46; cf. Buss, 1980, p. 25-28). That is, public self-consciousness refers to the relative frequency with which one focally attends to one's appearance or style of behavior. Thus, in contrast to Duval and Wicklund's (1972) theory, Carver and Scheier postulate two distinctly different forms of self-focused attention, each predicted to have different and in some cases divergent effects on behavior (for a review of empirical research demonstrating such divergent effects see Buss, 1980, and Carver and Scheier, 1985).

Wicklund and Gollwitzer (1987) have noted what would seem to be an important contradiction in Carver and Scheier's control theory account of self-awareness effects on behavior, a contradiction associated with the public and private distinction. According to Carver and Scheier's control theory, self-awareness influences behavior by activating in memory behavior standards associated with the self. This process is assumed to underlie self-attentional effects associated both with private self cues (mirror) and attentional traits (PRSC) and public self cues (audience) and attentional traits (PUSC). Each type of self-attention influences behavior in the same way, by making self-standards more accessible in memory.

Because it is the case, however, that public and private self-attention are known to have divergent effects on behavior (e.g., compliance with an incorrect majority in a perceptual judgment task; see Froming and Carver, 1981) , it follows that private and public self-attention involve activation of divergent sets of standards stored in memory, one set for those who frequently think about their

motives, attitudes, values, and standards, and a different set for those who frequently focus on their outward appearance and style of behavior. Carver and Scheier (1985) have now explicitly identified public and private self-attention with differing sets of behavior standards stored in memory.

Gollwitzer and Wicklund (1987) have pointed out, however, that explaining divergent PRSC and PUSC effects in terms of divergent, "internal" behavioral standards implies a re-definition of the public self in terms of *inner* self aspects. They suggest this definition introduces a serious contradiction in Carver and Scheier's theory of public and private self-consciousness. According to Fenigstein et al. (1975) and Buss (1980), the private domain of the self is that which resides "inside" the person and is therefore unobservable, and unavailable to the scrutiny of others. By re-defining the public self with respect to beliefs and feelings inside the person, and therefore unobservable and unavailable to the scrutiny of others, Carver and Scheier's public self would seem also to be part of the private self. This introduces the theoretical problem of explaining why the domain of private self-consciousness should for some reason exclude private thoughts and feelings, "internally stored behavior standards", governing one's public conduct and appearance. However, if one concedes that private self-consciousness does include private feelings, attitudes, and values associated with one's outward appearance and behavior, a further contradiction arises. If public self-consciousness achieves its effects via chronically activating into working memory one's stored standards governing the public self, and if, by definition, private self-consciousness means chronic attentional focus on personal thoughts and feelings, i.e., *chronically activating them in working memory*, why would private and public self-consciousness lead to divergent behavioral outcomes?

Conversely, if public self-consciousness achieves its effects via chronic activation in working memory of personal thoughts and feelings governing the public self, it is not clear why such chronic activation somehow fails to produce greater awareness of those thoughts and feelings, i.e., greater private self-consciousness. Carver and Scheier's re-definition of the public self in terms of internal behavioral standards implies the theoretical contradiction that, by definition, publically self-conscious persons are privately self-conscious.

There is a further problem with Carver and Scheier's definition of public and private selves as two classes of behavioral standards stored in memory. This manner of grafting the public-private distinction of Buss (1980) onto control theory (e.g., Powers, 1973) necessarily confounds motivational with cognitive-structural factors in what is intended to be a purely information-processing account of the behavioral effects of self-focus. Although Carver and Scheier's (1981) theory highlights information-processing mechanisms (e.g., feedback loops, and the regulation of attention), the need to incorporate the private-public distinction to predict the effects of self-attention implies that Carver and Scheier's "cognitive-structural" explanations depend on individual differences in "personal standards of behavior"---i.e., values, motives, interests, or preferences. The public-private distinction merely involves one kind of content distinction among "stored standards" linking attention and behavior. For some reason, Buss (1980), Fenigstein et al. (1975) and Carver and Scheier (1981; 1985) seem in agreement that a distinction between observable and nonobservable self-aspects is somehow basic or fundamental to the notion of dispositional self-attention. There are surely other behaviorally consequential subdivisions of the "self", however, that could be shown to qualify self-attention effects. The necessity of specifying individual differences in self-contents in Carver and Scheier's "information-process" account of self-awareness effects clearly raises



the question of whether *any* attentional influence on behavior may be properly explained without referring to the expectancies, beliefs, feelings, or motives governing the direction of attention.

Aside from the conceptual ambiguities discussed above, a number of concerns have been raised about the reliability and validity of the Fenigstein et al. (1975) Self-Consciousness scales.

PUSC: self-focus or other-focus? There is some doubt regarding the extent to which the PUSC does in fact measure any form of self-directed attention. Arguably, one of the most direct of all necessarily indirect tests of the attentional assumption is to measure the frequency of self-referential thinking: individuals who claim to be continually aware of themselves--whether that self is the observable or unobservable one--should demonstrate more frequent self-references in random thought samples collected over time, or in responses to ambiguous cues such as sentence stems, or in open-ended descriptions of one's recent or present thoughts. So far, however, the PUSC scale has never passed this type of self-reference test (Carver & Scheier, 1978; Hoover, Wood, Wegner & Knowles, 1982, cited in Wicklund & Gollwitzer, 1987, p.512).

Carver and Scheier (1987) argue, however, that the following two studies substantiate the self-focus assumption of the PUSC. Hass (1984) reports that high PUSC scorers, when requested to draw an imaginary letter E on their foreheads, were more likely to align the letter from an external observer's orientation than were low PUSC scorers. However, one might equally offer this as evidence that high PUSC individuals are simply more attentive to the needs of observers and tend to respond to experimenter requests in a more socially-facilitative manner than low scorers do (cf. Wicklund & Gollwitzer, 1987).

Carver and Scheier (1987) also cite a study by Franzoi and Brewer (1984) as proof of the PUSC's validity. Franzoi and Brewer had subjects complete an

index of state public and private self-awareness at random intervals over a two day period. Pre-test PUSC scores correlated highly with the average amount of state public self-awareness over two days. Examination of the state rating instructions in this study, however, suggests the ratings may say as much about other-focus as self-focus. For example, at each time sample, subjects were instructed to estimate how much time they had spent in the preceding ten minutes "being attentive to and/or concerned about how other people see you and think about you". (p. 527). It is not clear whether such an item is tapping attentiveness to observer's reactions to the self or attentiveness to the self. In summary, evidence supporting the claim that PUSC scores reflect *self* attentiveness is for the most part ambiguous.

PRSC factorial complexity. Although the PRSC does show small significant correlations with projective indices of self-referential thought (e.g., Carver and Scheier, 1978; Hoover, et al., 1982), the relatively low internal consistency of the PRSC has raised concerns about the generality of these validity coefficients across the ten items within the PRSC scale. There is now consistent evidence of two factors among the PRSC items. Following Burnkrant and Page (1984), these factors are usually referred to as "internal state awareness" (ISA) and "self-reflectiveness" (SR) (e.g., Mittal & Balasubramanian, 1987; Piliavin & Charng, 1988). Although counterarguments have been made that evidence of two PRSC factors is confounded by differences in the items' distributional properties (Bernstein, Teng, & Garbin, 1986), mounting evidence suggests the ISA and SR factors are substantively as well as statistically different.

SR tends to correlate positively, and ISA, negatively, with measures related to negative affectivity or neuroticism. These measures include self-esteem and identity-seeking (Piliavin and Charng, 1988), self-concept clarity (Campbell, Trapnell, Heine, Lavalle, Katz, & Lehman, in press), and anxiety and depression

(Watson & Biderman, 1993; Watson, Morris, & Hood, 1988). The contradictory relation of ISA and SR with identity-seeking and self-concept clarity is especially germane to the PRSC's construct validity because of the fundamental "clarification" postulate of private self-consciousness (Buss, 1980; discussed in greater detail below), a postulate commonly invoked to explain numerous information-processing effects of private self-consciousness (e.g., Nasby, 1985; 1989). According to Buss (1980), private self-consciousness "is assumed to make all private events, both affectively charged and neutral, clearer and more distinct" (p.14). In light of the clarification postulate, it is not clear why ISA and SR subfactors of the PRSC should be inversely associated with clarity and certainty of one's self-image (Campbell et al., in press; Franzoi 1983) if ISA and SR are both measuring private self-consciousness.

The divergent ISA and SR relations with self-esteem and with NA-related traits highly correlated with self-esteem such as depression and anxiety are important for similar reasons. Higher self-esteem has been shown to predict more accurate and certain self-knowledge (Campbell, 1990), and more resistance to social influence attempts (Brockner, 1979; 1984), two categories of phenomena that figure prominently in efforts to test Buss's clarification hypothesis with respect to the PRSC.

Further evidence of psychological distinctiveness between SR and ISA is the fact of their relatively low intercorrelation. The PRSC SR subfactor frequently correlates more highly with the PUSC ( $> .30$ ) scale than with the other PRSC subfactor, ISA ( $< .30$ ). Although interpreting ISA correlations with other variables is problematic due to the low reliability of this 4-item composite ( $\alpha < .45$ ), the low degree of relation between ISA and SR may be substantive rather than artifactual: A private "body" self-consciousness scale (Miller, Murphy and Buss,

1981), whose items bear a conceptual similarity to the ISA, does not appear to be correlated with the PRSC (Brockner and Swap, 1983).

The identification of two psychologically distinct components within the PRSC may assist in the process of untangling the numerous contradictory findings in the PRSC research literature. A recent example of this is the literature on self-consciousness and attributional bias. One important outcome of self-focus predicted by Duval and Wicklund (1972) was a heightened tendency to make internal attributions for outcomes. While an early study by Buss and Scheier (1976) did find evidence of self-attributional bias for those scoring high on the PRSC scale, a later study by Franzoi and Sweeney (1986) failed to replicate the Buss and Scheier finding, showing instead a tendency for high PRSCs to be less biased than lows.

In an exact replication of Franzoi and Sweeney (1986), Watson, Headrick and McKinney (1989) shed some light on the issue by testing whether ISA and SR relate differentially to attributional bias. As expected, they found a strong ISA x SR interaction on internality of attributions, with individuals scoring low on ISA and high on SR showing a much higher tendency to attribute negative events to internal causes than other subjects. These findings are rendered unremarkable, however, by the inverse associations typically found for ISA and SR with measures of negative affectivity or neuroticism (reviewed above). Markers of negative affectivity such as anxiety, depression, and low self-esteem are known to predict internal or self-blaming attributions for negative events (e.g., Beck, 1967). ISA x SR interactions such as those reported by Watson et al. (1989) may merely indicate that neuroticism-related effects such as self-blaming are more pronounced among highly neurotic individuals (e.g., SR *minus* ISA) than moderately neurotic individuals (e.g., SR *plus* ISA, i.e., PRSC total scores).

In summary, there is clear evidence to suggest factorial complexity in the PRSC scale, and this complexity may have non-trivial implications for the PRSC literature. There is reason to believe that some PRSC effects attributed to the tendency to be privately self-focused may be due solely to one, or the other, of two psychologically distinct qualities measured by the PRSC total score. An important issue for future PRSC research is to more clearly explicate the psychological meaning of these two qualities.

### PRSC and self-knowledge

In the article which introduced the public and private self-consciousness scales, Fenigstein et al. (1975) noted that self-awareness or self-knowledge is a central goal of many schools of psychotherapy, including psychoanalysis, Rogerian or client-centred therapy (Rogers, 1951), existential therapy (Perls, 1969), transactional analysis (e.g., Berne, 1964), encounter groups, and sensitivity training. The pursuit of self-knowledge or self-insight is also a traditional goal of the practice of meditation. The advocacy of self-awareness apparent in these practices rests on the assumption that self-awareness enhances psychological growth and adjustment, and that it does so by expanding self-insight or self-knowledge. Although not mentioned in Duval and Wicklund's (1972) self-awareness theory, similar "self-knowledge" assumptions constitute basic corollaries of most self-attention theories (Buss, 1980; Wicklund, 1980; Carver & Scheier, 1981; Gibbons, 1990). Buss (1980) presents a particularly clear statement of this hypothesis:

Those who attend carefully to introductions remember names better. ...By extrapolation, those who are more aware of their inner events should know them better. If you are in a transient state of self-awareness, you should know more accurately and precisely your bodily reactions, emotions, motives, and fantasies. Such better self-knowledge is analogous to the better knowledge of external events that is the outcome of close attention to the everyday stimuli around us. (p.16)

...private self-conscious people regularly inspect their bodily processes and moods, reflect about their motives and goals, and fantasize a lot about themselves. As a result of repeated self-reflection, they know themselves very well. (p.20; emphasis added)

This hypothesis also plays a key role in PRSC research where it has been invoked to account for a wide range of PRSC findings including (1) enhanced accuracy and consistency of self-reports (reviewed by Gibbons, 1983; 1990), (2) reactions to social influence, including more reactance, less compliance and less suggestibility (reviewed by Carver & Scheier, 1981, 1985; Gibbons, 1990; Porterfield, Mayer, Dougherty, Kredich, Kronberg, Marsee, & Okazaki, 1988) and (3) more efficient, and extensive processing of self-relevant information (reviewed by Nasby, 1985; 1989a).

There are, however, at least two fundamental theoretical problems in attributing PRSC effects to self-knowledge induced by self-attention. Remarkably, neither of these difficulties have been noted or empirically addressed in the PRSC literature, yet both seem readily apparent upon consideration of the PRSC's relation to the Five-Factor model of personality. The PRSC is reliably correlated with two of the factors in this model, neuroticism and openness (e.g., McCrae, 1993). Consistent PRSC associations with neuroticism and openness imply a particular pattern of PRSC correlates: private self-consciousness will tend to be related to two groups of traits, traits associated with Factor IV of the FFM (neuroticism), and traits associated with Factor V of the FFM (openness to experience).

The very different psychological implications of these two categories of traits introduces two important problems for any "self-knowledge" account of PRSC effects. The first is implied by the PRSC's correlation with Factor V traits.

Factor V and self-knowledge: attention or motivation? Many traits associated with openness to experience have demonstrated effects on

information-processing and social behavior similar to those reported for the PRSC scale. Furthermore, many of these effects for Factor V-related variables are explained not in terms of cognitive-structural processes (e.g., attention and self-regulation) but affective and motivational processes (e.g., values, motives, preferences). To the extent that private self-consciousness is correlated with these traits, social and information-processing effects common to private self-consciousness and Factor V traits may be due to a common process, a process which may or may not depend on chronic self-attention.

For example, private self-consciousness has been found to correlate positively with need for cognition, the individual tendency to enjoy "effortful cognitive activity" (Cacioppo & Petty, 1982). This Factor V-related trait has been extensively researched in the persuasion literature as a recipient factor predictive of greater cognitive elaboration or articulation of persuasive messages (Cacioppo, Petty, Kao, & Rodriguez, 1986; Cacioppo, Petty, & Morris, 1983). For example, when processing persuasive messages, persons scoring high in need for cognition are more responsive to argument quality (Petty & Cacioppo, 1986), and less influenced by audience reactions than persons low in need for cognition (Axson, Yates, & Chaiken, 1987). Higher need for cognition is also related to greater "chunking" or unitizing, and causal processing, of social information (Lassiter, Briggs, & Bowman, 1991; Lassiter, Briggs, & Slaw (in press), and less proneness to common information-processing biases such as the correspondence bias in causal attribution (D'Agostino & Fincher-Kiefer, 1992) and the recency bias in recall memory (Aherling & Parker, 1989). Need for cognition also appears to moderate attitude-behavior consistency in a manner similar to that of private self-consciousness: at least four studies now document greater attitude-behavior consistency for persons high in need for cognition,

relative to those low on this trait (Aherling, 1987; Cacioppo et al., 1986; Verplanken, 1989; Verplanken, 1991).

Because the effects of need for cognition are attributed to a motivational rather than an attentional tendency (see Cacioppo & Petty, 1982), evidence that PRSC and need for cognition show some strikingly similar effects on cognition and behavior raises the possibility that some PRSC effects are mediated by motivational processes overlapping with need for cognition (or, conversely, that these need for cognition effects are mediated by self-attentional processes overlapping with the PRSC). This motivational interpretation of PRSC effects connects the self-consciousness literature with a number of social-cognitive theories postulating individual differences in information-processing motives, including need for closure (Kruglanski, 1990), attributional complexity (Fletcher, et al., 1986) and uncertainty orientation (Sorrentino & Bobocel, 1988). This interpretation is also consistent with the recent finding that PRSC predicts intrinsic motivation toward self-understanding or self-knowledge (Franzoi, Davis, & Markwiese, 1990).

A similar kind of distinctiveness issue may be raised in connection with the second category of PRSC findings commonly interpreted in terms of the self-knowledge hypothesis: reactions to social influence. Interpretations of PRSC effects on compliance (Froming & Carver, 1981) reactance (Carver & Scheier, 1981), and suggestibility (Porterfield, et al., 1988; Scheier, Carver, and Gibbons, 1979) all have in common two assumptions. One is that high PRSC individuals evidence less situational "plasticity" in behavior (Brockner, 1984) because they have more accurate self-knowledge than low PRSC persons. Secondly, and most importantly, explanations for these effects share the assumption that the



more accurate self-knowledge of high PRSC individuals is acquired through or is the result of frequent self-focusing of attention.

Unfortunately, because none of these studies included measures of motivational traits that bear a conceptual resemblance to private-self-consciousness and that might be expected to show similar compliance, reactance and suggestibility effects, one cannot rule out the possibility that implicit motivational variance in the PRSC overlapping with these traits accounted for the PRSC effects rather than self-focusing tendencies assumed to be measured by the scale. There is reason to believe that it is, in fact, latent motivational variance in the PRSC that accounts for the PRSC's behavioral "independence" effects (i.e., resistance to social influence).

A negative relation between Asch-type conformity (yielding to an incorrect majority in a perceptual judgement task) and traits such as curiosity, reflectiveness, liking for complexity, and analytical-mindedness was reported as early as 1956 in a study supervised by Asch himself (Barron, 1956, p. 287). In a comprehensive search for dispositions predictive of yielding tendencies in Asch's paradigm, Barron administered adjective checklists, personality and psychopathology questionnaires, and measures of figure preferences to individuals in the highest ("yielders") and lowest ("independents") quartiles of yielding scores, which were based on actual behavior in the conformity task. Summarizing his findings, Barron described the prototypical self-portrait of an independent subject as one "liking uncertainty", "receptive to new ideas", valuing creativity", and "in communication with their own inner life". Among the nine personality questionnaire items most able to discriminate independents from yielders was the item "A person should not probe too deeply into his own and other people's feelings, but take things as they are" (p. 295). The (inverse) resemblance of this item to those on the PRSC scale is obvious.

In addition, note the overlap between the remaining descriptors and the cognitive styles mentioned above in connection with PRSC veridicality effects: on the basis of Barron's data, the prototypical "independent" would appear to be someone low on uncertainty orientation (Sorrentino & Bobocel, 1988), low on need for closure (Kruglanski, 1990), high on attributional complexity (Fletcher et al. 1986) and high on need for cognition (Cacioppo & Petty, 1982). A question immediately arises regarding these apparent commonalities and the causal source of PRSC "independence" effects: is the source direction of attention, *per se*, (a motive-free cognitive tendency) or a motive or motives associated with the likelihood of engaging in self-analysis or self-reflection, a motive such as curiosity or interest in thinking?

Factor IV and self-knowledge: the self-absorption paradox. The second important objection to "self-knowledge" interpretations of PRSC effects is that neuroticism, the second broad trait domain correlated with private self-consciousness, is strongly and generally implicated in psychopathology (e.g., Johnson et al, 1986). This presents a theoretical problem for self-knowledge explanations of PRSC findings because positive PRSC correlations with indicators of maladjustment (i.e., neuroticism) clearly contradict the "adjustment" corollary of the self-knowledge hypothesis: self-insight is assumed to enhance psychological adjustment; if private self-consciousness increases self-insight, other things being equal, one would expect a positive effect of private self-Consciousness on psychological adjustment. These two apparently contradictory sets of findings, PRSC effects consistent with the self-knowledge hypothesis, yet positive PRSC correlations with neuroticism measures, imply a "self-absorption paradox": chronic, private self-attention would appear to enhance self-insight at the expense of psychological adjustment.

Positive correlations between PRSC and Factor IV introduce a further difficulty for the self-knowledge hypothesis. As noted above, Factor IV traits such as anxiety, depression, and (low) self-esteem predict several of the same behavioral plasticity phenomena as private self-consciousness but in a direction opposite to that of the PRSC. For example, whereas, private self-consciousness is associated with resistance to suggestibility (e.g., Scheier, Carver, & Gibbons, 1979) and to social conformity pressures (Froming & Carver, 1981), low self-esteem, a prototypical marker of the Big Five factor of neuroticism, is very generally implicated in behavioral "plasticity" effects such as suggestibility and compliance (Brockner, 1984). More importantly, both the PRSC and self-esteem literatures postulate the same underlying mediator of these phenomena: self-knowledge. PRSC effects are typically attributed to more accurate knowledge of internal states and personal beliefs (e.g., Froming & Carver, 1981; Scheier, Carver, & Gibbons, 1979); the behavioral "plasticity" effects of low self-esteem have been attributed to lack of clarity and certainty of the self-concept (Campbell, 1990; Campbell & Lavalley, 1994). Positive correlations between PRSC and neuroticism markers such as trait anxiety, depression and low self-esteem (Campbell, Trapnell, Heine, Lavalley, Katz, & Lehman, in press) stand in direct contradiction to this "lack of self-knowledge" interpretation of positive associations between neuroticism and social influencability.

The positive association between private self-consciousness and the neuroticism domain of the FFM also highlights a third, more general contradiction of the PRSC self-knowledge hypothesis. In a comprehensive review of the evidence linking various psychopathological states to chronic self-attention, Ingram (1990) introduced the term "self-absorption" to characterize the sustained, inflexible attention toward the self that accompanies a remarkable number of psychological disorders. Indeed, Ingram found heightened self-

attention to be such a universal feature of psychopathology that he concluded "the apparent ubiquitousness of this process in disorder makes it difficult to find anything dysfunctional that is not accompanied by increased self-focused attention" (p.156). Ingram's conclusions clearly raise a serious challenge to the assumption that higher clarity, articulation, and accuracy of self-knowledge among high PRSC individuals is caused by chronic self-focus.

Carver and Scheier (1981; 1985; 1987) were compelled to partition self-attention into public and private domains in order to rescue the self-knowledge corollary of self-awareness theory, given mounting evidence of divergent effects between private and public "self-consciousness" on criteria relevant to that hypothesis (e.g., Froming & Carver, 1981). As reviewed above, however, this rescue attempt raised a host of other conceptual and empirical contradictions and, overall, appears equally problematic. In light of Ingram's (1990) recent, remarkably general conclusions, and the problematic status of the public-private distinction, important doubts may now be raised about any strictly attentional interpretation of PRSC findings.

### Summary

The current literature on disposition self-consciousness is saddled with three important problems: (1) Public self-consciousness lacks construct validity, rendering problematic efforts to align the Fenigstein et al. (1975) factors with the ubiquitous "inner vs. outer" self metaphor in social psychology (e.g., James, 1890); (2) the Private Self-consciousness scale contains psychometrically and psychologically distinct factors which confound attentional interpretations of the scale's effects; and (3) the PRSC is associated with two mutually contradictory literatures, one linking private self-consciousness to a broad array of psychopathology, and one linking private self-consciousness to more articulated

and accurate self-knowledge, and more effective psychological and physical coping.

### Resolving the paradox

The relatively equal associations between the Private Self-Consciousness scale and two dimensions of the FFM, neuroticism and openness, suggest one rather obvious approach to resolving the "paradox" of self-absorption noted above. Traits associated with the neuroticism factor of the FFM (e.g., anxiety, depression, low self-esteem) are weakly but consistently correlated with private self-consciousness, and are associated with experimental findings which parallel those of the PRSC (e.g., Brockner, 1979; 1984). Traits associated with the openness factor of the FFM (e.g., curiosity, need for cognition, attributional complexity, uncertainly orientation, need for closure) bear a conceptual relation to the PRSC and are associated with experimental findings which parallel those of the PRSC (e.g., Barron, 1956). It is somewhat reasonable, then, to wonder whether the PRSC scale simply confounds these two, uncorrelated dimensions of the FFM. This possibility could simultaneously explain the existence of two factors within the PRSC scale and the association of the PRSC with two contradictory literatures. The association of private self-consciousness with psychopathology may be entirely mediated by neuroticism variance associated with some PRSC items (e.g., the SR factor). Cognitive effects of private self-consciousness (e.g., self-knowledge and self-articulation) may be entirely mediated by openness variance tapped by other PRSC items (e.g., the ISA factor). This would imply the existence of two independent varieties of dispositional self-attentiveness, neurotic and intellectual, which the PRSC scale confounds. A series of studies were therefore undertaken to investigate this possibility.

Studies 1 and 2 examined relations between lexical and questionnaire markers of self-consciousness and the five-factor model of personality (FFM). Studies 3, 5, and 6 introduced a two-factor conception of self-attentive dispositions, rumination and reflection, derived from the FFM distinction between neuroticism and openness to experience, and evaluated the convergent and discriminant validity of a proposed measure of these self-attention factors, the Reflection-Rumination Questionnaire (RRQ). Studies 4, 7, and 8 evaluated the hypothesis that the rumination-reflection distinction provides a resolution of the "self-absorption paradox" implied by two, contradictory classes of correlates and effects of private self-consciousness. This hypothesis was tested in three studies, each representing a conceptual replication of an important, previously reported PRSC finding. In each of these three studies, the hypothesis that rumination *or* reflection would entirely mediate the PRSC effect was empirically evaluated. These eight studies are now described.

### **Study 1: Natural language descriptors of self-attention**

The most common and, arguably, the most efficient method to articulate the meaning of a trait measure is simply to correlate it with other trait measures. Ideally, one would obtain correlations for an extensive array of traits that widely vary in degree of similarity to the trait of interest. Psychological hypotheses might then be inferred from the convergent and discriminant pattern of associations obtained. One of the least recognized and, to date, least exploited applications of lexical trait taxonomies, such as the comprehensive, English taxonomies constructed by Norman (1967) and Goldberg (1982, 1990) is their use as empirical tools to map the potential "nomological" terrain of a trait in an especially comprehensive manner. According to the so-called "lexical hypothesis" (e.g., Norman, 1963), any behavior trait socially important enough

for people to take note of and want to communicate about will, in general, become represented in the natural language as a trait descriptive word, usually an adjective (e.g., *stupid*) or noun (e.g., *blockhead*). To the extent this hypothesis is true (for a contrary opinion see McCrae, 1990), archival lexical data provide a rich resource with which to survey, in a preliminary way, the psychological semantics of any behavior trait socially important enough for trait psychologists to notice and want to communicate about in empirical journals.

The purpose of Study 1 was to exploit archival data of Goldberg (1982) to articulate the dispositional meanings of self-attentiveness that have been encoded over the centuries in the English language.

## METHOD

### Subjects

Subjects were 187 university undergraduate volunteers at the University of Oregon (84 male; 103 female) who completed self-reports on the "1,710" trait taxonomy of Goldberg (1982) (described below) in exchange for partial course credit. These data were made available to the present author, with permission, by Lewis Goldberg (see Goldberg, 1982, for a more detailed description of this sample).

### Measures

The only measure administered in this sample was the list of 1,710 English trait adjectives assembled by Goldberg (1982) from a lengthier list of 2,800 trait terms assembled by Norman (1967). The procedures used to construct these two comprehensive taxonomies of natural language trait descriptors are detailed in Goldberg (1982) and John (1990). The "1,710" taxonomy of Goldberg (1982) is generally considered the most comprehensive and representative compilation of English language trait descriptors that is presently available (e.g., John, 1990).

### Procedure

Among the 1,710 English trait adjectives in the Goldberg (1982) taxonomy, are 40 terms with the prefix "self-" (e.g., *self-assertive* to *self-willed*). Only two of these 40 self- words, *self-conscious* and *self-examining*, primarily and unambiguously denote an attentional characteristic. The roots *conscious* and *examine* within these two adjectives clearly reference an attentional property. The remaining "self-" descriptive terms refer either to attitudes and evaluations (e.g., *self-satisfied*, *self-pitying*), or to interpersonal tendencies (e.g., *self-confident*, *self-expressive*, *selfish*, ). The two adjectives *self-conscious* and *self-examining* were therefore assumed to be the closest lay descriptors in English of Fenigstein et al.'s (1975) construct of self-consciousness. In Study 1, self-ratings on *self-conscious*, and *self-examining* were therefore correlated with the remaining 1,708 adjective self-ratings in Goldberg's (1982) sample in order to empirically identify, from a lexical perspective, the various dispositional meanings of these two terms.

## RESULTS AND DISCUSSION

The twenty trait terms most highly correlated with *self-conscious* and *self-examining*, respectively, are presented in Table 1. Two significant findings are apparent in this table. The first is that correlates of *self-conscious* and *self-examining* are distinct. With the exception of *self-critical* (shown in the last row), there are no traits in Table 1 with boldfaced entries in both columns. The second is that a psychological pattern is plainly evident in this distinction: tendencies to describe oneself as self-conscious are mainly related to negative self-evaluations and negative affects; tendencies to describe oneself as self-examining, on the other hand, are mainly related to intellectual traits. From the perspective of the Big Five model of personality, the findings in Table 1 clearly suggest two



Table 1

Highest correlates of self-consciousness and self-examining among  
1,710 English trait adjectives

	Self- conscious	Self- examining
1090.self-doubting	<b>.44</b>	.19
1101.self-punishing	<b>.39</b>	.16
1089.self-disparaging	<b>.36</b>	.12
964.pouty	<b>.35</b>	-.04
1093.self-excusing	<b>.34</b>	.13
1016.reclusive	<b>.32</b>	.07
1084.self-deluding	<b>.31</b>	.04
1070.seclusive	<b>.31</b>	.17
1096.self-indulgent	<b>.31</b>	.15
436.fretful	<b>.30</b>	.14
875.overnervous	<b>.30</b>	.06
1086.self-deprecating	<b>.30</b>	.01
1091.self-effacing	<b>.30</b>	-.04
890.oversensitive	<b>.29</b>	.18
69.bashful	<b>.29</b>	-.08
643.inward	<b>.29</b>	.14
1103.self-reproachful	<b>.29</b>	.17
271.despondent	<b>.28</b>	-.08
1695.withdrawn	<b>.27</b>	.06
45.anxious	<b>.27</b>	.08
1018.reflective	.04	<b>.47</b>
939.philosophical	-.02	<b>.41</b>
636.introspective	.13	<b>.39</b>
1113.sensitive	.12	<b>.39</b>
732.meditative	.06	<b>.38</b>
504.high-principled	.12	<b>.35</b>
940.philosophizing	-.01	<b>.33</b>
256.deep	.02	<b>.33</b>
1292.unamusable	-.02	<b>-.32</b>
243.curious	.01	<b>.31</b>
392.feelingful	.02	<b>.31</b>
986.progressive	-.02	<b>.31</b>
39.analytical	.06	<b>.30</b>
925.perceptive	.01	<b>.30</b>
1102.self-reliant	-.02	<b>.30</b>
434.free-minded	-.02	<b>.30</b>
901.overthoughtful	.16	<b>.29</b>
1112.self-willed	.06	<b>.29</b>
209.contemplative	.11	<b>.28</b>
629.intellectual	.08	<b>.28</b>
1080.self-critical	<b>.36</b>	<b>.45</b>

Note: N=187. Data from Goldberg (1982). Correlations greater than  
.201 are presented in boldface.

psychological meanings of self-attentiveness: one variety associated with the neuroticism factor (Factor IV), and a different variety associated with intellect/openness factor (Factor V).

This impression was empirically evaluated by correlating self-ratings on *self-conscious* and *self-examining* with Goldberg's (1992) adjective markers of the Big five personality factors. These markers consist of twenty adjectives each and were selected from the Goldberg (1982) "1710" taxonomy, using rational and internal consistency methods, to provide psychometrically optimal scales for measuring the "Big Five" personality dimensions (see Goldberg, 1990). Because all of the adjectives appearing in Goldberg's (1992) Big Five marker scales also appear in the "1710" taxonomy, it was possible to score them here for use as markers of the Big Five personality dimensions of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (see Goldberg, 1990). Note that Goldberg (1982; 1990; 1992) uses the label "Intellect" to refer to the fifth Big Five factor of personality, whereas as others (e.g., Costa & McCrae, 1992) prefer the label "Openness to Experience" (e.g., see Trapnell, 1993). For present purposes Intellect and Openness to Experience may be assumed to represent the same broad dimension of personality, i.e., Factor "V" of the Five factor model. Relations between *self-conscious* and *self-examining* and Goldberg's (1992) Big Five marker scales are presented in Table 2.

*Self-conscious* appears to be associated with surgency/extraversion (negatively) as well as neuroticism (positively). This result implicates the personality dimensions of neuroticism and extraversion in natural language conceptions of dispositional self-focus. Although, the association with neuroticism was anticipated and is consistent with the present proposal of a neurotic form of trait self-focus, the association with surgency/extraversion

seems to suggest the possibility of an introverted form of dispositional self-attention. This suggestion is not pursued in the present series of studies for reasons that will become more clear in Study 3. The significant negative association obtained here between *self-conscious* and extraversion is consistent with two conceptions of socially motivated self-attentiveness that have been advanced previously in the self-attention literature, social anxiety, and public self-consciousness (Fenigstein et al., 1975). Interpretation of these two constructs as *self-attentive* dispositions is, however, somewhat problematic (e.g., see section PUSC: Self-focus or other-focus in the general introduction above, and remarks on the Fenigstein et al (1975) Social Anxiety scale in Study 2, Procedure). It will be assumed here that dispositional self-attention prompted by social worries and concerns is best subsumed by the notion of “neurotically” motivated self-attention, i.e., trait self-focus associated with the personality dimension of neuroticism. The possibility of an additional type of self-attentiveness associated exclusively with surgency/extraversion will be returned to in the general discussion.

*Self-examining* was primarily associated with Goldberg's (1992) measure of intellect, and to a lesser extent, neuroticism. These results confirm the impression drawn from Table 1 that self-attentiveness appears to have two major personological meanings in the natural language: an ego-dystonic meaning associated with self-doubt and self-deprecation and an intellectual meaning associated with curiosity or contemplation about the self. The trait adjective *self-conscious* also implicates socially introverted tendencies in natural language conceptions of self-attentiveness.

Table 2

Multiple regression of self-attentive trait adjectives, self-conscious and self-examining, on Goldberg's (1992) lexical markers of the Big Five personality factors

	<u>Lexical marker of self-attention</u>	
	Self-conscious	Self-examining
<u>Big Five factor:</u>		
Surgency/extraversion	-.29**	.02
Agreeableness	.07	.08
Conscientiousness	.00	.02
Neuroticism	.27**	.15*
Intellect	.09	.37**

Note: N=187. Data are from Goldberg (1982). Tabled values are standardized regression weights (betas). \*p < .05 \*\*p < .001

## Study 2: The Self-Consciousness Scale and the Five Factor Model

The Self-consciousness Scale (SCS), introduced by Fenigstein, Scheier, and Buss (1975), continues to be the most widely used questionnaire measure of self-attentiveness in the psychological literature. In the recent opinion of one of the scale's authors, the SCS "has been one of the most thoroughly validated, and certainly one of the most heuristic, personality scales of the last decade" (Fenigstein, 1987). The three scales of the SCS, public self-consciousness, private self-consciousness, and social anxiety, were not constructed on the basis of an a priori, three-factor conception of self-attentiveness. Instead, they were assembled from a pool of thirty-eight questionnaire items that had been written to measure "a unitary, homogeneous disposition to be self-attentive" (Fenigstein, 1987). When analyses of these and subsequent revisions of these items consistently revealed three distinct factors rather than a single, broad factor, the unitary conception was abandoned in favor of a multi-factor conception (Fenigstein, 1987, p. 548). One of the three factors obtained, social anxiety, was not considered a separate self-attentiveness factor, but one kind of *reaction* to becoming self-aware (Fenigstein et al., 1975). On the basis of these structural findings, Fenigstein et al. (1975) therefore proposed a two-factor model of self-attentive dispositions, public and private self-consciousness.

In light of the rapid rise of the Five Factor model of trait structure occurring shortly after Fenigstein et al.'s (1975) article appeared, it is reasonable to wonder now what role the ubiquitous Big Five may have played in Fenigstein et al.'s (1975) factor analytic findings. Consider the seven a priori categories Fenigstein et al. (1975) used in order to generate a pool of self-attentiveness items:

- |        |  |
|--------|--|
| N (E?) | 1. awareness of one's physical appearance and presentation |
| N      | 2. concern over the appraisal of others                    |
| N      | 3. preoccupation with past, present, and future behavior   |

- |   |  |
|---|--|
| N | 4. recognition of one's positive and negative attributes |
| O | 5. sensitivity to inner feelings                         |
| O | 6. introspective behavior                                |
| O | 7. a tendency to picture or imagine oneself              |

FFM distinctions are readily apparent among these categories (see suggested FFM classifications to the left of each category, where N= neuroticism, O= openness, E= extraversion). Given the above categories, it might not surprise the present day trait psychologist that Fenigstein et al. (1975) were unable to confirm within their item pool a single, general factor corresponding to "a consistent tendency to direct attention inward or outward" (p. 522). On a priori grounds, one might have anticipated at least two large, distinct factors, one corresponding to openness (e.g., introspectiveness, imaginativeness and openness to feelings), one corresponding to neuroticism (negative self-evaluations and self-concerns), and possibly a small third factor inversely corresponding to extraversion (shyness or social self-consciousness). Notice that these are the same Big Five factors one would expect to be implicated in dispositional self-consciousness on the basis of lexical analyses (Study 1).

The purpose of Study 2 was to evaluate the possibility that factor separation in the original Fenigstein et al. (1975) study was due to Big Five semantic distinctions latent in the original item pool. Whereas Study 1 evaluated relations between the Big Five factors and natural language descriptors of self-attentiveness, Study 2 therefore evaluated relations between the Big Five factors and the most widely used self-attentiveness questionnaire, the Fenigstein et al. (1975) SCS. Study 2 also provided an opportunity to examine whether factorial distinctions that have been made *within* one of the SCS scales, the Private Self-Consciousness scale, might also be explainable in terms of the FFM. Remarkably, relations between the SCS and the FFM had not previously been systematically evaluated.

## METHOD

### Subjects.

Subjects in Study 2 were five, independent samples of university undergraduates (henceforth referred to as samples A through E) recruited from introductory psychology classes during the early part of the fall semester, in four successive years, 1989-1992. All of these subjects completed questionnaires for this study on a voluntary basis in exchange for partial course credit. Between 5-8% of subjects from each sample were excluded due to missing data, a proportion typical for this population. Final, usable *ns* for samples A through E, respectively were 555, 570, 441, 710, and 427. Sex composition of each sample was approximately 60% female. Ethnic composition of each sample was approximately 60-75 % European ancestry and 25-40% East Asian ancestry (80% of the latter being Chinese ancestry). European ancestry subjects did not differ meaningfully from Asian ancestry subjects on the self-attention measures relevant to this research, therefore these two ethnic groups were combined in each sample. Age of subjects ranged from 17 to 59, with approximately 90% of subjects between 17 and 25 years of age.

### Measures.

Measures of self-attentiveness. The measures of dispositional self-attention administered in Study 2 were the Public Self-Consciousness (PUSC) and Private Self-Consciousness (PRSC) subscales of the Fenigstein et al. (1975) Self-Consciousness scale (SCS). The PUSC consists of seven self-descriptive statements (e.g., "I'm concerned about what other people think of me.") thought to measure chronic awareness and concern over the self as a social stimulus (Fenigstein et al., 1975, p. 525). All seven items are worded in the same direction, i.e., for each item, higher scores indicate greater public self-consciousness. The PRSC consists of ten self-descriptive statements (e.g., "I

reflect about myself a lot.") thought to measure chronic attending to one's private thoughts and feelings (Fenigstein et al., 1975, p. 525). Two of the ten PRSC items are worded in a negative direction (e.g., "Generally, I'm not very aware of myself."), and are therefore reverse-scored, and the remainder are worded in a positive direction. Both the PUSC and PRSC possess generally adequate internal consistency and test-retest reliability for scales of this length (see Fenigstein et al., 1975). However, as discussed above, controversy surrounds the factorial validity of the PRSC scale (Burnkrant & Page, 1984; Bernstein, Teng, & Garbin, 1986). Factor analysis of the ten PRSC items within each of the five samples described here consistently and cleanly recovered the two PRSC subfactors identified by Burnkrant and Page (1984) as Self-Reflection (SR) and Internal State Awareness (ISA). Two PRSC subscales were therefore constructed on the basis of that factor pattern, as recommended by Burnkrant and Page (1984): SR was scored by summing the item responses to the six items consistently defining the PRSC self-reflection factor (e.g., "I'm always trying to figure myself out."). ISA was scored by summing the item responses to the four items consistently defining the PRSC internal state awareness factor (e.g., "I'm alert to changes in my mood."). A third Fenigstein et al. (1975) SCS scale, Social Anxiety, was not considered germane to the present research because it was not intended to be a measure of self-attention (Fenigstein, 1987), typically demonstrates little or no association with self-focus criteria (e.g., Carver and Scheier, 1981), and is most commonly interpreted as a measure of shyness (Cheek & Briggs, 1988) or social reticence (Watson and Friend, 1969). Data for the six SCS Social Anxiety items were therefore ignored in this and subsequent studies in this report. .

Measures of the Big Five personality factors. Three different measures of the Big Five factors were administered in Study 2. In Sample A, subjects were



administered the Extended Interpersonal Adjective Scales (IASR-B5; Trapnell and Wiggins, 1990). The IASR-B5 measures the Big Five factors of conscientiousness, neuroticism, and openness with twenty adjectives each, ten positively worded (e.g, orderly) and ten worded negatively (e.g., disorganized). Negatively worded items are reverse-scored. The remaining Big Five factors of extraversion and agreeableness are measured via factor scores computed from the remaining adjectives. These are the 64 adjectives of the Interpersonal Adjective Scales (Wiggins, 1994). Eight, eight-item scales are scored from these adjectives, each scale representing a different "octant" of the interpersonal circumplex (Wiggins, 1979). These eight scales are combined to yield two orthogonal factor scores, DOM, and LOV, which may be interpreted as variants of the Big Five factors of extraversion and agreeableness, respectively. DOM and LOV vary from conventional measures of extraversion and agreeableness in that, although they define the same two-factor plane as extraversion and agreeableness (McCrae & Costa, 1989), they represent slight "rotations" of these factors: DOM may be interpreted as a slighter "colder" version of extraversion, and LOV as a slighter "warmer" version of agreeableness.

The Big Five measure administered to samples B, C, and D, was the Five Factor Inventory (FFI; Costa & McCrae, 1989), a 60-item shortform of the NEO Personality Inventory (Costa & McCrae, 1985). Reliability and validity evidence for the FFI is impressive, with the five, 12-item FFI scales accounting for approximately 75% of the variance in convergent criteria of the full NEO-PI (Costa & McCrae, 1989).

In sample E the Big Five instrument was the Revised NEO Personality Inventory (NEO-PIR; Costa and McCrae, 1992). The NEO-PIR is a 240-item personality questionnaire designed to measure each dimension of the FFM (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness to

experience) by means of six brief (8-item) scales, each representing a content distinction or "facet" thought to be relatively important or fundamental for a particular Big Five dimension (e.g., assertiveness facet of extraversion).

#### Procedure.

All measures were administered as part of a larger battery of personality measures. In sample A, subjects completed all measures in groups of approximately 5-30 persons in two, one-hour sessions, approximately one week apart, in a large testing room located in the psychology department. The IASR-B5 was the first measure administered in session 1. The Fenigstein et al. (1975) SCS was the first measure administered in session 2.

In samples B through E, the SCS scales and Big Five measures were completed as part of a larger battery of personality measures administered on a takehome basis. In all of these samples, the SCS was the first measure completed. In samples B, C, and D, the FFI items were administered approximately midway through the battery of measures. In sample E, the NEO-PIR items were administered immediately following the Fenigstein et al. (1975) SCS and rumination and reflection items (these latter items are described in Study 3).

### RESULTS AND DISCUSSION

In Study 2, regression analyses were separately performed for each SCS scale, and for each of the two subfactors of the Private Self-Consciousness Scale, with three different sets of FFM markers in five large samples of undergraduates. Results of these analyses are presented in Table 3.

From the perspective of the FFM, Public self-consciousness shows a single, very distinct feature: neuroticism, and some suggestion of a secondary association with extraversion. Private self-consciousness, on the other hand, shows two equally distinct personality features: neuroticism and openness to

Table 3

Multiple regression of Public and Private Self-Consciousness scales, and ISA and SR subfactors of the Private Self-Consciousness scale, on the Big Five personality factors

Big Five instrument:	IASR-B5 <sup>1</sup>	NEO-FFI	NEO-PIR
Sample:	A	B+C+D	E
Total n:	555	1,721	427

  

<u>Big Five Predictor:</u>	<u>Criterion = Public Self-Consciousness</u>		
Extraversion	.03	.22*	.18*
Agreeableness	-.01	-.03	.00
Conscientiousness	.06	.08	.07
<b>Neuroticism</b>	<b>.41*</b>	<b>.48*</b>	<b>.51*</b>
Openness	-.11	-.03	-.09
Multiple R:	.41	.44	.47

  

<u>Big Five Predictor:</u>	<u>Criterion = Private Self-Consciousness</u>		
Extraversion	.04	.05	-.05
Agreeableness	-.17*	-.07	.04
Conscientiousness	.16*	.08	.16*
<b>Neuroticism</b>	<b>.39*</b>	<b>.29*</b>	<b>.28*</b>
<b>Openness</b>	<b>.48*</b>	<b>.33*</b>	<b>.36*</b>
Multiple R:	.62	.43	.46

  

<u>Big Five Predictor:</u>	<u>Criterion = SR subfactor of PRSC</u>		
Extraversion	.01	.03	-.05
Agreeableness	-.22*	-.11*	.01*
Conscientiousness	.04	-.02	.03
<b>Neuroticism</b>	<b>.48*</b>	<b>.37*</b>	<b>.41*</b>
<b>Openness</b>	<b>.39*</b>	<b>.27*</b>	<b>.29*</b>
Multiple R:	.64	.48	.52

Continued...

Table 3 (continued)

Multiple regression of Public and Private Self-Consciousness scales, and ISA and SR subfactors of the Private Self-Consciousness scale, on the Big Five personality factors

Big Five instrument:	IASR-B5 <sup>1</sup>	NEO-FFI	NEO-PIR
Sample:	A	B+C+D	E
Total n:	555	1,721	427

  

Big Five Predictor:	Criterion = ISA subfactor of PRSC		
Extraversion	.07	.07	-.02
Agreeableness	.00	.05	.04
<b>Conscientiousness</b>	<b>.27*</b>	<b>.21*</b>	<b>.23*</b>
Neuroticism	.04	-.01	.01
<b>Openness</b>	<b>.39*</b>	<b>.27*</b>	<b>.29*</b>
Multiple R:	.48	.38	.38

Note: Tabled values are standardized regression coefficients (betas), unless indicated otherwise. Labels are private self-consciousness scale (PRSC), self-reflection subfactor of private self-consciousness scale (SR), internal state awareness subfactor of private self-consciousness scale (ISA), Revised Interpersonal Adjective Scales (IASR-B5), NEO Five Factor Inventory (NEO-FFI), Revised NEO Personality Inventory (NEO-PIR).

<sup>1</sup>Extraversion and Agreeableness were represented by IAS-R DOM and LOV factor scores, respectively (see Study 2, Method). \*Beta is significantly different from zero at  $p < .001$ . Big Five factors having beta weights  $> .20$  across all samples are presented in boldface.

experience. There would appear to be two very different types of privately self-conscious people: those who neurotically, or anxiously ponder themselves, and those who intellectually or inquisitively ponder themselves.

Results in the bottom half of Table 3 show important differences between self-reflection (SR) and internal state awareness (ISA). SR and ISA are both associated with openness, but differ in that SR alone is strongly associated with neuroticism, and ISA alone is moderately associated with conscientiousness. These results strongly support factor analytic evidence of a distinction between two subgroups of items within the PRSC. They suggest this distinction is mainly with respect to the neuroticism domain of the FFM, and, secondarily, to the domain of conscientiousness.

The substantial secondary association between the PRSC internal state awareness factor and conscientiousness was not anticipated and merits some comment. Evidence was reviewed above suggesting that the PRSC subfactors of ISA and SR typically correlate in opposite directions with measures of self-concept clarity and identity-seeking (e.g., Campbell et al., in press; Piliavin and Charng, 1988), negative affects such as anxiety, depression (e.g., Watson and Biderman, 1993) and measures of self-esteem (e.g., Piliavin and Charng, 1988): SR tends to correlate in a "neurotic" direction, and ISA in a "nonneurotic" direction. Given that these measures are prototypical markers of the Big Five dimension of neuroticism, it is noteworthy that none of the Big Five regressions reported in Table 3 show any unique association of neuroticism with ISA. One explanation of this result is that the aspect of neuroticism most associated with the ISA tends to overlap with conscientiousness. In the Five Factor model of personality, neuroticism and conscientiousness are presumed to be essentially orthogonal factors of personality. Measures of these two factors, however, tend to be negatively correlated, in some cases, very substantially (Costa, McCrae

and Dye, 1991). In light of this, Big Five regression results for the ISA do suggest the possibility that previously reported opposite associations between SR and ISA with *neuroticism*-related measures may in some manner involve the trait dimension of conscientiousness.

Relations between conscientiousness and measures of affect recently reported by Watson and Clark (1992), however, suggest a second interpretation of the ISA association with conscientiousness. In a factor analytic effort to articulate content distinctions within of the broad affective domain of *positive affectivity*, Watson and Clark (1992) proposed that "attentiveness" represented a replicable facet of this domain. Watson and Clark (1992) also found consistently strong, positive associations with self-reported conscientiousness for a brief adjective measure of their Attentiveness facet (self-ratings on *attentive*, *alert*, *concentrating*, *determined*). In light of these findings, consider the wording of the ISA items: "I'm *alert* to changes in my mood"; "I'm generally *attentive* to my inner feelings"; "I'm *aware* of the way my mind works when I work through a problem"; and "Generally, I'm not very *aware* of myself" (italics added). It seems possible that words such as *aware*, *attentive*, and *alert* have a connotation of responsible, purposeful, or careful, i.e., conscientious, deployment of attention. If so, the robust association between ISA and conscientiousness shown in Table 3 *may* be of some theoretical significance to the PRSC literature. It is not clear, however, whether the "self" aspect of the ISA items is in any sense important to the ISA relation with conscientiousness. For example, if the questionnaire item "I'm very alert to all that goes on around me" loaded as highly on the ISA factor as the ISA items themselves, this would suggest that alertness or attentiveness per se, rather than *self*-attentiveness, is the central element in ISA variance. This complex issue extends beyond the scope of the present investigation which seeks to explicate the largest dispositional dimensions of self-attention latent in

the Fenigstein et al. (1975) taxonomy. Because of the specificity of this unpredicted effect, and its apparent irrelevance to the central theoretical issue underlying the present research, i.e., the self-absorption paradox, the possibility of a "conscientious" dimension of self-attentiveness was not examined further in the present investigations. The robust relation between conscientiousness and the PRSC's small ISA factor does, however, merit future research attention.

Overall, results of Study 2 suggest that questionnaire measures of self-attentiveness primarily implicate the FFM factors of neuroticism and openness, and to a lesser extent, conscientiousness. Taken together, the lexical findings of Study 1 and the questionnaire findings of Study 2 suggest that both lay and professional perceptions of dispositional self-attentiveness involve an essential distinction between neurotic (Factor IV) and intellectual (Factor V) variants of self-focus.

#### Explicating neurotic and intellectual self-focusing tendencies

The results of Study 2 are consistent with the hypothesis that three nearly orthogonal factors may have appeared in Fenigstein et al.'s (1975) influential study because their item pool spanned the three nearly orthogonal Big Five dimensions of openness/intellect, neuroticism, and extraversion. In other words, Fenigstein et al.'s (1975) items simply split up into intellectual, neurotic, and social item clusters due to their overlap with conventional Big Five personality factors. This possibility raises important questions regarding the validity of the influential "public versus private" interpretation of these factors initially proposed by Fenigstein et al.'s (1975) and later theoretically expanded and developed by Scheier and Carver (1983).

The results of Study 2 suggest that public and private self-conscious are related primarily via a common association with neuroticism, and are distinguished primarily by differential relations with openness/intellect. The

prevailing interpretation of the public and private dimensions identified by Fenigstein et al. (1975) is that they represent a fundamental dichotomy of self-aspects, public ones versus private ones, that may differentially become the objects of self-focus (e.g., Buss, 1980; Carver and Scheier, 1981; 1987; Fenigstein, 1987; Scheier & Carver, 1983), and that correspond to a basic distinction of longstanding value in psychology (e.g., James' 1890 distinction between *spiritual* and *social* selves; see Fenigstein, 1987). An alternative interpretation is that these two factors simply correspond to latent, orthogonal neuroticism and openness variance in that item pool, and their identification with the ubiquitous "inner-outer" metaphor of the self in social psychology is superficial and mistaken.

If the distinction between neurotic and intellectual forms of self-attention is a valid and theoretically heuristic one, it may be a good idea to have available more precise markers of them than is currently provided by the Fenigstein et al. (1975) Self-Consciousness scales. The PRSC total scale, which primarily measures intellectual self-focus, is heavily confounded with neuroticism. Consequently, effects of private self-consciousness may sometimes be due solely to its neurotic component and at other times solely to its intellectual component. The current debate over the existence of two distinct subfactors within the PRSC underscores this possibility. The PUSC scale, which primarily measures neurotic self-focus is moderately confounded with extraversion. Rather than measuring neurotic self-attentiveness per se, the PUSC scale may target a limited social subcategory of neurotic self-focus. A more radical criticism of the PUSC may be that, although it clearly taps neuroticism, it fails to target self-attentiveness at all, and is better described as a measure of social dependency (e.g., Gollwitzer and Wicklund, 1987).



### **Study 3: Development of the Rumination-Reflection Questionnaire**

Conceptual difficulties with the public-private distinction and the empirical findings of Studies 1 and 2 jointly support an alternative conceptualization of self-attentive dispositions anchored more firmly within the FFM. Analyses of self-attention terms in the natural language and relations between the Fenigstein et al. (1975) taxonomy and the FFM jointly suggest a fundamental distinction between neurotic and intellective forms of dispositional self-consciousness. The purpose of Study 3 and 4 was to develop and validate separate measures of these two distinct self-focusing tendencies.

Study 3 accomplished two goals: (1) development and psychometric evaluation of independent measures of neurotic and intellective forms of self-attentiveness, and (2) evaluation of the convergent and discriminant validity of these new scales, Rumination and Reflection, with respect to the Fenigstein et al. (1975) taxonomy of self-attentive dispositions, and the Five factor taxonomy of personality dimensions.

## **METHOD**

### Subjects.

Data for this study was provided by samples A through E (for a detailed description of these samples, see Study 2, Method).

### Measures

Two brief questionnaires were constructed for this study, one to measure self-attentiveness associated with the neuroticism factor of the FFM, and one to measure self-attentiveness associated with the openness factor of the FFM. Development of these two scales is detailed below. In addition, data from samples A through E for the Fenigstein et al. (1975) Public and Private Self-Consciousness scales, and from sample A for the Trapnell and Wiggins (1990)

measures of the Big Five personality factors, were used for this study (for a description of these Big Five scales see Study 2, Method).

### Procedure

Development of the Rumination-Reflection Questionnaire. Brief questionnaire scales were constructed by the combined use of rational and empirical (internal consistency) methods to separately measure "neurotic" and "intellective" dimensions of self-attentiveness. These two distinct varieties of self-attentiveness were assumed to be motivated by different psychological processes, processes inferred from the research literatures of those dispositions that define the Big Five factors of neuroticism and openness.

A preliminary conception of "neurotic" self-attentiveness, or dispositional self-attention associated with neuroticism, was inferred from the research literature on the cognitive and motivational implications of anxiety and depression. Trait anxiety and trait depression are among the central or defining traits of the personality dimension of neuroticism (e.g., Costa & McCrae, 1980). Cognitive theories of these mood tendencies suggest that trait anxiety and depression are both associated with unwanted, intrusive, and repetitive thinking about the self. For example, trait anxiety is associated with worry (Borkovec, Shadick, & Hopkins, 1990), hypervigilant attention to threat cues (Mathews, 1990), and chronic, unwanted, intrusive thoughts (Rachman and Hodgson, 1980). Trait depression is associated with attentional biases favoring negative self-information (e.g., Greenberg & Pyszczynski, 1987), cognitive undoing following negative life events (e.g., Horowitz, 1976), and ruminative tendencies (e.g., Nolen-hoeksema, 1991; Nolen-hoeksema, Morrow, & Fredrickson, 1993). Considered together, cognitive theories of negative affects such as anxiety, depression, and anger suggest the personality dimension defined by these affects, neuroticism, is generally associated with repetitive, intrusive, unpleasant

ruminations regarding the self. The postulated "neurotic" type of self-attentiveness was therefore defined as *ruminations* about the self associated with perceived threats, or potentially threatening uncertainties, losses, and injustices to the self, i.e., self-related attributional processing associated with the mood states of anxiety, depression, and anger, respectively. Fifteen preliminary questionnaire items were written to operationalize this conception of ruminative self-focus. Because ruminative self-focus was considered affectively negative by definition, it was necessary to ensure each item conveyed a negative or undesirable flavor. It was also necessary, however, to ensure all items clearly and primarily connoted an attentional characteristic rather than an affective one in order to avoid potential redundancy with trait measures of negative affect. The strategy adopted to maximize attentional connotations and minimize references to negative affect was to exploit the implicit undesirability of ruminative *frequency*. Thus, the majority of rumination items contain explicitly or implicitly negative references to duration or frequency (e.g., "long time afterward", "often", "always", "long after", "great deal of time", "for very long", "hard for me to shut off", "I wish I'd stop").

A preliminary conception of "intellective" self-focus was inferred from the factor analytic literature specifying the central cognitive and motivational characteristics of openness to experience. Two considerations were particularly influential. The first is the close empirical association between openness and curiosity. Trait adjectives such as *curious*, *inquisitive*, and *inquiring* tend to be among the best lexical markers of the openness factor (e.g., Goldberg, 1990; Trapnell & Wiggins, 1990). In questionnaire data, openness is strongly associated with trait curiosity (e.g., McCrae & Costa, 1983), and similar motivational constructs such as Murray's (1938) "need for understanding" (e.g., Costa & McCrae, 1988). These associations strongly influenced the present

conception of intellectual self-attention because they allow a basis for inferring a rather fundamental motivational distinction between the proposed two types of self-attention, a dichotomy with a long history in psychology: *anxiety/fear* vs. *curiosity/exploration* (e.g., James, 1890; for reviews of this distinction see Russell, 1973; Schneirla, 1959; Spielberger, Peters, & Frain, 1981). The vast research literature detailing the neuroanatomical and neurochemical bases of this fundamental "avoid/approach" dichotomy of animal and human motivation (e.g., Gray, 1982; ) provides a reasonable basis for speculating that "anxiously" and "inquisitively" motivated self-focus *may* be associated with fundamentally different psychological mechanisms.

The second consideration that strongly influenced the present conception of intellectual self-attentiveness is the consistently high loadings of terms referring to philosophical reflectiveness on the openness factor across many different studies. For example, the adjective found to load most highly on Trapnell and Wiggins' (1990) openness factor was *philosophical*. A scale consisting of this and other similar adjectives (e.g., *philosophical*, *reflective*, *contemplative*, *introspective*) was the highest loading scale on Goldberg's (1990) openness factor. Trapnell (1993) recently reported that three of the eight items within the NEO Ideas facet (a subscale of the NEO measure of openness) account for the lion's share of that scale's correlation with the other openness facet scales. These happen to be the three (negatively keyed) items that refer to philosophical reflection ("I find philosophical arguments boring"; "I sometimes lose interest when people talk about very abstract, theoretical matters"; "I have little interest in speculating on the nature of the human condition"). This finding has a strong parallel in one of the preliminary analyses reported by Trapnell and Wiggins (1990) with respect to lexical markers of openness. Trapnell and Wiggins (1990) conducted a series of preliminary correlational analyses, using

lexical trait data collected by Goldberg (1982), to identify candidate items for their adjectival measure of openness. The adjectives that were found to have the strongest and most general relations with seven preliminary content facets of openness were adjectives associated with philosophical reflectiveness (e.g., philosophical, reflective, contemplative, meditative, introspective). Note these are the same adjectives identified in Study 1 as the highest correlates of *self-examining* within the entire taxonomy of 1,710 English trait adjectives compiled by Goldberg (1982) (see Table 1).

Taken together, these various considerations suggested the following conception of self-attention associated with the personality dimension of openness. The postulated "intellective" type of self-attentiveness was defined as *reflections* about the self motivated not by anxieties or fears about the self, but by a general epistemic curiosity, i.e., a pleasurable, intrinsic interest in abstract or philosophical thinking. This definition resembles the lay notion of "introspectiveness", i.e., the tendency "to examine one's own thoughts and feelings" (Webster's New Lexicon Dictionary, 1988). However, because this latter notion does not exclude self-examinations prompted by self-fears or anxieties, *reflection* was considered preferable to introspection as a preliminary label for dispositional self-attention associated with openness. Fourteen preliminary questionnaire items were written to measure this conception of self-attentiveness. Most items were constructed by the very simple method of translating adjective markers of introspection (e.g., philosophical, abstract, contemplative, introspective, deep, meditative) into brief, self-descriptive statements worded so as to ensure each statement connoted positive, epistemic motivations (e.g., "I *love* analyzing why I do things"; "I *love* to meditate on the nature and meaning of things"; italics added). Other items were suggested by

theoretical descriptions of the trait of private self-consciousness (e.g., "I love exploring my 'inner' self" was suggested by remarks of Buss, 1980, p. 19).

The preliminary rumination and reflection scale items were assembled in a 25-item questionnaire. Rumination items were placed together, on the first page, and reflection items were placed together on the second page. Response instructions, which were placed on a separate cover page, read: "For each of the statements located on the next two pages, please indicate your level of agreement or disagreement by circling one of the scale categories to the right of each statement. Use the scale as shown below." A five-place response scale with scale anchors of strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5) appeared immediately below these instructions, followed by a sample item (see Appendix). The questionnaire was titled "RRQ" (i.e., Rumination-Reflection Questionnaire).

Data analyses conducted on the RRQ responses from the first 129 subjects of sample A led to replacement of two Rumination scale items, and one Reflection scale item. Minor changes in wording were also made to two other Rumination items and three Reflection items. The remaining subjects in sample A completed the revised version of the RRQ. Because means and standard deviations between the preliminary and revised versions were comparable, and because internal consistency of the preliminary version was very good, despite the presence of several less than optimal items, data was combined across the two version in subsequent RRQ analyses involving sample A.

The structural and psychometric characteristics of the final versions of these scales, labelled Reflection and Rumination, respectively, were evaluated in several large sample of undergraduates.

## RESULTS AND DISCUSSION

Results of these analyses are presented in Tables 4 and 5. Table 4 presents factor loadings and summary statistics for the final twenty-four RRQ items. It is apparent from Table 4 that all twelve Rumination scale items load highly and uniquely on a common factor corresponding to rumination, and that all twelve Reflection scale items load highly and uniquely on a common factor corresponding to reflection that is orthogonal to the rumination factor. It is also the case that the means for the Rumination scale items are somewhat higher than those for Reflection. For some reason the Rumination items are more readily endorsed than the reflection items in this undergraduate population.

Table 5 presents descriptive statistics and estimates of internal consistency for the Reflection and Rumination scales. Both demonstrated an exceptionally high degree of internal consistency. For both scales, Coefficient Alpha estimates of reliability exceeded 0.90, and the mean inter-item correlation ( $r_{it}$ ) exceeded 0.40. Score variances for Rumination and Reflection were both relatively high by conventional standards, and score distributions of both were relatively normal, with Rumination demonstrating a moderate, negative skew. Neither the Rumination nor the Reflection scale mean differed significantly between females and males (sex difference  $t$ -ratio  $< 1.0$  for both scales).

Relations between RRQ and Fenigstein et al. (1975) Self-Consciousness scales. Table 6 presents correlations of RRQ Reflection and Rumination with the Fenigstein et al. (1975) measures in five large undergraduate samples. As anticipated, the RRQ Reflection scale was substantially correlated with Private Self-Consciousness and showed no association with Public Self-Consciousness. Given previous findings that PUSC is highly correlated with neuroticism (e.g., Table 3), a positive correlation between PUSC and RRQ Rumination was anticipated. Interestingly, however, the Fenigstein et al. (1975) Public and

Table 4

Factor structure and descriptive statistics of Reflection-Rumination scale items

	Factor loadings <sup>1</sup>		Sample statistics <sup>2</sup>	
	I	II	Mn	SD
Reflection factor:				
15.I love exploring my "inner" self.	<b>.81</b>	-.04	3.10	1.06
23.I often love to look at my life in philosophical ways.	<b>.79</b>	.01	2.84	1.11
22.I love to meditate on the nature and meaning of things.	<b>.76</b>	-.06	3.14	1.14
17.I don't really care for introspective or self-reflective thinking.(-)	<b>.75</b>	.00	3.51	.96
16.My attitudes and feelings about things fascinate me.	<b>.72</b>	-.03	3.20	1.00
18.I love analyzing why I do things.	<b>.71</b>	.11	2.98	1.09
20.I don't care much for self-analysis.(-)	<b>.71</b>	.06	3.46	.99
14.I'm not really a meditative type of person.(-)	<b>.70</b>	-.05	3.14	1.14
13.Philosophical or abstract thinking doesn't appeal to me that much.(-)	<b>.69</b>	.09	3.42	1.17
24.Contemplating myself isn't my idea of fun.(-)	<b>.69</b>	-.01	2.82	1.04
19.People often say I'm a "deep", introspective type of person.	<b>.67</b>	.03	2.75	1.10
21.I'm very self-inquisitive by nature.	<b>.59</b>	.11	3.34	.93
Rumination factor:				
5.I tend to "ruminate" or dwell over things that happen to me for a really long time afterward.	-.03	<b>.80</b>	3.43	1.09
7.Often I'm playing back over in my mind how I acted in a past situation.	-.03	<b>.78</b>	3.72	.90
2.I always seem to be rehashing in my mind recent things I've said or done.	-.02	<b>.77</b>	3.62	1.04
4.Long after an argument or disagreement is over with, my thoughts keep going back to what happened.	-.05	<b>.71</b>	3.84	1.02
6.I don't waste time re-thinking things that are over and done with.(-)	-.02	<b>.71</b>	3.66	.94
8.I often find myself re-evaluating something I've done.	.03	<b>.70</b>	3.74	.88
11.I often reflect on episodes in my life that I should no longer concern myself with.	.00	<b>.70</b>	3.29	1.03
12.I spend a great deal of time thinking back over my embarrassing or disappointing moments.	.10	<b>.69</b>	3.10	1.15
9.I never ruminate or dwell on myself for very long.(-)	.10	<b>.65</b>	3.32	1.00
10.It is easy for me to put unwanted thoughts out of my mind.(-)	-.06	<b>.61</b>	3.50	1.03
3.Sometimes it is hard for me to shut off thoughts about myself.	.17	<b>.59</b>	3.18	1.10
1.My attention is often focused on aspects of myself I wish I'd stop thinking about.	.10	<b>.58</b>	3.12	1.10

Note: Based on samples D and E combined,  $n=1,137$ . <sup>1</sup>Principal components extraction, oblique rotation via Direct Oblimin method (Jennrich & Sampson, 1966); factors I and II were correlated .22. <sup>2</sup>Means and standard deviations are based on scale scores expressed as the mean item response; item response options were strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5), therefore a sample mean of 3.00 represents the theoretical midpoint of the response scale. Reverse-scored items indicated by (-). Factor loadings greater than |.25| shown in boldface.



Table 5

Psychometric characteristics of Reflection and Rumination scales

	Coeff. Alpha	Combined sample (n=1,137)			Females (n=687)		Males (n=447)	
		$r_{it}$	Mn	SD	Mn	SD	Mn	SD
Reflection scale	.91	.48	3.14	0.76	3.17	0.76	3.09	0.76
Rumination scale	.90	.43	3.46	0.71	3.48	0.71	3.42	0.71

Note: Based on samples D and E combined. Means and standard deviations are based on scale scores expressed as item means; item response options were strongly disagree (1), disagree (2), neutral (3), agree (4), or strongly agree (5); a scale mean of 3.00 represents a mean item response of neutral, the scale midpoint. Total sample includes cases missing gender information.

PRSCs proved to be equally "ruminative": mean correlations with RRQ Rumination were .42 and .43 for PUSC and PRSC, respectively. Most striking are the Rumination correlations with the PRSC subfactors of internal state awareness (ISA) and self-reflection (SR). The SR correlation was large, exactly equaling that of the Reflection scale (mean  $r = .53$ ). The ISA correlation with Rumination was zero. Given the large sample sizes used here, this discriminant pattern of SR and ISA relations with the trait of rumination is an important outcome. It provides the clearest evidence to date that the case for two factors within the PRSC may be psychologically as well as psychometrically substantial.

The results presented in Table 6 support the utility of disintinguishing neurotic and intellective forms of self-attentiveness, and hence the construct validity of the RRQ Rumination and Reflection scales. First, the pattern of correlations in Table 6 is consistent with the proposition that two large, latent sources of variance exist within the Fenigstein et al (1975) item pool which correspond to rumination and reflection. Second, the "private" self-consciousness scale, the only Fenigstein et al. (1975) scale possessing strong evidence of validity with respect to self-attention criteria, shows a substantial association with *both* rumination and reflection.

These data also raise two important questions concerning the construct validity of private self-consciousness. First, as anticipated, the RRQ Reflection and Rumination scales proved to be only weakly correlated with one another. Across samples A through E, these correlations ranged from 0.17 to 0.27, with a mean correlation of 0.23. Thus, ruminative persons are just as likely to be reflective as unreflective, and, reflective individuals are just as likely to be ruminative as unruminative. This fact renders the jointly high PRSC correlations with Rumination and Reflection quite theoretically significant (i.e., the mean SR correlation of 0.53 for Rumination and Reflection, Table 6) . An important

Table 6

Mean correlations between Reflection, Rumination and Fenigstein et al. (1975) Public and Private Self-Consciousness scales across five samples

sample	n	PUSC	PRSC	PRSC factors: ISA      SR	
<u>RRQ Rumination:</u>					
A	555	.35	.44	.02	.53
B	570	.40	.47	.07	.57
C	441	.44	.44	.10	.51
D	710	.44	.41	.02	.53
E	427	.47	.36	.02	.53
<b>Mean</b>		<b>.42</b>	<b>.43</b>	<b>.05</b>	<b>.53</b>
<u>RRQ Reflection:</u>					
A	555	.07	.53	.31	.48
B	570	.08	.62	.43	.56
C	441	.10	.63	.46	.54
D	710	.03	.56	.32	.52
E	427	.08	.60	.42	.54
<b>Mean</b>		<b>.07</b>	<b>.59</b>	<b>.39</b>	<b>.53</b>

Note: Means were computed using Fisher  $r$  to  $z$  transformed correlations. Scale labels are self-reflection subfactor of the Private Self-Consciousness scale (SR), internal state awareness subfactor of the Private Self-Consciousness scale (ISA), Private Self-Consciousness total scale (PRSC), Public Self-Consciousness scale (PUSC), Social Anxiety scale (SAnx), RRQ Rumination scale (RUM).

implication of this finding is that previously reported PRSC effects may not be due to a common self-attentional mechanism. The finding that PRSC scale scores typically represent *either* neurotic *or* intellectual self-attention implies the possibility that different PRSC effects in the literature involve potentially different psychological processes. Specifically, some PRSC effects could be attributable to neurotic self-attention processes and other PRSC effects to intellectual self-attention processes. Alternatively, of course, reflection and rumination may simply represent different triggers or instigators for a common process which ensues when attention becomes directed inward toward the private self. The development of separate scales to specifically target neurotic and intellectual forms of self-attention now permits empirical evaluation of this question. Studies 4, 6, 7, and 8 empirically evaluate this fundamental issue in detail.

A second, related construct validity issue raised by the PRSC findings shown in Table 6 is the nature of relations *between* PRSC subfactors (ISA and SR). The presence of two factors within the PRSC does not impair the construct validity of the PRSC if both factors are indicators of the same underlying trait, private self-consciousness. The best evidence of this would be a similar pattern of associations for each factor with theoretically important behavioral outcomes or correlates of private self-consciousness. Because the statistical probability of such a pattern increases with the degree of correlation between the two factors, psychometric convention requires that the PRSC factors be reasonably highly intercorrelated and that this intercorrelation be attributable to private self-consciousness.

It is clear from Table 6 that whatever correlation might exist between the PRSC subfactors of ISA and SR, it cannot be due to rumination because the RRQ Rumination scale has a zero correlation with ISA. Recall that the RRQ Reflection scale does, however correlate substantially with both PRSC

subfactors. This fact introduces the interesting possibility that most, or all, of the overlapping variance between PRSC subfactors is attributable to the trait measured by the RRQ Reflection scale. This possibility can be empirically evaluated in the present study by comparing the zero order correlation between PRSC subfactors, ISA and SR, with their partial correlations after removing variance associated with RRQ Reflection.

Results of such a mediation analysis, replicated in five large samples of undergraduates, are presented in Table 7. It is apparent from Table 7 that *all* of the overlapping variance between PRSC subfactors can be attributed to the trait measured by the RRQ Reflection scale. In other words, the common portion of the PRSC item variance, the portion most central to the construct validity of the PRSC, is wholly redundant to the RRQ Reflection scale. Table 7 therefore provides fairly impressive evidence of the validity of RRQ Reflection as a factorially pure indicator of the psychometric "core" of the PRSC. Taken together, the results presented in Tables 6 and 7 provide substantial preliminary evidence of the convergent and discriminant validity of the RRQ Rumination and Reflection scales as measures of dispositional self-attentiveness.

Relations between RRQ scales and the Five Factor model. Because the Rumination and Reflection scales were specifically intended to be measures of self-attention associated with the Big Five Factors of neuroticism and openness, respectively, moderately high positive correlations were expected between Rumination and traits closely associated with neuroticism, and between Reflection and traits closely associated with openness. Zero, or near zero, RRQ correlations were expected for traits primarily associated with the remaining Big Five factors of surgency/extraversion, agreeableness, and conscientiousness. Zero-order correlations for each Five Factor marker scale with Rumination and Reflection, respectively, are shown in Table 8. Because small but reliable

Table 7

Mediating effects of Reflection and Rumination on the correlation  
between factors within the Private Self-Consciousness Scale

Sample	<u>n</u>	Correlation between PRSC factors SR and ISA	SR-ISA correlation controlling for:	
			.Rum	.Ref
A	555	.21	.24	.09
B	570	.30	.31	.07
C	441	.27	.24	.04
D	710	.20	.25	.05
E	427	.28	.32	.07
<b>Mean:</b>		<b>.25</b>	<b>.27</b>	<b>.06</b>

Note: Means were computed using Fisher  $r$  to  $z$  transformations.

Correlations  $< .10$  are not significantly different from zero at  $p < .01$ .

Scale labels are RRQ Rumination (Rum), RRQ Reflection (Ref).

intercorrelations are usually obtained among the five factors themselves within both sets of Big Five measures (IASR-B5 and NEO-FFI), Rumination and Reflection scores were also separately regressed on each set. The resulting standardized regression weights (betas) for the Big Five factors are displayed in Table 8 immediately to the right of the corresponding zero-order correlation.

Comparison of the Five Factor pattern of the RRQ scales (Table 8) with that of the Fenigstein et al. (1975) Public and Private Self-Consciousness Scales (Table 3) suggests the present effort to construct factorially pure measures of the postulated neurotic (ruminative) and intellective (reflective) dimensions of self-attention was generally successful. The small residual correlation of Reflection with neuroticism and Rumination with openness (Table 8) likely reflects the small but reliable intercorrelation between the RRQ scales (Table 6).

The convergent correlations in Table 8 (shown in boldface) are, however, so large, they raise the issue of whether Rumination and Reflection are best interpreted as global markers of neuroticism and openness, respectively, rather than self-attention "facets" of those Big Five dimensions. Unlike the FFI neuroticism and openness scales, the RRQ self-attention scales contain an exceptionally narrow range of content, a fact reflected in their rather high Alpha coefficients ( $> 0.90$  for scales of only 12 items). The magnitude of the convergent correlations between the FFI and RRQ scales cannot, therefore, be attributed to their having sampled similar content facets within the neuroticism and openness domains in a similarly broad manner. Another possibility is that the Rumination and Reflection scales each overlap with one of the primary content facets of those domains and are empirically redundant to them. This possibility would account for the high convergent correlations in Table 8 but would question the need for new scales to measure an already well-marked facet of neuroticism and openness.

Table 8

Relations between RRQ Rumination and Reflection scales and the Big Five personality factors

	Rumination		Reflection	
	<i>r</i>	beta	<i>r</i>	beta
<u>Big Five factor:</u>				
Extraversion	-.15**	.06	-.06	-.10**
Agreeableness	-.11**	-.07*	-.06	-.06
Conscientiousness	-.16***	.06	.01	.07*
Neuroticism	<b>.62***</b>	<b>.66***</b>	.09**	.11**
Openness	.07*	.10**	<b>.68***</b>	<b>.71***</b>

Note: Sample A, N=555. Convergent correlations are presented in boldface. The Big Five factors were measured with the NEO Five Factor Inventory (Costa and McCrae, 1992). \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$



Data from sample E provided a means to evaluate this latter possibility. The measure of the FFM administered in sample E was the full-scale NEO-PIR, which provides separate scores for six different content facets of each Big Five factor. Regression of Rumination and Reflection on the NEO-PIR's six neuroticism and six openness facets, respectively, permitted a test of the generality of relations between the RRQ self-attention scales and the broad personality dimensions of neuroticism and openness. Results of these regressions are shown in Table 9.

Both the zero-order correlations and pattern of beta weights displayed in Table 9 argue against the view that Rumination and Reflection are simply an elongated version of a specific neuroticism or openness facet (e.g., neurotic anxiety or openness to ideas). The psychometrically narrow RRQ scales each show substantial, equally-sized partial correlations with at least three of the six facets of the corresponding Big Five domains. Rumination is independently associated with social self-consciousness, anxiety-proneness, and depression-proneness. This finding suggests three independent origins of ruminating tendencies, social reticence or shyness, general worry-proneness, and melancholia, a suggestion that makes a great deal of intuitive sense. Reflection is independently associated with openness to ideas, feelings, and aesthetics. In addition, a weak suppressor effect of Values is evident, although, given the notorious nonreplicability of suppressor effects, little can or probably should be inferred from this latter finding (e.g., see Wiggins, 1973, p.30-38). These results suggest three independent origins of self-reflective tendencies, curiosity, empathy, and creativity, a suggestion that also seems intuitively reasonable.

Overall, findings reported in Table 9 disconfirm the conjecture that the constructs of rumination and reflection merely represent a repackaging of a primary content facet of neuroticism and openness, respectively. Empirically,

Table 9  
Relations between RRQ Reflection and Rumination scales and NEO-PIR facets of Openness and Neuroticism

Openness facets	Criterion: Reflection		Neuroticism facets	Criterion: Rumination	
	r	Beta		r	Beta
Ideas	.58	.40***	Self-consc.	.55	.25***
Feelings	.55	.33***	Depression	.56	.21***
Aesthetics	.54	.17***	Anxiety	.56	.20***
Fantasy	.41	.06	Vulnerability	.52	.09**
Actions	.29	-.02	Impulsivity	.23	.04
Values	.16	-.13**	Hostility	.35	.02
Multiple R		.71	Multiple R		.65

Note: Sample E, N=427 . All zero-order correlations (r) shown are significant at  $p < .001$ .

\* $p < .05$     \*\* $p < .01$     \*\*\* $p < .001$  .

they clearly do not. Instead, the psychometrically narrow Rumination and Reflection scales appear to tap the self-attentional implications of a wide range of different traits within the general personality domains of neuroticism and openness. In this sense, the RRQ would appear to provide excellent, univocal markers of two broad *dimensions* of self-attention, rumination, the self-attentional component of Factor IV, and reflection, the self-attentional component of Factor V.

On the other hand, the range and depth of facet associations shown in Table 9 implies that Rumination and Reflection could be used as brief, global indicators of those factors, despite their conceptual narrowness. The fact of strong, independent associations with several facets suggests the Rumination and Reflection scales would load very highly on the factors defined by these facets (i.e., neuroticism and openness). This speculation was empirically evaluated by jointly factoring the RRQ and the complete set of NEO-PIR facet markers of the FFM. The thirty NEO scales provide a reasonably comprehensive and statistically robust definition of the Big Five personality factors. Because factor solutions were found to be comparable whether or not the Fenigstein et al. (1975) scales were also included in the analysis, only the solution that included the Fenigstein et al. (1975) scales will be reported. The varimax-rotated, five-factor solution to intercorrelations among the thirty NEO facet scales, RRQ Reflection and Rumination scales, and Fenigstein et al. (1975) Self-Consciousness scales is presented in Table 10.

As expected, the Big Five factors were well-defined by the NEO-PIR facet scales. Each facet scale loaded most highly on the factor for which it is scored, and a small number of factorially complex facets (e.g., Impulsivity, Assertiveness, Trust) were the same facets found to be factorially complex in other samples (e.g., Costa, McCrae, and Dye, 1991). Of interest here is the

Table 10

Conjoint factor analysis of RRQ and Fenigstein et al. (1975) measures of self-attentiveness  
with 30 NEO-PIR traits marking the five factor model of personality

Scale	Factor loadings <sup>1</sup>				
	I	II	III	IV	V
E.Gregariousness	78				
E.Warmth	77	33			
E.Positive Emotions	72				
E.Excitement-seeking	56				
E.Assertiveness	51	-37		-40	
E.Activity-level	48		36		
A.Compliance		75			
A.Straightforwardness		73			
A.Altruism	44	64			
A.Modesty		62			
A.Tendermindedness		61			
A.Trust40	52				
C.Discipline			80		
C.Achievement			76		
C.Order			72		
C.Competence			68	-43	
C.Dutifulness			68		
C.Deliberation			63		
N.Anxiety				79	
N.Self-consciousness				78	
<b>Rumination</b>				<b>76</b>	
N.Vulnerability			-34	74	
N.Depression				74	
<b>PUSC</b>				<b>67</b>	
<b>SAnx</b>	<b>-41</b>			<b>58</b>	
<b>PRV-sr</b>				<b>58</b>	<b>44</b>
N.Hostility		-56		50	
N.Impulsivity	30		-48	31	
<b>Reflection</b>					<b>81</b>
O.Ideas					77
O.Aesthetics					76
OFeelings					70
O.Fantasy					60
O.Actions					55
<b>PRV-isa</b>			<b>30</b>		<b>45</b>
O.Values					40

Note: Sample E, N=427. <sup>1</sup>Principal components extraction, varimax rotation. Decimals, and factor loadings less than 1.301 are omitted. Scale labels are Public Self-Consciousness scale (PUSC), Social Anxiety (SAnx), self-reflection subfactor of the Private Self-Consciousness scale (PRVSC-sr), internal state awareness subfactor of the Private Self-Consciousness scale (PRVSC-isa). Letter designations preceding NEO-PIR facet scale labels are Extraversion (E.), Agreeableness (A.), Conscientiousness (C.), Neuroticism (N.), and Openness to Experience (O). Scale labels and factor loadings for self-attentiveness measures are shown in boldface.

magnitude and pattern of Big Five loadings for the two groups of self-attention scales, the RRQ, and the Fenigstein et al. (1975) SCS. These loadings are shown in boldface in Table 10. The Fenigstein et al. (1975) Private Self-Consciousness scale has been scored here in terms of its two separate subscales, Internal State Awareness (ISA) and Self-Reflection (SR). This was done in order to permit evaluation of expected differences in their pattern of loadings on the Big Five factors. Resulting factor loadings for the Fenigstein et al. (1975) scales generally reflect the Big Five regression results previously reported in Table 3. All of the Fenigstein et al. (1975) scales except ISA load highest on neuroticism, and all except the Public scale have a substantial secondary Big Five loading: Social Anxiety on extraversion, SR on openness, and ISA on conscientiousness. Standing in sharp contrast to the factorial complexity of the Fenigstein et al. (1975) scale loadings are the RRQ scale loadings. The very high loading of Rumination and Reflection on neuroticism and openness, respectively, and the absence of any secondary loadings for these scales suggest the RRQ might indeed provide excellent markers of these two personality factors.

The remarkably high loading of Reflection (.81) on the openness factor suggests that the content of this scale is near the "center" of Factor V, as defined by the NEO-PIR openness facets. Interestingly, Guilford (1937; cited in Guilford, 1975) initially proposed the label "Interest in the Self" for a factor he eventually referred to as "Thoughtfulness", and which would today be identified with openness (e.g., McCrae and Costa, in press). "Interest in the Self" may, therefore, be the very first label for Factor V to appear in the psychological literature. Sixty years later, the location of the RRQ Reflection scale right at the "top" of a version of Factor V defined by among the best markers of this factor in the current psychological literature (Table 10) suggests Guilford's first label was

a remarkably insightful one. He no doubt (wisely) decided to abandon this label because of its unwanted narcissistic connotation.

#### **Study 4: The Rumination-Reflection Distinction and PRSC Correlates**

In chapter one, the term "self-absorption paradox" was introduced to describe the fact that private self-consciousness is associated with two apparently contradictory literatures. One of these literatures suggests private self-consciousness is broadly and importantly linked to psychopathology (reviewed by Ingram, 1990). A second literature suggests private self-consciousness is a highly beneficial trait in that it (1) contributes to more extensive and accurate self-knowledge, (2) facilitates development of a more clear, stable and well-articulated self-concept, (3) reduces susceptibility to social influence, (4) is associated with more autonomous, stable, and consistent attitudes and behavior, and (5) promotes physical health by enhancing the self-regulation of behavior (e.g., Carver and Scheier, 1981; 1985; Scheier and Carver, 1983; Mullen and Suls, 1982; Nasby, 1989b). Findings in Study 2 suggest an apparently straightforward explanation of this paradox: the PRSC items may confound two psychologically distinct forms of self-attention, a neurotic form (rumination) and an intellectual form (reflection), that are differentially responsible for the PRSC effects within each of these two literatures. Negative, emotional effects and correlates of the PRSC may be due solely to the ruminative component of PRSC variance. Positive, cognitive effects of the PRSC may be due solely to its reflective component.

Study 3 revealed that PRSC scores are in fact strongly and separately related both to ruminative and reflective tendencies (Table 6), and that *all* the shared variance between factors within the PRSC is accounted for by reflection (Table 7). Consequently, it is reasonable to hypothesize that functionally distinct

ruminative and reflective variance within the PRSC accounts for the "self-absorption paradox" apparent in the PRSC literature. However, because a substantial amount of PRSC variance remains unexplained by rumination and reflection, it remains to be determined if it is ruminative and reflective variance or this remaining variance which mediates most of the PRSC's significant correlates and effects.

With respect to important correlates of private self-consciousness, the Big Five pattern demonstrated here (Tables 3 and 10) and elsewhere (McCrae, 1993; 1993-94) for the PRSC suggest these are likely to be traits associated with neuroticism or openness. Although a comprehensive review of published correlates of the PRSC is beyond the scope of the present discussion, in general, this prediction appears to be born out. The Private Self-Consciousness scale typically shows little or no association with extraversion-related traits such as self-monitoring (Briggs, Cheek, and Buss, 1980), sociability and activity-level (Carver and Glass, 1976), nor with conscientiousness-related traits such as impulsivity (Carver and Glass, 1976), "ego-strength", and self-control (Davies, 1982), nor with agreeableness-related traits such as forthrightness and trust (Davies, 1982). However, significant, positive PRSC correlations are routinely found for traits associated with neuroticism, especially the core neuroticism facets of *anxiety* (e.g., Flett and Blankstein, 1987; Hope and Heimberg, 1985; Matthews and Wells, 1988; Wells, 1991), and *depression* (Ingram, 1989; Ingram and Smith, 1984; Larson and Cowan, 1988; Smith and Greenberg, 1981).

PRSC correlations with openness-related traits are typically even higher than for neuroticism traits, yet they are less often reported in the literature (a fact suggesting the personality dimension of openness has been somewhat neglected in PRSC research). Significant, positive correlations with the PRSC have been reported for several measures that would today be classified as

markers of Factor V, including the Guilford-Zimmerman Thoughtfulness scale (Turner, Scheier, Carver, and Ickes, 1978), the M ("Imaginative") and Q<sub>1</sub> ("Radical") scales of the 16PF (Davies, 1982), the Need for Cognition scale (Reeves, et al., 1995), and Cheek's (1989) Personal Identity scale (Cheek and Briggs, 1982).

The purpose of Study 4, therefore, was to test the hypothesis that (1) ruminative variance within the PRSC mediates its widely discussed association with neuroticism traits such as depression and anxiety, and (2) reflective variance within the PRSC mediates its robust but less widely discussed association with openness traits. This mediation hypothesis was cumulatively tested in samples A through E, by examining the effects of partialling RRQ Rumination and Reflection scores from correlations between private self-consciousness and a broad range of trait measures associated with neuroticism and openness, respectively.

## METHOD

### Subjects.

Data for this study was provided by samples A through E (a detailed description of these samples is provided in Study 2, Method).

### Measures.

Self-attentive dispositions. Measures of self-attentiveness for Study 4 included the Fenigstein et al. (1975) Public and Private Self-Consciousness Scales, and the Rumination-Reflection Questionnaire (a detailed description of the Public and Private scales is provided in Study 2, Method; for the Rumination and Reflection scales, see Study 3, Method, and Table 4 and 5).

Additional personality measures. In addition to the domain and facet measures of the Big Five personality factors described above (Method, Study 2),



the extensive personality batteries completed by subjects within Samples A through E included several measures of particular significance to the research literature on Private Self-Consciousness. Because each of these additional measures have been widely used in the personality research literature, and evidence of their construct validity and reliability is well-known and may be readily obtained from other sources, these measures are simply listed below, together with appropriate citations to these sources. Content of these measures is provided in the appendix.

As noted in the introduction to Study 4, these measures are associated either with the personality dimension of neuroticism or openness to experience, i.e., either Factor IV or Factor V of the FFM. The *Factor IV* scales were: the shortform Taylor Manifest Anxiety scale (Bendig, 1956), the shortform Byrne (1964) Repression-Sensitization scale (Paulhus & Levitt, 1983), the Rosenberg Self-Esteem scale (Rosenberg, 1965), the PANAS Negative Affectivity scale (Watson, Clark, & Tellegen, 1988), the shortform Beck Depression Inventory (Beck, 1967), and the Brief Symptom Index (Derogatis, 1975). The Factor V scales were: the shortform Need for Cognition scale (Cacioppo & Petty, 1982), the Need for Self-Knowledge scale (Franzoi, Davis & Markweisse, 1990), the Personal Identity subscale of the Aspects of Identity scale (Cheek, 1989), the Right-Wing Authoritarianism scale (Altemeyer, 1981), and two additional scales that were abbreviated by the present author. The MPQ Absorption scale (Tellegen, 1994), and the PRF Sentience scale (Jackson, 1984) were shortened by the present author in order to accommodate time constraints in Samples A and E. One third of the PRF Sentience items and approximately half of the Absorption scale items were omitted. Exclusion criteria were item length and nonprototypicality of the construct. In the context of the large number of other scales examined, potential bias in the results for these two scales as a result of

item selection unwittingly favoring the hypothesis was not considered consequential.

#### Procedure.

Data from these measures and from the Big Five domain and facet measures of neuroticism and openness permitted a comprehensive test of the hypothesis that rumination and reflection differentially account for virtually all of the previously reported PRSC associations with other trait measures. This hypothesis was tested by first computing zero order correlations between the PRSC and these criterion trait measures. Each of these correlations was then compared with a corresponding partial correlation in which either Rumination or Reflection had been controlled. If PRSC correlations with neuroticism measures are eliminated when Rumination is partialled, and PRSC correlations with openness measures are eliminated when Reflection is partialled, this hypothesis would be strongly supported.

### RESULTS AND DISCUSSION

Findings from each of these samples are jointly presented in Table 11. The correlational cornucopia spread across Table 11 likely represents the most comprehensive examination of dispositional correlates of PRSC yet conducted. There are three, important, general conclusions that may be drawn from these findings. First, private self-consciousness is significantly correlated with every neuroticism and openness measure examined here except Openness to Values and Openness to Actions. One may conclude from this that the PRSC correlates are highly predictable on the basis of their FFM status: in general, traits classified within the neuroticism or openness factors of the FFM will tend to be positively associated with Private Self-Consciousness. This, alone, is a potentially important conclusion for the PRSC literature.

Table 11

Mediation of PRSC correlates by Rumination and Reflection

			Zero-order correlations			PRSC controlling for:	
Sample n			RUM	REF	PRSC	.RUM	.REF
<u>Factor IV scales:</u>							
IASR-B5 NEUR	A	555	.60*	.14*	.32*	.06	.32*
NEO-FFI NEUR	D	710	.64*	.15*	.27*	.00	.27*
NEO-PIR NEUR	E	427	.63*	.14*	.25*	.03	.21*
NEO-PIR N.Anxiety	E	427	.56*	.18*	.30*	.10	.26*
NEO-PIR N.Depress.	E	427	.58*	.14*	.28*	.09	.29*
NEO-PIR N.Vulnerab.	E	427	.50*	.03	.16*	-.04	.22*
NEO-PIR N.Self-cons.	E	427	.58*	.05	.25*	.02	.32*
NEO-PIR N.Hostility.	E	427	.37*	.08	.19*	.08	.22*
NEO-PIR N.Impulsiv.	E	427	.22*	.11	.19*	.10	.15*
Taylor MAS (s)	C	441	.59*	.07	.23*	.03	.24*
Byrne Repr-Sens.(s)	C	441	.57*	.04	.24*	-.02	.27*
Rosenberg self-est.	D	710	-.44*	-.07	-.12	.07	-.10*
Rosenberg self-est.	C	441	-.43*	-.03	-.09	.12*	-.14*
Rosenberg self-est.	B	570	-.43*	-.06	-.11	.08	-.09
PANAS neg. affect	D	710	.46*	.16	.14*	.03	.15*
PANAS neg. affect	C	441	.43*	.08	.26*	.09	.26*
PANAS neg. affect	B	570	.40*	.05	.13*	-.04	.12*
Beck depression	C	441	.38*	.04	.21*	.06	.22*
Beck depression	B	570	.36*	.08	.16*	.01	.13*
Derogatis BSI	A	555	.43*	.10	.29*	.11	.29*
<u>Factor V scales:</u>							
IASR-B5 OPEN	A	555	.10	.64*	.43*	.46*	.03
NEO-FFI OPEN	D	710	.05	.61*	.34*	.37*	.01
NEO-PIR OPEN	E	427	.09	.63*	.37*	.37*	-.01
NEO-PIR O.Ideas	E	427	.02	.54*	.25*	.27*	-.14*
NEO-PIR OFeelings	E	427	.24*	.54*	.50*	.46*	.24*
NEO-PIR O.Fantasy	E	427	.22*	.40*	.29*	.24*	.07
NEO-PIR O.Aesthetics	E	427	.08	.54*	.26*	.26*	-.11
NEO-PIR O.Actions	E	427	-.18*	.27*	.05	.15*	-.17*
NEO-PIR O.Values	E	427	-.13	.16*	.06	.14*	-.04
Need for cog. (s)	A	177 <sup>a</sup>	.01	.50*	.33*	.37*	.02
Need for cog. (s)	C	441	-.14	.48*	.22*	.31*	-.12
Need for slf-knowl.	A	242 <sup>a</sup>	.10	.63*	.51*	.49*	.17*
Absorption (s)	A	242 <sup>a</sup>	.15	.50*	.46*	.43*	.18*
PRF Sentience (s)	E	427	.04	.42*	.31*	.32*	.07
Personal Identity	A	242 <sup>a</sup>	-.02	.42*	.30*	.33*	.05
Personal Identity	D	710	.08	.39*	.35*	.35*	.17*
Right-wing authorit.	E	427	.06	-.29*	-.15*	-.18*	.03

Note: \*correlation is significantly different from zero at  $p < .001$ . Shortform or abbreviated version of a scale is indicated by (s). <sup>a</sup>Subsample of sample A. Column labels are Rumination scale (RUM), Reflection scale (REF), Private Self-Consciousness scale (PRSC), correlation with Private Self-Consciousness scale after partialling out Rumination scores (.RUM), correlation with Private Self-Consciousness scale after partialling out Reflection scores (.REF).

Second, in every instance, RRQ Rumination correlated more highly with neuroticism traits than did the PRSC, and RRQ Reflection correlated more highly with openness traits than did the PRSC. One may conclude that, with respect to the FFM, the RRQ Rumination and Reflection clearly perform as intended: they measure dispositional self-attentiveness in a manner more closely aligned and congruent with the FFM than the PRSC. Consequently, they may, in general, be expected to show more consistent and clearly defined relations with neuroticism and openness than the PRSC.

The third, and most fundamental conclusion is that latent ruminative and reflective variance within the PRSC does in fact differentially mediate essentially all of the covariation between PRSC and traits associated with the neuroticism and openness factors of the FFM. In some instances, this mediation was so complete that the PRSC association with other traits actually reversed in sign after Rumination or Reflection scores were partialled (e.g., see Rosenberg self-esteem, samples B, C, and D, and NEO Ideas, NEO Aesthetics, NEO Actions, sample E, and Need for Cognition, sample C). The broad range of measures examined here and the consistently large mediation effects present in all five samples for every measure (see the final two columns of Table 11), strongly suggest that RRQ Rumination or Reflection will likely mediate most of the covariation between private self-consciousness and virtually any other trait measure. To the extent that the measures examined in this study are representative of the PRSC literature, these results provide powerful preliminary evidence that the distinction being proposed here between neurotic and intellectual types of self-attention provides a potential resolution of the "self-absorption paradox", i.e., the apparently contradictory cognitive and emotional consequences of private self-consciousness.

### Study 5: Consensual Validation of Rumination and Reflection

It has been asserted that accurate self-reports of one's typical level of self-consciousness are logically impossible. Those who are not self-aware must be self-aware to be able to accurately determine this. Those who are highly self-aware can only decide what constitutes "highly" with reference to the degree of self-attentiveness typical of others, information that cannot be directly known and must be communicated by those others--who may or may not be aware that they are not self-aware (see Osborne & Maguire, 1987). But if this criticism is on the mark, why does the Private Self-Consciousness scale Nevertheless predict such a broad range of criteria consistent with the construct of self-consciousness? How could a "logically impossible" self-report measure like the PRSC come to be regarded as "one of the most thoroughly validated, and certainly one of the most heuristic, personality scales of the last decade" (Fenigstein, 1987, p.548)? One explanation is suggested by the present thesis: validity of the PRSC may come via its overlap with two constructs, rumination and reflection, more securely rooted in readily verifiable personality dimensions (neuroticism and openness). Even if persons cannot directly observe how frequently self-aware they are, they may readily report how often they experience ruminative fears and worries about the self, or how interested or curious they tend to be, relative to others, in engaging in philosophical contemplations about the self. Thus, if a self-consciousness item such as "I reflect about myself alot" is typically interpreted to mean either rumination (e.g., "I *anxiously reflect* about myself a lot") or reflection (e.g., "I *philosophically reflect* about myself a lot"), rather than self-directed attention, per se, then Osborne & Maguire's (1987) logical criticism would be easily surmountable.

If neurotic and intellectual self-focus each represent more readily observable and self-reportable tendencies than "private" self-focus, it is

reasonable to expect that knowledgeable others might also readily observe and (to some degree) accurately report on the ruminative and reflective tendencies of another. For the same reasons that the broad personality dimensions of neuroticism and openness are, to a certain extent, accurately perceived by observers (e.g., McCrae & Costa, 1989), one would expect rumination and reflection to be likewise perceivable by observers. Thus, the RRQ Rumination and Reflection scales may be more amenable to validation by the method of cross-observer agreement than is the PRSC. The purpose of Study 5, therefore, was to evaluate the degree of consensual validity (McCrae, 1982) of the constructs of rumination and reflection as operationalized by the RRQ Rumination and Reflection scales.

## METHOD

### Subjects.

Subjects for this study were 17 pairs of first-year university dormitory roommates, who had been cohabiting for a minimum of four months, and who volunteered for the study in exchange for entry in a lottery draw for \$200 (a \$100 cash prize awarded to each roommate pair). Subjects' age, sex, and ethnic ancestry was not obtained in this study. In general, however, these sample characteristics were comparable to Samples A through E: subjects were recruited from a first-year students' dormitory; approximately two-thirds of the subject pairs were female (there were no mixed sex roommate pairs). With the permission of the residence administrator, subjects were recruited by means of posters placed on public notice boards in the student residence, and flyers placed in the residents' mailboxes.

### Procedure.

Subjects completed a one-hour battery of personality measures which included the Fenigstein et al. (1975) SCS, and two versions of the RRQ, a self-report version and a peer-report version. In the latter version, the RRQ items were worded in the third person singular (e.g., "She loves exploring her 'inner' self"; "Philosophical or abstract-thinking doesn't really appeal to her"). Male and female versions of this form were available; subjects completed either a male or female form depending on the sex of their roommate (an example of the observer form of the RRQ is provided in the Appendix).

The questionnaires were administered in a large, group testing room in the Psychology department. Roommates did not always participate at the same testing time. Roommates who did attend the same session were seated on opposite sides of the testing room, and in such a manner as to ensure they were not facing one another. Roommate pairs were identified by the room number and name of their residence building. Code numbers were used on the questionnaires (in place of this residence information) and the anonymity and confidentiality of all responses was stressed in written instructions to each subject. These instructions also stressed the importance of candor in the roommate ratings, and that the ratings were to be used for research purposes only and would be never be seen by the roommate.

The data of interest in this study were the SCS and RRQ self-reports and the RRQ observer reports. These data allowed a preliminary evaluation of the extent to which self-perceptions about these traits agree with the perceptions of a knowledgeable, confidential informant.

## RESULTS AND DISCUSSION

Correlations between the SCS and RRQ self-reports and RRQ observer reports are presented in Table 12. Rumination and Reflection both show a

Table 12

Correlation of self-reported Rumination, Reflection, Public and Private Self-Consciousness scales with peer-reported Rumination and Reflection scales

Self reports:	Peer reports:	
	Rumination	Reflection
Rumination	.47**	.24
Reflection	.15	.34*
Private Self-Consc.	.26	.11
Self-reflection	.30*	.14
Internal state awareness	.11	.01
Public Self-Consc.	.24	.10

Note: N= 34. \*p < .05 \*\*p < .01 .



significant degree of correspondance between self-ratings and ratings by knowledgeable peers, in this case, college roommates. Peer perceptions of ruminative tendencies were also weakly but significantly correlated with the PRSC's SR factor. However, neither PRSC total scores nor SR or ISA correlated with peer perceptions of reflective tendencies.

Although the magnitude of the validity coefficients in Table 12 may seem somewhat modest (0.47 and 0.34, for Rumination and Reflection, respectively), they are within the range of typical values reported for self-peer validities with personality questionnaires or adjective ratings. A reasonable benchmark for self-peer validities is the grand mean of the mean values reported in a recent review of self-peer agreement in personality ratings (McCrae & Costa, 1989). Across ten studies that included among the most reputable and widely used personality instruments in current research (e.g., NEO Personality Inventory, Personality Research Form), mean self-peer correlations across the various scales included in the studies reviewed ranged from 0.27 (Funder & Colvin, 1988) to 0.59 (McCrae & Costa, in press), with a grand mean of 0.44. This latter value, which may be considered representative of current personality research, is quite similar to those for Rumination and Reflection reported in Table 12.

Results from Study 5 provide important additional evidence supporting the construct validity of the RRQ Rumination and Reflection scales. Whereas Studies 3 and 4 provided evidence bearing upon the psychological meaning of RRQ Rumination and Reflection scores, the roommate data in Study 5 provide evidence of the consensual validity of these new measures. Regardless of the nature of the traits measured by the Rumination and Reflection scale items, persons who believe they are highly ruminative (or reflective) are perceived to be highly ruminative (or reflective) by their roommates. In other words, self-perceptions of ruminativeness and reflectiveness have a certain degree of social

reality and must therefore be considered to some extent veridical. Thus, Study 5 demonstrates that self-reports on the RRQ Rumination and Reflection scales are, to an important degree, neither conscious fabrications nor self-delusions.

Finally, the fact that only the ruminative component of the PRSC (i.e., ruminative variance in the SR subfactor) showed a significant degree of correspondence between self and peer reports suggests that the neurotic implications being measured by the PRSC items may be more salient to observers than the intellectual implications. However, in light of the small sample size in this study, the small size of the correlation between self-reported SR and peer-reported Rumination (0.30) precludes any firm conclusions on this matter.

### **Study 6: Rumination, Reflection and Self-focus**

A central theoretical assumption of the Fenigstein et al. (1975) Self-Consciousness scales, arguably, *the* most central theoretical assumption, is that each measures the tendency to become self-focused. Despite the fact that the Fenigstein et al. (1975) Public and Private scales specify different features of the self as the targets of this self-focus, it is assumed that both scales measure the likelihood of having focal attention directed inward, toward the self rather than outward, away from the self. Two general strategies have been used in efforts to validate this pivotal assumption, a direct approach and an indirect approach. The direct approach refers to efforts to relate PUSC and PRSC scores to the frequency of self-references in spontaneous thought samples. The indirect approach refers to efforts to predict behavioral outcomes (e.g., experimental and quasi-experimental outcomes) consistent with these assumptions. Examples of the latter approach are studies relating the PRSC to social phenomena such as conformity, compliance, and reactance (reviewed by Carver & Scheier, 1985), and cognitive phenomena such as veridicality, consistency, and temporal

stability effects in personality self-reports (e.g., reviewed by Gibbons, 1983; Hjelle & Bernard, 1994; McCrae, 1993), articulation of the self-concept (e.g., Nasby, 1985; 1989), the self-reference effect (e.g., Hull, Van Treuren, Ashford, Propsom, & Andrus, 1988), and the asymmetry effect in self-other similarity judgments (e.g., Srull & Gaelick, 1983).

The purpose of Study 6 was to evaluate the comparative validity of the RRQ and Fenigstein et al. (1975) self-attention scales with respect to three "direct" self-focus criteria. Data from two daily diary studies recently conducted by Campbell and her associates (Campbell, 1995; Lavalley & Campbell, 1995) provided two of these criteria. These data were made available to the present author with the permission of J.D. Campbell. The theoretical focus of both diary studies was the importance of goal relevance on reactions to daily events. Three months prior to their recruitment for the diary studies, all subjects had completed a battery of questionnaires that included the Rumination and Reflection, and Public and Private scales. The availability of these questionnaire data made it possible to investigate relations between trait self-focus and several diary indices of state self-focus.

The first of these was the mean of the self-focus ratings subjects gave for each of 28 diary entries (2 entries per day, x 14 days). This self-report criterion of "state" self-focus was based on the procedure recently reported by Wood, Salzberg, Neale, Stone & Rachmiel (1990), and resembles the criterion used by Franzoi and Brewer (1984). In the latter study, subjects were instructed to rate their state level of public self-consciousness and private self-consciousness each time a wrist "beeper" was sounded at random intervals across a two-day period. In this study, the state rating instruction for private self-consciousness was "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?". The state rating instruction for public self-consciousness in the Franzoi & Brewer (1984) study was "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?". As noted above, proponents of the concepts of public and private self-consciousness such as Carver and Scheier (1987) consider Public and Private scale associations with such criteria to be crucial evidence of these scales' construct validity. One would therefore expect the twice-daily self-reports of state self-focus provided by Campbell (1995) and Lavalley and Campbell (1995) to be judged a valid and important criterion of state self-focus by Carver and Scheier, or Franzoi and Brewer, on similar grounds.

The second "direct" criterion of self-focus provided by the diary data of Campbell (1995) and Lavalley and Campbell (1995) was the frequency of self-references made in subjects' open-ended descriptions of daily events. Coding of these self-references was based on a procedure described by Greenberg and Pyszczynski (1986), who reported significant positive correlations between this measure of self-focus and depression. Wood et al. (1990) also reported positive associations with negative mood for this self-focus criterion. Given these findings, one might anticipate a positive correlation between RRQ Rumination and the Greenberg and Pyszczynski (1986) self-focus index.

The third self-focus criterion evaluated in Study 6 was the sentence completion procedure developed by Wegner and Guiliano (1980). In this method of assessing state self-focus, subjects are asked to select one of three pronouns to complete a given sentence. For each sentence, subjects may chose either a first person or third person pronoun (e.g., I, she, we). Because the sentences were constructed to be equally sensible and meaningful whether completed with a first or third person pronoun, Wegner and Guiliano (1980) assume that a

tendency to select first person pronouns may, in part, reflect increasing levels of state self-focus. The basis of this assumption is that, other things being equal, first person pronouns will tend to be more cognitively salient to self-focused persons than to nonself-focused persons, due to the greater cognitive activation of self-representations among persons higher in self-focus. Validity evidence for the Wegner and Guiliano (1980) pronoun index of self-focus was reported by Stephenson and Wicklund (1983), who found scores on this index to be significantly higher among subjects in whom self-focus had been experimentally induced than among subjects in a control group. Together, these three state measures of self-focus, the two diary indices, and the Wegner and Guiliano (1980) index, provide a representative sampling of the "direct" self-focus criteria that have been used previously in the research literature on self-focused attention.

## METHOD

### Subjects.

Subjects for the two diary studies (henceforth referred to as Diary 1 and Diary 2) were randomly selected subsamples of 61 (Diary 1) and 63 (Diary 2) subjects, recruited from samples B and C, respectively (for a detailed description of these samples, see Method, Study 3). Data for the Wegner and Guiliano (1980) measure of self-focus were obtained from the first 200 subjects in a sample of 564 undergraduate volunteers who participated in a larger personality assessment project (Wiggins, 1993) in exchange for partial course credit. Age, sex, and ethnic composition of this sample were comparable to samples A through E described above (Method, Study 2).

### Procedure.

Trait self-focus. All subjects completed the Private and Public Self-Consciousness scales, and RRQ Rumination and Reflection scales as part of a larger battery of personality measures. For a description of the Public and Private scales, see Study 2, Method; for the RRQ scales, see Study 3, Method.

State self-focus. Several different state indices of self-focus were computed from responses to Diaries 1 and 2 by J.D. Campbell and her research associates (details of these coding procedures are provided in Campbell, 1995, and Lavalley and Campbell, 1995). From the Diary 1 sample (Lavalley & Campbell, 1995), two indices were available. The first measured self-rated ruminativeness in response to "the most bothersome event or problem" described at each diary interval. This *Diary 1 index of state rumination* was computed as the mean response, across the 28 diary intervals, to the following three diary items: "After the situation ended, did you continue to think about it later on?"; "Did continuing to think about the situation afterward intensify how badly you felt about it or how negatively you perceived it?"; and "When thinking about the situation afterward, did your thoughts dwell on the negative aspects of it, or how badly you felt about it?". Because the mean responses for these three items were very highly intercorrelated ( $\alpha = .89$ ) they were combined into a single index (see Lavalley and Campbell, 1995). This composite index reflected each subject's typical level of rumination at each diary interval.

The second index available from the Diary 1 data was the *proportion of self-references* present in the open-ended descriptions of the "most bothersome event or problem" recorded at each diary interval. Coding of these self-references was done using a procedure described by Pyszczynski and Greenberg (1986) and Wood, Salzberg, Neale, Stone, & Rachmiel (1990). This procedure involved first dividing the event descriptions into units, each consisting of a simple sentence, independent clause, or clearly separate phrase. Each unit

was then coded as "self-focus", "external-focus", or "ambivalent" by two independent judges. A unit was classified as self-focus if it included a reference to the subject's personality characteristics, emotions, or performance in academic, work, or social situations, or a self-evaluation. Unlike Pyszczynski and Greenberg (1986), Lavalley and Campbell (1995) chose not to classify references to physical states (e.g., had a headache) as self-focus units. They also note that too few units were coded ambivalent to retain an ambivalent category for data analysis. Interrater agreement in the coding of the self-focus units was estimated to be 83% (based on a total of 269 diary events, using data from a random subset of 10 subjects; see Lavalley and Campbell, 1995). The proportional index of self-reference was calculated as the proportion of units coded as self-focus to the total number of units for each subject.

Two indices of state self-focus were also available from the Diary 2 data (Campbell, 1995). Procedures for administering Diary 2, and for scoring these two indices from responses to Diary 2, were the same as for Diary 1 (Lavalley and Campbell, 1995), with the following exception. The three rumination items contained in Diary 1 were replaced in Diary 2 with the following two items: "To what extent did the event/problem/issue occupy your thoughts today?"; and "To what extent did you find yourself thinking about your own reactions to the event/problem/issue?". The mean (across the 28 diary intervals) of the diary responses to the former item will be referred to as the *Diary 2 index of state rumination*. The mean (across the 28 diary intervals) to responses to the second item will be referred to as the *Diary 2 index of state self-focus*. The second measure of self-focused attention obtained from the Diary 2 data was the *proportion of self-references* present in the open-ended descriptions of the "most bothersome event/problem/issue" recorded at each diary interval. Scoring of this

index was based on procedures identical to those for Diary 1 (i.e., the self-focus coding procedure described by Pyszczynski and Greenberg, 1986).

The final criterion measure of self-focus was the five-item "Linguistic Implications Form" (LIF) developed by Wegner and Guiliano (1980) as a brief, projective measure of state self-focus. This measure consists of five sentences in which a pronoun is omitted and replaced with three pronoun alternatives placed in parentheses (e.g., "Please don't do this to [ me, her, us ] it is just not fair."). For each sentence, the pronoun alternatives were a first person pronoun (e.g., I, my, me) and two third person pronouns (e.g., she, he, us, their). The following instructions appeared immediately below the page title "Linguistic Implications Form":

"It is often possible to identify the missing words in a sentence by the meaning implied by the sentence. We would like to collect some basic statistics on several sentences to be used for later studies. For each of the sentences presented immediately below, any of the alternatives are technically correct. However, one alternative is probably more likely to occur in that context than the others. For each of the five sentences below, simply circle or underline the option word that is more likely to occur. Please answer quickly. Don't think long over your answer."

A single score representing state self-focus was computed by summing the number of first person pronouns circled across the five statements. Scores therefore ranged from 0 to 5. Wegner and Guiliano (1980) reported mean correlations among the five LIF items of 0.17 and 0.19 for independent samples of 115 and 30 undergraduate volunteers, respectively. They have also presented empirical evidence that, despite their low degree of intercorrelation, the LIF items demonstrate sufficient coherence with respect to self-focus criteria to justify their summation into a single score to represent state self-focus.

## RESULTS AND DISCUSSION

Table 13 summarizes correlations obtained in three independent samples between the SCS and RRQ scales and these "direct" criteria of self-focus,



Table 13

Correlation of Public and Private Self-Consciousness and RRQ scales with self-focus criteria

	PUSC	PRSC	SR	ISA	RUM	REF
1. Mean of state rumination ratings, Diary 1	.03	.02	.26	-.26	.44**	-.05
2. Mean of state rumination ratings, Diary 2	.09	.23*	.16	.24*	.27*	.15
3. Mean of state self-focus ratings, Diary 2	.05	.30**	.21*	.31**	.16	.39**
4. Proportion of self-references, Diary 1	.03	.07	.03	.07	.05	.02
5. Proportion of self-references, Diary 2	.04	.28*	.28*	.16	.22*	.00
6. Wegner and Guiliano (1980) pronoun index	----	-.05	-.03	-.07	.15*	.01

Note: Scale labels are Public Self-Consciousness scale (PUSC), Private Self-Consciousness scale (PRSC), internal state awareness subfactor of the Private Self-Consciousness scale (ISA), self-reflection subfactor of the Private Self-Consciousness scale (SR), RRQ Rumination scale (RUM), RRQ Reflection scale (REF). \*p < .05 \*\*p < .01 .

criteria that may be considered reasonably representative of the self-attention literature. As expected, the Public Self-Consciousness scale showed no association with any of these criteria, including the "projective" indices of Pyszczynski and Greenberg (1986), and of Wegner and Guiliano (1980). This result is consistent with Scheier and Carver's (1978) failure to find an association between the Public scale and the Exner (1973) Self-focus Sentence completion test. In a recent article, Carver and Scheier (1987) admitted the latter failure was and continues to be "disturbing" to them, and, that "if our work had not moved in other directions, we might well have tried at that point to devise and validate a substitute scale". The values in the last column of Table 13 may be considered equally disturbing to those who contend the Public scale measures a chronic form of self-attention. There is no indication in these data across three different samples, using four different indices, that Public SC responses reflect a tendency to be thinking about the self.

Results for the PRSC, and Private subscales SR and ISA, were inconsistent. Total PRSC was significantly correlated with mean state rumination in Diary 2, but not in Diary 1. ISA correlated negatively with mean state rumination in Diary 1 but positively with mean state rumination in Diary 2. Because the rumination items differed between Diary 1 and Diary 2 these inconsistency may be attributable to those differences. However, results for the PRSC were equally inconsistent across Diary studies 1 and 2 for an identical index, the total number of diary self-references (i.e., the Greenberg and Pyszczynski, 1986, self-focus index). In Diary 2, correlations with this index were positive and significant for the total PRSC and SR subscale; in Diary 1 these correlations were all zero, despite essentially identical sampling, administration, and coding procedures between the two Diary studies.

The highest correlation obtained for the PRSC was with the Diary 2 index of state self-focus. The replicability of this association could not be evaluated because the item on which this index was based was administered only in Diary 2. Nevertheless, this result is of particular interest because the Diary 2 state self-focus index was the only self-focus criterion which correlated significantly with the RRQ Reflection scale. Furthermore, the value of this correlation (.39) exceeded that for the total PRSC (.30), and each of the Private subscales, SR (.21), and ISA (.31). These common associations of PRSC and Reflection with mean state self-focus are of interest because they permit a test of the primary hypotheses of the present series of studies, namely that PRSC correlations and effects are attributable to Reflection (or Rumination). This hypothesis was tested in this study by computing the partial correlation between PRSC and mean state self-focus with Reflection scores controlled. This partial correlation was 0.08 (ns), indicating that Reflection accounted for all of the association between PRSC and this diary index of chronic self-attentiveness.

The RRQ Rumination scale showed a more consistent association with diary indices of state rumination than did PRSC, correlating positively and significantly with mean state rumination in both Diary 1 and Diary 2. These data provide empirical support for the construct validity of the rumination scale, particularly given that rumination was measured several months before subjects were recruited for participation in the diary studies. Note also that state rumination was measured with only three items in Diary 1, and one item in Diary 2. Because of the typically low degree of reliability of scales this brief, the values in Table 13 are likely a conservative estimate of the relation between Rumination questionnaire responses and mean ruminative tendency in response to specific daily events. Longer and more reliable measures of state rumination would likely show somewhat higher correlations with RRQ Rumination scores.

Only one significant association was obtained for the Wegner and Guiliano (1980) pronoun index of self-focus, a 0.15 correlation with Rumination. However, this correlation was attributable only to one of the five LIF items. A tendency to circle the pronoun "me" in the item *Please don't do this to ( me, her, us ) it is just not fair* correlated 0.25 with RRQ Rumination. A reasonable interpretation of this association is that this LIF item connotes psychological distress, and that its association with Rumination is likely due to its association with dispositional neuroticism. Because all subjects who completed the Wegner and Guiliano (1980) LIF measure had previously completed the FFI neuroticism scale (Costa and McCrae, 1992) as part of a large personality assessment battery, it was possible to empirically evaluate this interpretation. The correlation in this sample between this LIF item and FFI neuroticism was 0.30, i.e., higher than that for the Rumination scale. Neuroticism variance also accounted for most of the association between Rumination and this "neurotic" LIF item: the 0.25 zero-order correlation between Rumination and this LIF item was reduced to a nonsignificant 0.11 when subjects' scores on FFI neuroticism were partialled out. Thus, the significant association Rumination and the LIF may be attributed to the confounding of one of the LIF items with psychological distress.

An additional reason for discounting the significant association obtained in this study between Rumination and the Wegner and Guiliano (1980) LIF is the low internal consistency of the LIF items in the present sample ( $\alpha = 0.02$ ), a result implying that the five LIF items were not measuring a common attribute. In the present study, the LIF could not be considered a reliable index of self-focus.

Three conclusions may be drawn from these results. First, none of the dispositional self-focus measures, including the Rumination and Reflection scales, showed a consistent pattern of association with the self-focus criteria used in this study. If these criteria are considered reasonably representative of

the self-focus literature (e.g., two different projective-type indices, and mean state self-reports) these results must be interpreted either as a failure to support the self-attentional assumptions of the RRQ and Fenigstein et al (1975) scales, or as casting doubt on the suitability of such criteria for validating these assumptions.

Results for the projective-type indices of Greenberg and Pyszczynski (1986) and Wegner and Guiliano (1980) somewhat implicate negative affective aspects of trait "self-focus" measures (i.e., Rumination, and the Private SR factor), but not intellectual aspects (i.e., Reflection, and the Private ISA factor). The present results resemble previous findings that the Greenberg and Pyszczynski (1986) index correlates with negative but not positive affect. However, if the central element in relations between the Greenberg and Pyszczynski (1986) self-focus index and Rumination (or SR) is negative affect, it is not clear why the Public scale, which is strongly associated with dispositional neuroticism (see Study 2), failed to show any association with that index.

It is possible that some other projective-type measure of self-focus, such as the Exner (1973) Self-focus Sentence Completion Scale (SFSC), would reveal more consistent results. Another possibility, however, is that most of these "projective-type" indices of self-focus may, by virtue of their scoring procedures, inherently confounded self-attention with self-valence, and are therefore inherently problematic indices of self-focus. For example, in the Greenberg and Pyszczynski (1986) procedure, language units are coded as self-focused if they refer to the respondent's traits, physical characteristics, self-evaluations or emotional states (coding of the Exner SFSC is similar). It seems reasonable to expect that negatively valenced self-units (negative physical characteristics, physical states, traits, affects, or self-evaluations) differ from positively valenced units in their association with other measures. Adding

positive and negative units together into a composite is more likely to obscure than to eliminate those unique associations (e.g., see Carver, 1989). The difficulty with such composites is that a particular association, e.g., depression, may be interpreted as reflecting elevated self-focus, *per se*, when in fact only negatively valenced units account for the association, i.e., the association may be primarily due to the valence rather than the extensiveness of self-focus.

Evidence of this may be found in two recent studies of the relation between self-focus and depression. When self-focused responses on the Exner (1973) SFSC were grouped into positive, negative, and neutral categories, it was found that depressed differed from nondepressed persons mainly with respect to negative self-focus units (Ingram and Smith, 1984; Ingram, Lumry, Cruet, and Sieber, 1987). In one of these studies nondepressed individuals evidenced *greater* levels of positive self-focus than depressed individuals (Ingram and Smith, 1987), a fact which challenges somewhat the view that depression is associated with self-focus, *per se*. Such findings recommend caution in the use of projective-type measures (e.g., Exner, 1973, Greenberg and Pyszczynski, 1986) to operationalize direction of attention toward the self. A prudent step in future research would be to classify self-focused and nonself-focused responses according to valence, and analyze focus by valence subcategories separately.

The second conclusion that may be drawn from this study is that the Rumination and Reflection scales demonstrated stronger associations with self-report criteria relevant to self-focus (mean diary ratings) than did the Fenigstein et al. (1975) scales. Mean state rumination ratings correlated with RRQ Rumination more highly did the PRSC (or Private subscales). Mean state self-focus correlated more highly with RRQ Reflection than did the PRSC (or Private subscales). These findings support those of Studies 3 and 4 in suggesting that,

in general, the RRQ scales will tend to correlate with private self-consciousness criteria more highly and consistently than the Fenigstein et al (1975) measure.

The third conclusion is that the RRQ scales likely mediate any substantial association between the PRSC and theoretically central criteria of private self-consciousness. RRQ Reflection accounted for virtually all of the association found between the PRSC and mean state self-focus ratings recorded twice daily for a period of two weeks. In some ways, this index may be considered the least theoretically problematic of the criteria used in Study 6. It was also the highest correlate of PRSC in this study. Overall, results of Study 6 lend support to the primary hypothesis that, in general, rumination or reflection will tend to account for PRSC correlations and effects.

### **Study 7: PRSC and the Similarity Asymmetry Effect**

Among the most important and frequently cited research findings bearing upon the construct validity of private self-consciousness, are those that appear to show more accurate, stable, or extensive self-information among person's scoring high on the Fenigstein et al. (1975) PRSC, compared to low scoring persons. Such findings appear to support the "clarification" postulate of Buss (1980), the assumption that more frequent focusing upon one's inner thoughts, feelings, and sensations will inevitably result in more extensive and precise self-knowledge (see general introduction above). The privately self-conscious person is, in other words, dispositionally disposed to "Know Thyself", and, one would hope, to also reap the psychic rewards of that knowledge so ardently described by Socrates. Note that it is the assumed advantages of accurate and extensive self-knowledge that engenders the "self-absorption paradox", i.e, the consistent but apparently contradictory finding of more accurate and extensive

self-knowledge, yet *higher* levels of subjective psychological distress, among persons high in private self-consciousness.

A large number of studies have reported evidence in support of this "self-knowledge" hypothesis. This evidence includes findings that higher private self-consciousness scores are associated with longer self-descriptions (Turner, 1978), faster decision times when making trait judgments about the self (Mueller, 1982), higher correspondance between personality self-descriptions and descriptions made by observers (e.g., Scheier, Buss, & Buss, 1978), higher test-retest stability of personality self-descriptions (e.g., Nasby, 1989b), and evidence of more schematic processing of self-descriptive information (e.g., Nasby, 1985). These effects are generally attributed to chronicity of self-attention. That is, as postulated by Buss (1980), frequent directing of attention toward the private self is assumed to broaden and deepen the representation of the self in memory. However, the findings reported above in Studies 2-6, present an important complication for a purely self-attentional account of such effects: there are two fundamentally different ways in which individuals may chronically focus on their inner selves: neurotically and intellectually. It is reasonable to surmise that the "self-knowledge" hypothesis (and the famous inscription "Know Thyself" engraved above the shrine to the Sun God, Apollo, at the Delphi Oracle) refers solely to the latter type of inward-looking and not the former. Because none of these previous studies differentiated these two types of privately self-conscious persons, it is not clear whether it is the direction of attention, or the prevailing quality of that attention (ruminative or reflective) that is responsible for these effects. Currently, it is generally assumed that attentional focus, *per se*, on the private self, is the causal factor.

The purpose of Study 7, therefore, was to re-examine this matter from the vantage point of the rumination-reflection distinction. One finding that is fairly



representative of cognitive PRSC effects that are attributed to "self-knowledge" is a finding reported by Srull and Gaelick (1983) in an interesting series of experiments on the asymmetry effect in similarity judgments (Tversky, 1977). This effect refers to the tendency for judgments of similarity to differ depending on the ordering of the comparison. For example, the two questions "How similar is X to Y?" and "How similar is Y to X?" do not necessary result in the same degree of perceived similarity. Counterintuitively, the degree of perceived similarity often varies as a function of what order the comparison targets are referred to in the question. Among the factors that influence the degree of asymmetry in such pairs of similarity judgments is the relative information density or prototypicality of the two comparison objects. In general, perceived similarity tends to be greater between a non-prototypical object and a prototypical one than between a prototypical object and a non-prototypical one (e.g., Tversky, 1977). There are a number of competing models of the cognitive mechanisms responsible for similarity asymmetries (e.g., Holyoak and Mah, 1982; Krumhansl, 1978; Tversky, 1977; and Wierzchowska, 1990), and at least one of these models (Wierzchowska, 1990), predicts a reversal of the asymmetry effect under certain conditions. All of them, however, imply that self-other similarity judgments will tend to show the asymmetry effect. The basis of this prediction is the fact that cognitive representations of the self tend to be richer, more elaborate and more extensive, i.e., more prototypical, than cognitive representations of other persons.

Accordingly, Srull and Gaelick (1983) predicted that because chronically privately self-conscious persons are assumed to possess richer, more elaborate, and more extensive self-representations than less self-conscious persons, they should demonstrate stronger asymmetries in self-other similarity judgments. They reported findings consistent with these predictions. The purpose of Study 7

was to re-evaluate this finding from the perspective of the rumination-reflection distinction. Specifically, it was hypothesized that the self-attentive disposition of rumination would *not* moderate asymmetry in self-other similarity judgments, whereas reflection would. It was further hypothesized that reflection would mediate all of the association between private self-consciousness and self-other similarity judgments.

## METHOD

### Subjects

Subjects in Study 7 were a random subset of 220 individuals (226 minus 6 individuals with missing data) from the 555 subjects in Sample A (for a detailed description of this sample see Study 2, Method). Age, sex, and ethnic composition of this subsample were comparable to samples A through E (for a description of samples A through E, see Study 2, Method).

### Measures

Trait self-focus. All subjects completed the Private and Public Self-Consciousness scales, and RRQ Rumination and Reflection scales as part of a larger battery of personality measures.

Similarity rating. Subjects completed one of two versions of a similarity rating question. One version of the question stated "In general, how similar are *you* to others?" The second version stated "In general, how similar are *others* to you?". Immediately below the rating question was a 7-place scale arranged vertically on the page in descending order. The scale intervals were *extremely similar* (6), *very similar* (5), *quite similar* (4), *moderately similar* (3), *a little similar* (2), *only slightly similar* (1), *not at all similar* (0).

## Procedure

As described in Method, Study 2, administration of the personality questionnaires was in two sessions in a large testing room in the Psychology Department. At the beginning of the second testing session, in the following order, subjects completed the similarity rating, the Fenigstein et al. (1975) SCS, and the RRQ.

The effects of dispositional self-attention and wording order of the similarity rating question on similarity judgments were evaluated in a 3 by 2 factorial analysis of variance with the following factors: dispositional self-attention (top, middle, and bottom third of the distribution) and wording order (In general, how similar are *you* compared to others?" versus "In general, how similar are *others* compared to you?"). This analysis was repeated three times: in the first analysis, the dispositional self-attention factor was defined by PRSC scores, in the second, by RRQ Reflection scores, and in the third, by RRQ Rumination scores. Correlations were also computed within each of the two word order conditions between the self-attention measures and the similarity rating.

## RESULTS AND DISCUSSION

Sample descriptive statistics for each variable, and reliability estimates for each of the self-attention measures, are presented in Table 14. Means, standard deviations, and Alpha reliability estimates of the self-attention measures in this subsample of Sample A are comparable to the those for Samples A through E.

The mean similarity score as a function of wording direction and level of self-attention is presented in Table 15. Results with self-attention level defined by the PRSC are presented at the top, results with self-attention defined by Reflection are presented in the middle, and results with self-attention defined by

Table 14.

Descriptive statistics and reliability estimates for Study 2 variables

	Mean	SD	Alpha
Similarity	2.85	1.19	
PRSC	24.6	4.6	.67
Reflection	3.33	0.81	.93
Rumination	3.62	0.65	.90

Rumination are presented at the bottom of Table 15. In each of these three analyses, the expected main effect for question wording order was statistically reliable and of about the same magnitude as that reported by Srull and Gaelick (1983),  $F(1, 215) = 13.7, 10.3, \text{ and } 13.2, p < 0.001$ , for the analysis based on the PRSC, the Reflection scale, and the Rumination scale, respectively. Note that the direction of this effect was directly opposite, however, to that reported by Srull and Gaelick (1983). In contrast to the Srull and Gaelick (1983) findings, similarity ratings were significantly higher for the question worded "how similar are *you* to others" than for the question worded "how similar are *others* to you?". The direction of the asymmetry obtained here was therefore not consistent with the cognitive models of similarity judgments separately proposed by Holyoak and Mah (1982), Krumhansl (1978), and Tversky (1977), but was instead consistent with the model proposed by Wierzchowska (1990). Unlike these other three models, the latter model predicts that cognitive representations of *generalized* others (e.g., "In general, how similar are you to others?") differ from specific persons, including the self, and specific others, such that perceived similarity of others in general compared to the self will tend to *lower* than perceived similarity of the self compared to others in general. The cognitive models of Holyoak and Mah (1982), Krumhansl (1978), and Tversky (1977) do not make such a distinction between other and generalized other. The present results appear to be consistent with the predictions of Wierzchowska (1990) with respect to self-other similarity judgments.

It is not clear why results here differ from that of Srull and Gaelick (1983). Two, procedural differences between that study and the present one are unlikely to account for a reversal of the similarity asymmetry effect between the two studies. The only notable procedural differences between the two studies were the following: instead of the 7-place rating scale used in this study, Srull and

Table 15

Reflection, Rumination, and PRSC moderation of the asymmetricality effect in self-other similarity judgments: cell means and oneway Anovas within reference conditions

	Similarity rating by level of Private Self-Consciousness			
	Low	Med	High	F-ratio
<u>Reference condition:</u>				
Similarity of self to others	3.23	3.23	3.00	.44
Similarity of others to self	2.82	2.75	2.11	3.96*

  

	Similarity rating by level of Reflection			
	Low	Med	High	F-ratio
<u>Reference condition:</u>				
Similarity of self to others	3.31	3.24	2.83	1.73
Similarity of others to self	3.08	2.74	2.09	7.96**

  

	Similarity rating by level of Rumination			
	Low	Med	High	F-ratio
<u>Reference condition:</u>				
Similarity of self to others	3.44	3.22	2.85	2.66
Similarity of others to self	2.31	3.03	2.50	3.89*

Note: \*  $p < .05$  \*\*  $p < .001$ .

Gaelick (1983) used a 25-place similarity scale with the anchor words "minimal similarity" and "maximal similarity" placed at opposing ends of the scale; secondly, whereas subjects in the Srull and Gaelick (1983) study completed the self-other item in the context of 25 filler items (e.g., comparing "apple" with "tank", "bicycle" with "motorcycle", and so on), subjects in the present study completed only the self-other item. None of the four cognitive models of similarity judgments noted above clearly implicate either of these procedural details in similarity judgment asymmetries. Because alternative cognitive theories make opposite predictions in the present case, and because both the present findings and the opposite findings reported by Srull and Gaelick (1983) appear equally statistically reliable, additional research is clearly required to resolve this matter. Further discussion of the similarity asymmetry effect, per se, is somewhat beyond the scope of the present discussion. It is sufficient to note here that the strong asymmetry effect obtained in the present study, although opposite to that obtained by Srull and Gaelick (1983), is predicted by a cognitive model of that asymmetry (i.e., Wiczorkowska, 1990) with implications for dispositional self-consciousness highly similar to those investigated by Srull and Gaelick (1983). Regardless of the direction of asymmetry predicted by these theories, each theory postulates a particular cognitive status for self-representations that implies greater asymmetry in self-other similarity judgments for persons higher in self-consciousness.

Means for the first analysis, in which self-attentiveness was defined by PRSC scores, represents a conceptual replication of Srull and Gaelick (1983), Study 2, which examined the moderating role of private self-consciousness on the asymmetry effect in self-other similarity judgments. In addition to the main effect for wording order described above there was a main effect for level of self-consciousness,  $F(2, 215) = 3.7, p < 0.03$ . As reported by Srull and Gaelick

(1983), unself-conscious persons tended to rate themselves as more similar to others than self-conscious persons. Secondly, although the overall interaction between wording order and level of self-consciousness was not statistically significant,  $F(2, 215) < 1$ , *ns*, the pattern of mean differences within word order conditions did replicate Srull and Gaelick's (1983) critical finding that the similarity ratings of self-conscious persons were more influenced by the wording of the rating question than unself-conscious persons (see rightmost column of Table 15). In the other-self wording condition, similarity ratings significantly decreased with higher levels of self-consciousness,  $F(2, 115) = 3.96$ ,  $p < 0.02$ . In the self-other wording condition, similarity ratings did not differ across levels of self-consciousness,  $F(2, 100) < 1$ , *ns*.

The primary hypothesis of this study was that the private self-consciousness effect on self-other similarity judgments obtained by Srull and Gaelick (1983) is entirely accounted for by the latent reflective variance in PRSC scores. Three sets of findings are most relevant to this hypothesis. First, when level of self-attentiveness was defined by differences in RRQ Reflection rather than PRSC, a main effect for self-attentiveness was found that was similar in form and stronger in magnitude to that of PRSC. Second, although the overall interaction between Reflection level and wording order failed to be statistically significant, the pattern of mean differences within word order conditions replicated Srull and Gaelick's (1983) critical finding with respect to PRSC. In the present study, similarity ratings significantly decreased with higher levels of reflectiveness in the other-self condition,  $F(2, 114) = 7.96$ ,  $p < 0.001$ , but not in the self-other condition,  $F(2, 100) = 1.7$ , *ns* (see rightmost column of Table 15).

Third, partial correlation analyses conducted within the two word order conditions revealed that all associations between PRSC and the similarity ratings were mediated by RRQ Reflection. Results of these analyses are presented in



Table 16

Correlations within reference conditions between similarity ratings and Private Self-Consciousness, Reflection, and Rumination

	<u>Reference condition:</u>	
	<i>"In general, how similar are..."</i>	
	<i>you to others?"</i>	<i>others to you?"</i>
Reflection	-.18*	-.41***
Rumination	-.25**	.03
PRSC	-.13	-.23**
PRSC controlling for Reflection	.02	-.01
PRSC controlling for Rumination	-.03	-.30***
PRV-isa	.04	-.20*
PRV-isa controlling for Reflection	.08	-.04
PRV-isa controlling for Rumination	.01	-.21*
PRV-sr	-.17*	-.18*
PRV-sr controlling for Reflection	-.08	.01
PRV-sr controlling for Rumination	-.04	-.26**

Note: Scale labels are Private Self-Consciousness Scale (PRSC), Internal State Awareness subfactor of the PRSC (PRV-isa), Self-reflection subfactor of the PRSC (PRV-sr). \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

Table 16. The zero order correlations between PRSC and the similarity rating were -0.13 and -0.23 in the self-other and other-self conditions, respectively. Removing the influence of RRQ Reflection on these associations eliminated them (i.e., residuals of 0.02 and -0.01, respectively).

An unexpected weak main effect for Rumination on similarity ratings was also obtained in the present study,  $F(2, 214) = 3.1, p < 0.05$ , an effect that was qualified by a Rumination x wording order interaction,  $F(2, 214) = 3.5, p < 0.03$ . Cell means for this analysis are presented in the bottom portion of Table 15. This interaction was not of the form predicted by Srull and Gaelick (1983) for the trait of private self-consciousness. In contrast to the PRSC and Reflection scale analyses, similarity means in the other-self wording condition showed a curvilinear association with Rumination, simple between-groups  $F(2, 114) = 3.89, p < 0.02$ ; deviation from linear,  $F(2, 114) = 6.95, p < 0.01$ . Within the self-other condition, similarity ratings tended to decrease with higher levels of rumination, and, in contrast to the PRSC and Reflection scale analyses, differences within this condition approached significance,  $F(2, 100) = 2.66, p < 0.08$ . These differences in results for Rumination, in comparison with Reflection and PRSC, are not readily interpretable. Results of the partial correlation analyses involving the Rumination scale are equally difficult to interpret (Table 16). For example, in the self-other condition, Rumination accounts for all of the association between the similarity rating and scores on the SR factor of the PRSC; in the other-self condition, it accounts for none of it (see the last row in Table 16). Due to the mixed and unpredicted quality of the Rumination findings, interpretations of them is not ventured here and are more properly deferred until future research shows them to be reliable.

In summary, the purpose of Study 7 was to test the general hypothesis that cognitive effects of PRSC commonly attributed to the high level of self-concept

"articulation" among highly self-focused persons is attributable to overlap between PRSC and the trait of reflectiveness. Srull and Gaelick's (1983) finding that PRSC moderates the asymmetry effect in self-other similarity judgments provided a simple and straightforward test of this hypothesis. Results generally supported this hypothesis: the Reflection scale showed effects on self-other similarity judgments similar in form and stronger in magnitude than effects obtained for the PRSC. Furthermore, effects for the PRSC were wholly accounted for by those for the Reflection scale.

Results for the Rumination scale were not as supportive of the primary hypothesis as those for the Reflection scale. Rumination scores showed an unexpected association with similarity judgments but this association was complex and difficult to interpret. Overall, however, results of Study 7 lend strong preliminary support to the view that so-called "self-articulation" effects of private self-consciousness may be accounted for by a subtype of self-attention associated with intellectual curiosity, i.e., reflection, rather than chronic self-focus per se.

### **Study 8: PRSC and Volunteering for Psychology Experiments**

Study 8 re-evaluates, from the perspective of the current distinction between ruminative and reflective self-focus, a recent suggestion that PRSC scores reflect a motivational as well as an attentional characteristic. Franzoi, Davis, and Markwiese (1990) obtained evidence that higher scores on the PRSC are associated with a greater likelihood of volunteering for psychology experiments. On the basis of the results obtained in Studies 2-7 above, it was predicted that this PRSC effect was likely solely due to overlap with the trait of reflection. Consequently, Study 8 examined relations between Rumination, Reflection and Private Self-Consciousness and research volunteerism.

## METHOD

### Subjects

Subjects in this study were all subjects in sample B (for a detailed description of this sample, see Study 2, Method).

### Measures

In the takehome envelope of measures for Sample B, distributed at the beginning of the term to students in several introductory psychology classes (see Study 2, Method) was a signup form which stated: "We are conducting a number of other studies later on in the school year on various topics, including personality dispositions and daily life events. If you would like to be contacted about any of these additional studies you may wish to participate in (also in exchange for research credit points), please leave your name and phone in the space provided below. Thanks." This form appeared last, after the questionnaires in the envelope. Of the 574 subjects who returned completed personality questionnaires in Sample B, 513 provided both their name and phone number on the form (89% of the total sample). 61 subjects who returned completed questionnaires did not complete the signup form (11% of the total sample).

Trait self-focus. All subjects completed the Private and Public Self-Consciousness scales, and RRQ Rumination and Reflection scales as part of the takehome battery of measures for Sample B (for a description of the Private and Public scales, see Study 2, Method; for the RRQ scales, see Study 3, Method, and Tables 4 and 5).

Additional personality measures. All subjects also completed the Five Factor Inventory (FFI; Costa and McCrae, 1992) as part of the takehome battery of measures. Scores for the FFI Openness to Experience scale, a 12-item

abbreviated version of the NEO-PI-R Openness scale were included in this study (for a description of the NEO-PI-R, see Study 2, Method).

### Procedure

Subjects were assigned into two groups on the basis of their signup status (1=completed the signup sheet, henceforth referred to as "signers"; 0=did not complete the signup sheet, henceforth referred to as "nonsigners"). Mean differences between signers and nonsigners on PRSC, Reflection, Rumination, and Openness to Experience were evaluated with one-way ANOVAs. Because each of these dependent variables involved a specific, directional prediction, statistical significance for each two-group ANOVA was defined by a nominal alpha level of 0.05 rather than a family-wise alpha level. Mediation effects were examined by means of two-group ANCOVAs.

## RESULTS AND DISCUSSION

Results of Study 8 are presented in Table 17. Rumination means did not differ between signers and nonsigners, and are therefore omitted from the table. Means for the PRSC were significantly higher among signers than nonsigners,  $F(1, 573) = 6.5, p < 0.05$ , a finding which directly replicates that of Franzoi, Davis, and Markwiese (1990). However, as anticipated, signers also tended to have higher scores than nonsigners on RRQ Reflection,  $F(1, 573) = 17.8, p < 0.001$ , and FFI Openness to Experience,  $F(1, 573) = 14.2, p < 0.001$ . Thus, as was the case for Studies 2 through 7 above, effects for the trait of reflection tended to be stronger than for the trait of private self-consciousness.

The principal hypothesis of Study 8 was that individual differences in the trait of reflection would account for the "motivational" effect of PRSC on research volunteering. F-ratios reported in the final two rows of Table 17 are the findings most relevant to this hypothesis. The group difference in PRSC was found to be

Table 17

Mediating effect of Reflection and Openness on relation between Private Self-Consciousness and volunteering for psychology experiments

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<u>Cell means</u>					
	REF	OPEN	PRSC	PRV-sr	PRV-isa
Signed form (n=513)	3.2	39.6	23.9	13.1	10.8
Did not sign form (n=61)	2.8	36.9	22.3	12.3	10.0
<u>Between groups effect</u>					
F ratio	17.8***	14.2***	6.5*	ns	9.0**
F ratio, controlling for Openness	6.1*	---	ns	ns	4.6*
F ratio, controlling for Reflection	---	ns	ns	ns	ns

---

Note: Sample B, n=574. Scale labels are RRQ Reflection (REF), NEO-FFI Openness to Experience (OPEN), Private Self-Consciousness (PRSC), self-reflection subfactor of the PRSC (PRV-sr), internal state awareness subfactor of the PRSC (PRV-isa).

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

completely redundant to that of the Reflection scale (see Table 17). Controlling for the group difference in FFI Openness also eliminated the effect for the PRSC.

These two findings, and the lack of a volunteering effect for Rumination, together strongly suggest that the PRSC predicts research volunteerism solely because of its overlap with the openness-related trait of reflection. The ruminative component of PRSC variance, the component which accounts for its association with various measures of psychopathology, is unrelated to research volunteerism. This conclusion is further buttressed by the fact, in the present study, the ISA component of the PRSC, the component most clearly and exclusively associated with openness (e.g., Tables 3 and 11) accounted for all of the PRSC effect on research volunteering (last column of Table 17).

These results imply that if a motivational trait such as "need for self-knowledge" (Franzoi et al., 1990) does underly the positive association between PRSC and volunteering for psychology experiments, this need is being represented solely by the reflection component of PRSC variance; it is unrelated to rumination. Finally, recall that Franzoi et al.'s (1990) proposed questionnaire measure of this need, the five-item Need for Self-Knowledge scale was administered in Study 4 as one of the "Factor V, or openness-related measures (a copy of it is included in the Appendix). Correlational results with this scale presented in Table 11 (see values in the 6th row from the bottom of Table 11) show that Franzoi et al.'s (1990) Need for Self-Knowledge scale was unrelated to Rumination ( $r = 0.11$ , *ns*), strongly associated with Reflection ( $r = 0.63$ ,  $p < 0.001$ ), and its strong association with PRSC ( $r = 0.51$ ,  $p < 0.001$ ) was almost completely accounted for by the PRSC's latent reflection variance (partial  $r$ , controlling for Reflection,  $= 0.17$ ,  $p < 0.05$ ).

## GENERAL DISCUSSION

The program of research described in the foregoing eight studies introduces and articulates a distinction between two basic varieties of trait self-focus, rumination and reflection, each of which is uniquely and closely associated with one of the Big Five personality dimensions (neuroticism and openness, respectively). This self-attention distinction is presumed to reflect a fundamental motivational dichotomy of long-standing value in psychology, fear/anxiety versus curiosity/exploration: rumination provides a useful summary conception of self-attentiveness motivated by perceived threats, losses or injustices to the self; reflection provides a useful summary conception of self-attentiveness motivated by curiosity or epistemic interest in the self.

The utility of this distinction was demonstrated by applying it to an unresolved paradox in the research literature on private self-consciousness, the disposition to be chronically aware of one's thoughts, feelings, and sensations. A large body of correlational and experimental evidence suggests that persons scoring high in private self-consciousness possess more clear, stable, accurate, and extensive self-knowledge, demonstrate greater resistance to social conformity pressures, and demonstrate more effective psychological and physical coping than persons scoring low on this trait. Paradoxically, however, there exists an equally large body of literature suggesting that persons scoring high in private self-consciousness typically report higher levels of psychological distress (e.g., anxiety, depression, somatic complaints, and so on) than persons scoring low on the trait. The general hypothesis of the present series of studies was that this apparent paradox is due to confounding of rumination and reflection in the most widely used measure of self-consciousness, the Fenigstein et al (1975) Private Self-Consciousness Scale (PRSC). Separate measures of ruminative and reflective tendencies were constructed, and a series of studies



was conducted with these new measures, for the purpose of evaluating this hypothesis. The important findings from these studies may be summarized as follows:

1. Lay conceptions of trait self-focus codified in the natural language, and professional conceptions of trait self-focus represented in the most popular research measures of the construct, both strongly implicate two of the Big Five factors of personality, neuroticism and openness, but not other Big Five factors.
2. It is possible to statistically isolate self-attention variance associated with neuroticism from self-attention variance associated with openness by means of conventional questionnaire methods. Two brief questionnaire scales, Rumination and Reflection, constructed to separately measure "neurotic" and "intellective" (openness-related) forms of trait self-focus, respectively, were each found to be strongly correlated with PRSC, but were essentially uncorrelated with one another. Together these findings confirm the presence of two large, psychologically distinct sources of variance in the PRSC, "neurotic" and "intellective", that are well represented by the RRQ Rumination and Reflection scales.
3. The rumination-reflection distinction sheds important light on the issue of factorial complexity in the PRSC. The often reported finding of two factors among the PRSC items can be attributed to item differences related to rumination and reflection: the four items that consistently define the "ISA" subfactor tap reflective self-focus exclusively; the six items that consistently define the "SR" subfactor assess ruminative and reflective self-focus to an equivalent degree. This suggests that what primarily distinguishes ISA and SR is neurotic self-focus (rumination),

and what primarily associates the two factors is intellectual self-focus (reflection). The latter conclusion was strongly supported by the finding, replicated in five, large samples of undergraduates, that all of the correlation between the PRSC's two factors, ISA and SR, was entirely accounted for by Reflection scale variance. Given that common item variance (as opposed to specific item variance) typically instantiates what a given scale is intended to be measuring, the psychometric core of the Private Self-Consciousness scale may be confidently interpreted as reflection. Independent of this psychometric core is a second, and somewhat smaller latent component of PRSC variance, rumination. Thus total scale scores on the PRSC confound two relatively independent and motivationally distinct traits, reflection and rumination.

4. Latent rumination and reflection variance in the PRSC is separately responsible for essentially all associations reported in the literature between PRSC and other trait measures. RRQ Rumination accounts for almost all of the association between PRSC and measures of psychological adjustment or distress (e.g., self-esteem, depression, anxiety), and RRQ Reflection accounts for almost all of the association between PRSC and measures of intellectual dispositions (e.g., openness, personal identity, need for cognition, need for self-knowledge).
5. PRSC effects commonly cited in connection with the "self-knowledge" hypothesis are likely accounted for by the latent reflection variance tapped by the PRSC, i.e., by epistemically motivated self-attending. Conceptual replications of three studies, each representing an important and distinct aspect of the research literature on the PRSC (relations with

state self-focus, information processing effects, and affective or motivational effects), consistently showed parallel effects between the PRSC and Reflection scale, typically stronger effects for Reflection than for the PRSC, and essentially total mediation of all significant PRSC effects by Reflection.

These findings have a number of important implications for theory and research on dispositional self-focus.

#### Implications for the construct validity of the Private Self-Consciousness Scale

The SR and ISA subfactors are not merely "item difficulty" factors. The viewpoint that the two recurrent factors within the PRSC merely reflect differences in item response distributions is likely wrong. The pattern of correlations for ISA and SR with the Big Five personality factors is clearly distinct and this distinction is consistent with a fundamental natural language distinction between neurotic and intellectual forms of self-consciousness. These findings are consistent with increasing numbers of reports in the PRSC literature that ISA and SR show divergent associations with theoretically relevant criteria of private self-consciousness (e.g., Lavalley & Campbell, 1995; Campbell et al., in press).

The conclusion that ISA and SR may be fundamentally psychologically distinct clearly has wide-ranging implications for the private self-consciousness research literature. It can no longer be assumed that reported correlations and effects for the PRSC are due to the shared portion of variance between SR and ISA, i.e., the only portion that must be assumed to reflect the trait of "private self-consciousness". Different correlations and effects may instead be due to one PRSC factor and not the other. In such instances, the correlation or effect cannot be attributed to the trait of private self-consciousness, but must be attributed to

unique properties of the implicated factor (ISA or SR). The present demonstration that SR and ISA differ greatly in their psychological implications compels either a revision of the concept of private self-consciousness to allow for these divergent implications, or a re-assessment of the functional utility of the "private" concept, and its possible abandonment.

Two, latent, independent sources of variance within the PRSC individually account for PRSC correlates and effects, and largely account for the presence of separate ISA and SR subfactors within the scale. These latent sources are best labelled *rumination* and *reflection*. The fact that the RRQ Rumination and Reflection scales individually mediated essentially all significant correlates and effects obtained here for the PRSC clearly also has wide-ranging implications for the private self-consciousness research literature. The range of reported dispositional correlates and effects re-evaluated in the present research implies that whenever a replicable correlation or effect has in the past been demonstrated for the PRSC, that correlation or effect has likely been separately due to reflection or to rumination, rather than to a general "private" self-consciousness tendency. Confounding of two uncorrelated dimensions within a scale total score typically has the effect of diluting the strength of the individual effects of each dimension (e.g., see Carver, 1989). In the present studies, the separate Rumination and Reflection scales invariably demonstrated higher associations with the criterion measures than did the PRSC, a fact which supports the conclusion that separate effects are being confounded in the PRSC total score, and contradicts the alternative conclusion that Rumination and Reflection scale effects are jointly attributable to their association with the trait of "private" self-consciousness.

The self-absorption paradox: does chronic introspection make you wiser and sadder? At one time, a burgeoning literature on the phenomenon of "depressive realism" appeared to provide firm empirical grounds for the proverbial lay notion of "sadder but wiser" (e.g., Alloy & Abramson, 1979). More recently, those empirical grounds have cracked and loosened considerably, and depressed mood no longer appears to promise as much cognitive clarity as it once did (e.g., see Dobson & Franche, 1989; Haaga & Beck, 1995). Somewhat unremarkably, it now appears that depressed mood at times improves self-evaluative accuracy, and at times impairs it, depending on the match between valence of the feedback cues and valence of the self-schema (e.g., Campbell & Fehr, 1990; Dykman & Abramson, 1989).

It was earlier suggested that the repeated demonstration of two apparently contradictory outcomes of private self-consciousness, psychological distress, and self-knowledge effects, seemed to imply an adjustment paradox for the trait of private self-consciousness: frequent inspection of one's feelings and thoughts seems to improve the accuracy of self-knowledge, but at the cost of psychological well-being, contra the assumptions of philosophers (e.g., Socrates, Hegel), psychotherapists (e.g., Freud, Rogers), and the usual procession of business-minded mystics. The vast literatures documenting these dual effects strongly imply another "sadder but wiser" tale in the psychology research literature, this time for the Fenigstein (1975) Private Self-Consciousness scale, instead of the Beck (1967) Depression Inventory (e.g., Alloy & Abramson, 1979).

The present findings suggest, alternatively, that persons scoring high on the Fenigstein et al. (1975) PRSC are probably not sadder and wiser, rather they are sadder *or* wiser. There would appear to be two very different groups of high scorers on the PRSC, high scorers who are anxiously ruminative and high

scorers who are inquisitively reflective. If rumination and reflection tend to be statistically independent dispositions, and the former alone accounts for the "sadness", and the latter the "wisdom" (self-knowledge) effects of the PRSC, there is no adjustment paradox to resolve with respect to the trait of private self-consciousness. If the effects are attributable not to a common trait, but to two unrelated traits, then no psychological commonality linking "sadness" and "wisdom" is in fact being demonstrated by the PRSC findings, hence there is no within-person paradox between sadness and wisdom to explain.

The "third" variable conundrum: enter the Five Factor model: Fenigstein et al.'s (1975) two-factor model of self-consciousness was a controversial departure from Duval and Wicklund's (1972) theory not merely because of its contentious "public-private" distinction, but also because Wicklund (1980) and others were convinced that an individual difference approach to self-awareness was profoundly hampered by inherent "third" variable problems:

In developing tests of the theory [of objective self-awareness] we have attempted to avoid the potential ambiguities associated with measures of self-consciousness, since it is difficult to know whether those measures are relevant to actual differences in self-focused attention, differences in types of personal standards or styles of discrepancy reduction, differences in ability to avoid self-focusing stimuli, or even theoretically irrelevant differences that would have a bearing on the results. This is not to say that an individual difference approach is "invalid", but it is to say that we have preferred to work with stimuli that are clearly relevant to self-focused attention, rather than with somewhat more ambiguous individual difference measures of direction of attention. (Wicklund, 1980, p. 268).

The present findings appear to confirm the impression of Wicklund (1980) that the Fenigstein et al. (1975) measure is "ambiguous" and to an important degree confounds multiple, important personality differences other than strictly attentional ones. The unambiguous conclusion of the present studies, however,

is that much of the PRSC's ambiguity may be resolved with reference to the broad distinction between rumination and reflection, two unrelated proclivities that the PRSC appears to confound. This conclusion implies a little less fatalism, perhaps, than do Wicklund's (1980) views regarding the prospects of individual difference approaches to the topic of self-consciousness. To the extent the rumination and reflection scales (1) are psychometrically homogeneous and reliable, (2) reliably predict theoretically persuasive self-focus criteria, (3) are stronger and more reliable predictors of such criteria than appropriate control measures, and (4) represent fundamental motivational categories of self-awareness (e.g., negative affect and curiosity), they may indeed prove useful in advancing research on self-focused attention.

Two, more recent "third variable" complaints about PRSC effects are also noteworthy in light of the present findings. In an effort to demonstrate that many so-called "cognitive" measures are themselves correlated with affect, thereby confounding tests of social-cognitive theories, Ingram (1989) conducted a replication of a widely cited study by Scheier and Carver (1977). In this study, Carver and Scheier tested a central prediction of their self-regulatory model of self-awareness (Carver, 1979; Carver & Scheier, 1981), namely the "affect amplification hypothesis" (see also Buss, 1980, p.13). According to this hypothesis, one is likely to experience a particular emotional reaction more acutely when one focuses upon it, just as a painful emotion or sensation may be made less acute by diverting one's attention from it. Carver and Scheier (1977) presented results of a series of studies that appeared to support this hypothesis. One of these studies examined this hypothesis with respect to individual differences in self-consciousness, as measured by the Fenigstein et al (1975) PRSC.

Ingram (1989) pointed out however, that the PRSC has a small but reliable correlation with depression and other measures of negative affect. Using the PRSC to test the effect of self-attention on affect, as in Scheier and Carver's Study 2 (1977), necessarily confounds an attentional interpretation of any effect with an affective one:

...as certain cognitive and affective variables are correlated, selecting a particular cognitive factor as an independent variable almost certainly selects for the presence of the associated affect. If one returns to research on private self-consciousness as an example, data consistently support a correlation between private self-consciousness and negative affect...In examining experimentally induced affective reactions of individuals selected for this cognitive factor, it is unclear if these reactions are a function of the cognitive independent variable, the initial affect that is probably associated with the variable, or some interactive combination of the two (Ingram, 1989, p.716).

To evaluate the role of collateral negative affect on the Scheier and Carver (1977) findings, Ingram (1989) measured depression concurrently with private self-consciousness and evaluated the independent effects of depression and private self-consciousness on the same induced affect criteria examined by Scheier and Carver (1977) (reactions to projected still photographs of war atrocities and attractive scenic landscapes). Preliminary analyses of mean affective reactions between high and low scorers on the PRSC closely replicated the results of Scheier and Carver (1977). However, when depression differences between groups were controlled, all of the PRSC effects were eliminated. Given the present finding that rumination accounts for all of association between the PRSC and negative affect, Ingram's (1989) results imply that what Scheier and Carver (1977) actually demonstrated was that neurotic ruminators tend to be more distressed than others when compelled to watch slides of atrocities.



The other, "third variable" concern recently voiced against the PRSC, and also loudly echoed in the present findings is the suggestion that PRSC scores likely reflect individual differences in motives and values as well as direction of attention (Franzoi et al., 1990) (compare with Wicklund, 1980, above):

...motives in [Carver and Scheier's control theory of self-attention] seem clearly independent of the self-aware state itself and are not discussed in terms of their influence on individual differences in private self-consciousness... In contrast, we contend that high and low PRSC's do in fact differ in their underlying motives, with high PRSC's possessing a greater desire for self-knowledge than low PRSC's. Thus, independent of any greater awareness of personal standards that high PRSC's may generally have, we believe they also are more likely to possess the standard for seeking self-knowledge in the first place. (Franzoi et al., 1990, p. 646-648).

Recall that Franzoi et al. (1990) reported two findings in support of a "need for self-knowledge" hypothesis: higher scores on the PRSC were associated with a greater likelihood of voluntary participation in psychology experiments, and PRSC scores were highly positively correlated with a "need for self-knowledge" questionnaire (e.g., "One of my goals in life is to understand myself better."). The present Study 8 re-evaluated the first of Franzoi et al.'s (1990) two findings, and Study 4 re-evaluated the second. PRSC associations with both of these "motivational" criteria were completely accounted for by the openness-related trait of reflection.

The "third variable" complaints of Wicklund (1980), Ingram (1989) and Franzoi et al. (1990) highlight the heuristic potential of the rumination-reflection distinction, and the potential research utility of the RRQ scales for "disambiguating" PRSC scores (Wicklund), by isolating and separately measuring their negative affective confounds (Ingram, 1989) from their epistemic-motivational ones (Franzoi et al., 1990). The rumination-reflection distinction clearly holds promise as an organizational framework for ordering and

integrating the vast research literature on Private Self-Consciousness. Its explicit origins in the increasingly influential Five Factor trait taxonomy, should now draw further attention to that model as a very general framework for research on self-attentive dispositions.

#### Implications of the present research for a trait conception of self-consciousness

Fenigstein et al. (1975) initially proposed to measure a unitary, dispositional counterpart to Duval and Wicklund's (1972) conception of state self-awareness. That conception assumed that self-focused attention was a bipolar state, i.e., at any one time, attention could be focused either in the direction of the self, or away from the self; when attention was focused in the direction of the self, a state of self-awareness was held to exist. In proposing to measure a dispositional counterpart to this state, Fenigstein et al. (1975) must have assumed that the spatial metaphor of "direction" underlying Duval and Wicklund's (1972) state conception of self-awareness was an equally appropriate basis for an individual difference conception of self-awareness. Note, however, that after Fenigstein et al. (1975) failed to confirm in a factor analysis the existence of a single, general disposition of self-awareness within their item pool, and decided to advance a multi-factor conception of self-consciousness, the spatial notion of direction remained as the root metaphor of the construct : attention was still bipolar with respect to the self, i.e., either toward or away from the self; when chronically focused in the direction of the self an individual was said to be "self-conscious". The preliminary factor analysis results simply suggested to Fenigstein et al. (1975) that there were two potential destinations for attention travelling in the "inward" direction, a private destination and a public destination (e.g., for a defense of this logic see Carver and Scheier, 1987). Alternatively, Fenigstein et al. (1975) might have concluded that a dispositional analogue to Duval and

Wicklund's (1972) "inward-outward" dichotomy was untenable, and that a sole emphasis on the *direction* of attention, per se, was misguided or misleading for a trait conception of self-consciousness.

Results of the present studies suggest it may not be psychologically meaningful to operationalize a trait conception of self-directed attention that does not clearly specify the prevailing motive or affect associated with that tendency. In the same way that "expectancies" have a decisive influence on the behavioral effects of self-aware states (e.g., Carver & Scheier, 1988), motivational-affective variables have an apparently decisive influence on the behavioral implications of self-attentive dispositions. For example, inquisitively-motivated self-attentiveness has cognitive implications (e.g., veridicality of self-knowledge) and behavioral effects (e.g., research volunteering) that apparently differ from those of anxiously-motivated self-attentiveness. Although motive and direction of attention may be independently defined and operationalized relatively easily with respect to state self-focus (e.g., failure inductions and the presence or absence of a mirror), motive and direction of attention is not so readily partitioned with respect to trait self-focus. How reasonable is it, afterall, to postulate a chronic tendency to direct attention somewhere with complete indifference? If so, how might one describe such a tendency to permit its valid assessment via self-report questionnaire? Given that theories of perception long ago abandoned the idea that perception could, in principle, occur independently of motives, expectancies, intentions, and goals (e.g., Bruner, J.S., 1957; Erdelyi, 1974), even use a purely perceptual metaphor to describe self-attention (e.g., *inspecting, examining, looking at, focusing on the self*) implies due consideration to motivation and affect.

### Beyond neuroticism and openness

The rumination-reflection distinction arose from a consideration of the self-attentional implications of the Big Five dimensions of neuroticism and openness. Descriptions of these two personality factors in the literature suggested a basic motivational distinction between *fear* or *anxiety*, and *curiosity* or *exploration*, that might underly the different behavioral implications of neuroticism and openness-related forms of self-attending. It is possible, of course, that the affective or motivational implications of other Big Five dimensions may suggest additional types of self-attentiveness. For example, narcissistic self-attention might be defined as positively valenced self-attention (i.e., related to extraversion) that is also associated with a motive to derogate others (i.e., related to disagreeableness). Alternatively, this Big Five conception of narcissistic self-focus might be defined with respect to "dominance", that is, to a version of the Big Five extraversion factor that is rotated toward the negative pole of agreeableness (see McCrae & Costa, 1989; Trapnell & Wiggins, 1990).

The conscientiousness factor of the FFM may also suggest a useful additional conception of self-attentiveness. Natural language trait terms such as *alert*, *aware*, and *attentive*, have been empirically identified with this factor, and appear in the items of the PRSC "internal state awareness" factor (e.g., Study 2, above). Specification of a conscientious form of self-attentiveness, and development of a measure of it, may prove useful in applications of behavioral self-regulation theory to health issues (e.g., Mullen & Suls, 1982), and stress and coping (e.g., Frone & McFarlin, 1989).

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## APPENDICES

## SCQ

**Instructions:**

For each of the following 17 statements, please indicate your level of agreement or disagreement by circling one of the scale categories to the right of each statement. Use the scale as shown below:

	<b>Strongly Disagree</b> 1	<b>Disagree</b> 2	<b>Neutral</b> 3	<b>Agree</b> 4	<b>Strongly Agree</b> 5
1. I am always trying to figure myself out. ....	1	2	3	4	5
2. I reflect about myself a lot. ....	1	2	3	4	5
3. I'm often the subject of my own fantasies. ....	1	2	3	4	5
4. I'm constantly examining my motives. ....	1	2	3	4	5
5. I'm aware of the way my mind works when I work through a problem. ....	1	2	3	4	5
6. I sometimes have the feeling that I'm off somewhere watching myself. ....	1	2	3	4	5
7. I'm alert to changes in my mood. ....	1	2	3	4	5
8. Generally, I'm not very aware of myself. ....	1	2	3	4	5
9. I'm generally attentive to my inner feelings. ....	1	2	3	4	5
10. I never scrutinize myself. ....	1	2	3	4	5
11. I'm concerned about my style of doing things. ....	1	2	3	4	5
12. I'm concerned about the way I present myself. ....	1	2	3	4	5
13. I'm usually aware of my appearance. ....	1	2	3	4	5
14. I'm self-conscious about the way I look. ....	1	2	3	4	5
15. I usually worry about making a good impression. ....	1	2	3	4	5
16. I'm concerned about what other people think of me. ....	1	2	3	4	5
17. One of the last things I do before I leave my house is look in the mirror. ....	1	2	3	4	5



I.D.# \_\_\_\_\_

Male\_\_\_\_ Female\_\_\_\_

Age\_\_\_\_\_

# **INTERPERSONAL ADJECTIVE SCALES** (Form IASR-B5)

On the next two pages you will find a list of words that are used to describe people's personal characteristics. Please rate how accurately each word describes *you* as a person. Judge how accurately each word describes you on the following scale:

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
extremely	very	quite	slightly	slightly	quite	very	extremely
inaccurate	inaccurate	inaccurate	inaccurate	accurate	accurate	accurate	accurate

For example, consider the word **BOLD**. How accurately does that word describe you as a person? If you think this is a *quite accurate* description of you, write the number "6" next to it:

6 **BOLD**

If you think this word is a *slightly inaccurate* description of you, write the number "4" next to it, if it is *very inaccurate* write the number "2" next to it, and so on..

1  
extremely  
inaccurate

2  
very  
inaccurate

3  
quite  
inaccurate

4  
slightly  
inaccurate

5  
slightly  
accurate

6  
quite  
accurate

7  
very  
accurate

8  
extremely  
accurate

\_\_\_(001) Introverted

\_\_\_(002) Assertive

\_\_\_(003) Timid

\_\_\_(004) Unargumentative

\_\_\_(005) Organized

\_\_\_(006) Boastful

\_\_\_(007) Softhearted

\_\_\_(008) Ruthless

\_\_\_(009) Kind

\_\_\_(010) Tense

\_\_\_(011) Highstrung

\_\_\_(012) Cheerful

\_\_\_(013) Unsparkling

\_\_\_(014) Tricky

\_\_\_(015) Unconventional

\_\_\_(016) Inefficient

\_\_\_(017) Unaggressive

\_\_\_(018) Unreflective

\_\_\_(019) Relaxed

\_\_\_(020) Calculating

\_\_\_(021) Unmoody

\_\_\_(022) Anxious

\_\_\_(023) Abstract-thinking

\_\_\_(024) Philosophical

\_\_\_(025) Tender

\_\_\_(026) Hardhearted

\_\_\_(027) Unneighbourly

\_\_\_(028) Worrying

\_\_\_(029) Literary

\_\_\_(030) Uncharitable

\_\_\_(031) Uncunning

\_\_\_(032) Hypersensitive

\_\_\_(033) Extraverted

\_\_\_(034) Unphilosophical

\_\_\_(035) At ease

\_\_\_(036) Orderly

\_\_\_(037) Cocky

\_\_\_(038) Planful

\_\_\_(039) Dominant

\_\_\_(040) Unsearching

\_\_\_(041) Anti-social

\_\_\_(042) Perky

\_\_\_(043) Forceful

\_\_\_(044) Wily

\_\_\_(045) Undisciplined

\_\_\_(046) Sly

\_\_\_(047) Systematic

\_\_\_(048) Self-conscious

\_\_\_(049) Ironhearted

\_\_\_(050) Thorough

\_\_\_(051) Untidy

\_\_\_(052) Unbold

\_\_\_(053) Neighbourly

\_\_\_(054) Unorderly

\_\_\_(055) Shy

\_\_\_(056) Undemanding

\_\_\_(057) Meek

\_\_\_(058) Reflective

\_\_\_(059) Inquisitive

\_\_\_(060) Unwily

\_\_\_(061) Unsystematic

\_\_\_(062) Self-assured

\_\_\_(063) Dissocial

1  
extremely  
inaccurate

2  
very  
inaccurate

3  
quite  
inaccurate

4  
slightly  
inaccurate

5  
slightly  
accurate

6  
quite  
accurate

7  
very  
accurate

8  
extremely  
accurate

\_\_\_(064) Jovial

\_\_\_(065) Domineering

\_\_\_(066) Neat

\_\_\_(067) Unabstract

\_\_\_(068) Tenderhearted

\_\_\_(069) Unworrying

\_\_\_(070) Unimaginative

\_\_\_(071) Tidy

\_\_\_(072) Warmthless

\_\_\_(073) Unsly

\_\_\_(074) Enthusiastic

\_\_\_(075) Firm

\_\_\_(076) Impractical

\_\_\_(077) Uncalculating

\_\_\_(078) Questioning

\_\_\_(079) Accommodating

\_\_\_(080) Uncheery

\_\_\_(081) Uncomplex

\_\_\_(082) Calm

\_\_\_(083) Conventional

\_\_\_(084) Individualistic

\_\_\_(085) Friendly

\_\_\_(086) Cunning

\_\_\_(087) Self-confident

\_\_\_(088) Unauthoritative

\_\_\_(089) Uncrafty

\_\_\_(090) Unsympathetic

\_\_\_(091) Charitable

\_\_\_(092) Coldhearted

\_\_\_(093) Guilt-prone

\_\_\_(094) Nervous

\_\_\_(095) Broadminded

\_\_\_(096) Distant

\_\_\_(097) Forceless

\_\_\_(098) Efficient

\_\_\_(099) Fretful

\_\_\_(100) Overexcitable

\_\_\_(101) Gentlehearted

\_\_\_(102) Disorganized

\_\_\_(103) Unplanful

\_\_\_(104) Unanxious

\_\_\_(105) Unself-conscious

\_\_\_(106) Unreliable

\_\_\_(107) Outgoing

\_\_\_(108) Sympathetic

\_\_\_(109) Boastless

\_\_\_(110) Unnervous

\_\_\_(111) Unliterary

\_\_\_(112) Imaginative

\_\_\_(113) Persistent

\_\_\_(114) Reliable

\_\_\_(115) Crafty

\_\_\_(116) Unagitated

\_\_\_(117) Stable

\_\_\_(118) Uninquisitive

\_\_\_(119) Unsociable

\_\_\_(120) Unartistic

\_\_\_(121) Self-disciplined

\_\_\_(122) Forgetful

\_\_\_(123) Cruel

\_\_\_(124) Bashful

I.D.# \_\_\_\_\_

Male\_\_\_\_ Female\_\_\_\_

Age\_\_\_\_\_

**NEO PERSONALITY INVENTORY**  
**(Shortform-FFI)**

Instructions:

For each of the statements on the following pages indicate the response which best represents your opinion according to the following scale:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>

Circle "1" if the statement is **definitely false** or you **strongly disagree**.

Circle "2" if the statement is **mostly false** or you **disagree**.

Circle "3" if the statement is about equally true or false, or if you cannot decide, or if you are neutral on the statement.

Circle "4" if the statement is **mostly true** or you **agree**.

Circle "5" if the statement is **definitely true** or you **strongly agree**.

There are no "right" or "wrong" answers, and you need not be an "expert" to complete this questionnaire. The purpose of this questionnaire will be best served if you describe yourself and state your opinions as accurately as possible.

Please read each item carefully and indicate the one response that best corresponds to your agreement or disagreement. *Please be sure to answer all of them.*

1  
Strongly  
Disagree

2  
Disagree

3  
Neutral

4  
Agree

5  
Strongly  
Agree

- |   | 1        | 2        | 3       | 4     | 5        |
|---|----------|----------|---------|-------|----------|
|   | Strongly | Disagree | Neutral | Agree | Strongly |
|   | Disagree |          |         |       | Agree    |
| 1. I am not a worrier.  | 1        | 2        | 3       | 4     | 5        |
| 2. I like to have a lot of people around me.  | 1        | 2        | 3       | 4     | 5        |
| 3. I don't like to waste my time daydreaming.   | 1        | 2        | 3       | 4     | 5        |
| 4. I try to be courteous to everyone I meet.  | 1        | 2        | 3       | 4     | 5        |
| 5. I keep my belongings neat and clean.   | 1        | 2        | 3       | 4     | 5        |
| 6. I often feel inferior to others.   | 1        | 2        | 3       | 4     | 5        |
| 7. I laugh easily.  | 1        | 2        | 3       | 4     | 5        |
| 8. Once I find the right way to do something, I stick to it.                                  | 1        | 2        | 3       | 4     | 5        |
| 9. I often get into arguments with my family and co-workers.                                  | 1        | 2        | 3       | 4     | 5        |
| 10. I'm pretty good at pacing myself so as to get things done on time.                        | 1        | 2        | 3       | 4     | 5        |
| 11. When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.         | 1        | 2        | 3       | 4     | 5        |
| 12. I don't consider myself especially "light-hearted".                                       | 1        | 2        | 3       | 4     | 5        |
| 13. I am intrigued by the patterns I find in art and nature.                                  | 1        | 2        | 3       | 4     | 5        |
| 14. Some people think I'm selfish and egotistical.  | 1        | 2        | 3       | 4     | 5        |
| 15. I am not a very methodical person.  | 1        | 2        | 3       | 4     | 5        |
| 16. I rarely feel lonely or blue.   | 1        | 2        | 3       | 4     | 5        |
| 17. I really enjoy talking to people.   | 1        | 2        | 3       | 4     | 5        |
| 18. I believe letting students hear controversial speakers can only confuse and mislead them. | 1        | 2        | 3       | 4     | 5        |
| 19. I would rather cooperate with others than compete with them.                              | 1        | 2        | 3       | 4     | 5        |
| 20. I try to perform all the tasks assigned to me conscientiously.                            | 1        | 2        | 3       | 4     | 5        |
| 21. I often feel tense and jittery.   | 1        | 2        | 3       | 4     | 5        |
| 22. I like to be where the action is.   | 1        | 2        | 3       | 4     | 5        |
| 23. Poetry has little or no effect on me.   | 1        | 2        | 3       | 4     | 5        |
| 24. I tend to be cynical and skeptical of others' intentions.                                 | 1        | 2        | 3       | 4     | 5        |
| 25. I have a clear set of goals and work toward them in an orderly fashion.                   | 1        | 2        | 3       | 4     | 5        |
| 26. Sometimes I feel completely worthless.  | 1        | 2        | 3       | 4     | 5        |
| 27. I usually prefer to do things alone.  | 1        | 2        | 3       | 4     | 5        |
| 28. I often try new and foreign foods.  | 1        | 2        | 3       | 4     | 5        |
| 29. I believe that most people will take advantage of you if you let them.                    | 1        | 2        | 3       | 4     | 5        |
| 30. I waste a lot of time before settling down to work.                                       | 1        | 2        | 3       | 4     | 5        |

1  
Strongly  
Disagree

2  
Disagree

3  
Neutral

4  
Agree

5  
Strongly  
Agree

- |   | 1                 | 2        | 3       | 4     | 5              |
|---|-------------------|----------|---------|-------|----------------|
|   | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| 31. I rarely feel fearful or anxious.   | 1                 | 2        | 3       | 4     | 5              |
| 32. I often feel as if I'm bursting with energy.  | 1                 | 2        | 3       | 4     | 5              |
| 33. I seldom notice the moods or feelings that different environments produce.                            | 1                 | 2        | 3       | 4     | 5              |
| 34. Most people I know like me.   | 1                 | 2        | 3       | 4     | 5              |
| 35. I work hard to accomplish my goals.   | 1                 | 2        | 3       | 4     | 5              |
| 36. I often get angry at the way people treat me.   | 1                 | 2        | 3       | 4     | 5              |
| 37. I am a cheerful, high-spirited person.  | 1                 | 2        | 3       | 4     | 5              |
| 38. I believe we should look to our religious authorities for decisions on moral issues.                  | 1                 | 2        | 3       | 4     | 5              |
| 39. Some people think of me as cold and calculating.  | 1                 | 2        | 3       | 4     | 5              |
| 40. When I make a commitment, I can always be counted on to follow through.                               | 1                 | 2        | 3       | 4     | 5              |
| 41. Too often, when things go wrong, I get discouraged and feel like giving up.                           | 1                 | 2        | 3       | 4     | 5              |
| 42. I am not a cheerful optimist.   | 1                 | 2        | 3       | 4     | 5              |
| 43. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement. | 1                 | 2        | 3       | 4     | 5              |
| 44. I'm hard-headed and tough-minded in my attitudes.   | 1                 | 2        | 3       | 4     | 5              |
| 45. Sometimes I'm not as dependable or reliable as I should be.   | 1                 | 2        | 3       | 4     | 5              |
| 46. I am seldom sad or depressed.   | 1                 | 2        | 3       | 4     | 5              |
| 47. My life is fast-paced.  | 1                 | 2        | 3       | 4     | 5              |
| 48. I have little interest in speculating on the nature of the universe or the human condition.           | 1                 | 2        | 3       | 4     | 5              |
| 49. I generally try to be thoughtful and considerate.   | 1                 | 2        | 3       | 4     | 5              |
| 50. I am a productive person who always gets the job done.  | 1                 | 2        | 3       | 4     | 5              |
| 51. I often feel helpless and want someone else to solve my problems.                                     | 1                 | 2        | 3       | 4     | 5              |
| 52. I am a very active person.  | 1                 | 2        | 3       | 4     | 5              |
| 53. I have a lot of intellectual curiosity.   | 1                 | 2        | 3       | 4     | 5              |
| 54. If I don't like people, I let them know it.   | 1                 | 2        | 3       | 4     | 5              |
| 55. I never seem to be able to get organized.   | 1                 | 2        | 3       | 4     | 5              |
| 56. At times I have been so ashamed I just wanted to hide.  | 1                 | 2        | 3       | 4     | 5              |
| 57. I would rather go my own way than be a leader of others.  | 1                 | 2        | 3       | 4     | 5              |
| 58. I often enjoy playing with theories or abstract ideas.  | 1                 | 2        | 3       | 4     | 5              |
| 59. If necessary, I am willing to manipulate people to get what I want.                                   | 1                 | 2        | 3       | 4     | 5              |
| 60. I strive for excellence in everything I do.   | 1                 | 2        | 3       | 4     | 5              |

## NEO PERSONALITY INVENTORY

### Instructions:

For each of the statements located on the next eight pages, please indicate your level of agreement or disagreement by circling one of the scale categories to the right of each statement. Use the scale as shown below:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SD	D	N	A	SA

For example, consider the statement "I'm extremely talkative."

If you strongly disagree, you would circle: .....	SD	D	N	A	SA
If you mostly disagree, you would circle: .....	SD	D	N	A	SA
If you are in the middle or neutral circle: .....	SD	D	N	A	SA
If you mostly agree, you would circle: .....	SD	D	N	A	SA
If you strongly agree, you would circle: .....	SD	D	N	A	SA

Please try and make use of all levels of the scale in your answers. Read each item carefully and circle the scale level that best reflects your actual opinion about yourself. Please do not skip any items; note that the items are printed on the front and back of each page. The questionnaire takes about 20-30 minutes.

Age \_\_\_\_ Male \_\_\_\_ Female \_\_\_\_

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
1. I am not a worrier.....	SD	D	N	A	SA
2. I really like most people I meet. ....	SD	D	N	A	SA
3. I have a very active imagination.....	SD	D	N	A	SA
4. I tend to be cynical and skeptical of others' intentions.....	SD	D	N	A	SA
5. I'm known for my prudence and common sense. ....	SD	D	N	A	SA
6. I often get angry at the way people treat me.....	SD	D	N	A	SA
7. I shy away from crowds of people.....	SD	D	N	A	SA
8. Aesthetic and artistic concerns aren't very important to me. ....	SD	D	N	A	SA
9. I'm not crafty or sly.....	SD	D	N	A	SA
10. I would rather keep my options open than plan everything in advance. ....	SD	D	N	A	SA
11. I rarely feel lonely or blue.....	SD	D	N	A	SA
12. I am dominant, forceful, and assertive.....	SD	D	N	A	SA
13. Without strong emotions, life would be life would be uninteresting to me.....	SD	D	N	A	SA
14. Some people think I'm selfish and egotistical. ....	SD	D	N	A	SA
15. I try to perform all the tasks assigned to me conscientiously.....	SD	D	N	A	SA
16. In dealing with other people, I always dread making a social blunder.....	SD	D	N	A	SA
17. I have a leisurely style in work and play.....	SD	D	N	A	SA
18. I'm pretty set in my ways.....	SD	D	N	A	SA
19. I'd rather cooperate with others than compete with them. ....	SD	D	N	A	SA
20. I am easy-going and lackadaisical.....	SD	D	N	A	SA
21. I rarely overindulge in anything. ....	SD	D	N	A	SA
22. I often crave excitement.....	SD	D	N	A	SA
23. I often enjoy playing with theories or abstract ideas. ....	SD	D	N	A	SA
24. I don't mind bragging about my talents and accomplishments. ....	SD	D	N	A	SA
25. I'm pretty good at pacing myself so as to get things done on time. ....	SD	D	N	A	SA
26. I often feel helpless and want someone else to solve my problems.....	SD	D	N	A	SA
27. I have never literally jumped for joy. ....	SD	D	N	A	SA



	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
28. I believe letting students hear controversial speakers can only confuse and mislead them.....	SD	D	N	A	SA
29. Political leaders need to be more aware of the human side of their policies. ....	SD	D	N	A	SA
30. Over the years I've done some pretty stupid things.....	SD	D	N	A	SA
31. I am easily frightened.....	SD	D	N	A	SA
32. I don't get much pleasure from chatting with people.....	SD	D	N	A	SA
33. I try to keep all my thoughts directed along realistic lines and avoid flights of fancy. ....	SD	D	N	A	SA
34. I believe that most people are basically well-intentioned. ....	SD	D	N	A	SA
35. I don't take civic duties like voting very seriously.....	SD	D	N	A	SA
36. I'm an even-tempered person. ....	SD	D	N	A	SA
37. I like to have a lot of people around me. ....	SD	D	N	A	SA
38. I am sometimes completely absorbed in music I am listening to. ....	SD	D	N	A	SA
39. If necessary, I am willing to manipulate people to get what I want. ....	SD	D	N	A	SA
40. I keep my belongings neat and clean. ....	SD	D	N	A	SA
41. Sometimes I feel completely worthless.....	SD	D	N	A	SA
42. I sometimes fail to assert myself as much as I should.....	SD	D	N	A	SA
43. I rarely experience strong emotions.....	SD	D	N	A	SA
44. I try to be courteous to everyone I meet. ....	SD	D	N	A	SA
45. Sometimes I'm not as dependable and reliable as I should be.....	SD	D	N	A	SA
46. I seldom feel self-conscious when I'm around people. ....	SD	D	N	A	SA
47. When I do things, I do them vigorously.....	SD	D	N	A	SA
48. I think it's interesting to learn and develop new hobbies.....	SD	D	N	A	SA
49. I can be sarcastic and cutting when I need to be.....	SD	D	N	A	SA
50. I have a clear set of goals and work toward them in an orderly fashion. ....	SD	D	N	A	SA
51. I have trouble resisting my cravings.....	SD	D	N	A	SA
52. I wouldn't enjoy vacationing in Las Vegas. ....	SD	D	N	A	SA
53. I find philosophical arguments boring. ....	SD	D	N	A	SA
54. I'd rather not talk about myself and my achievements.....	SD	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
55. I waste a lot of time before settling down to work. ....	SD	D	N	A	SA
56. I feel I am capable of coping with most of my problems. ....	SD	D	N	A	SA
57. I have sometimes experienced intense joy or ecstasy. ....	SD	D	N	A	SA
58. I believe that laws and social policies should change to reflect the needs of a changing world. ....	SD	D	N	A	SA
59. I'm hard-headed and tough-minded in my attitudes. ....	SD	D	N	A	SA
60. I think things through before coming to a decision. ....	SD	D	N	A	SA
61. I rarely feel fearful or anxious. ....	SD	D	N	A	SA
62. I'm known as a warm and friendly person. ....	SD	D	N	A	SA
63. I have an active fantasy life. ....	SD	D	N	A	SA
64. I believe that most people will take advantage of you if you let them. ....	SD	D	N	A	SA
65. I keep myself informed and usually make intelligent decisions. ....	SD	D	N	A	SA
66. I am known as hot-blooded and quick tempered. ....	SD	D	N	A	SA
67. I usually prefer to do things alone. ....	SD	D	N	A	SA
68. Watching ballet or modern dance bores me. ....	SD	D	N	A	SA
69. I couldn't deceive anyone even if I wanted to. ....	SD	D	N	A	SA
70. I am not a very methodical person. ....	SD	D	N	A	SA
71. I am seldom sad or depressed. ....	SD	D	N	A	SA
72. I have often been a leader of groups I have belonged to. ....	SD	D	N	A	SA
73. How I feel about things is important to me. ....	SD	D	N	A	SA
74. Some people think of me as cold and calculating. ....	SD	D	N	A	SA
75. I pay my debts promptly and in full. ....	SD	D	N	A	SA
76. At times I have been so ashamed I wanted to hide. ....	SD	D	N	A	SA
77. My work is likely to be slow but steady. ....	SD	D	N	A	SA
78. Once I find the right way to do something I stick to it. ....	SD	D	N	A	SA
79. I hesitate to express my anger even when it's justified. ....	SD	D	N	A	SA
80. When I start a self-improvement program, I usually let it slide after a few days. ....	SD	D	N	A	SA
81. I have little difficulty resisting temptation. ....	SD	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
82. I have sometimes done things just for "kicks" or "thrills".....	SD	D	N	A	SA
83. I enjoy solving problems or puzzles.....	SD	D	N	A	SA
84. I'm better than most people, and I know it. ....	SD	D	N	A	SA
85. I am a productive person who always gets the job done. ....	SD	D	N	A	SA
86. When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.....	SD	D	N	A	SA
87. I am not a cheerful optimist.....	SD	D	N	A	SA
88. I believe we should look to our religious authorities for decisions on moral issues.....	SD	D	N	A	SA
89. We can never do too much for the poor and elderly.....	SD	D	N	A	SA
90. Occasionally I act first and think later. ....	SD	D	N	A	SA
91. I often feel tense and jittery.....	SD	D	N	A	SA
92. Many people think of me as somewhat cold and distant. ....	SD	D	N	A	SA
93. I don't like to waste my time daydreaming. ....	SD	D	N	A	SA
94. I think most of the people I deal with are honest and trustworthy.....	SD	D	N	A	SA
95. I often come into situations without being fully prepared. ....	SD	D	N	A	SA
96. I am not considered a touchy or tempermental person.....	SD	D	N	A	SA
97. I really feel the need for other people if I am by myself for long. ....	SD	D	N	A	SA
98. I am intrigued by the patterns I find in art and nature. ....	SD	D	N	A	SA
99. Being perfectly honest is a bad way to do business. ....	SD	D	N	A	SA
100. I like to keep everything in its place so I know just where it is. ....	SD	D	N	A	SA
101. I have sometimes experienced a deep sense of guilt or sinfulness.....	SD	D	N	A	SA
102. In meetings, I usually let others do the talking.....	SD	D	N	A	SA
103. I seldom pay much attention to my feelings of the moment.....	SD	D	N	A	SA
104. I generally try to be thoughtful and considerate.....	SD	D	N	A	SA
105. Sometimes I cheat when I play solitaire.....	SD	D	N	A	SA
106. It doesn't embarrass me too much if people ridicule me and tease me.....	SD	D	N	A	SA
107. I often feel as if I'm bursting with energy.....	SD	D	N	A	SA
108. I often try new and foreign foods.....	SD	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
109. If I don't like people, I let them know it. ....	SD	D	N	A	SA
110. I work hard to accomplish my goals. ....	SD	D	N	A	SA
111. When I am having my favorite foods, I tend to eat too much. ....	SD	D	N	A	SA
112. I tend to avoid movies that are shocking or scaring. ....	SD	D	N	A	SA
113. I sometimes lose interest when people talk about very abstract, theoretical matters. ....	SD	D	N	A	SA
114. I try to be humble. ....	SD	D	N	A	SA
115. I have trouble making myself do what I should. ....	SD	D	N	A	SA
116. I keep a cool head in emergencies. ....	SD	D	N	A	SA
117. Sometimes I bubble with happiness. ....	SD	D	N	A	SA
118. I believe that the different ideas of right and wrong that people in other societies have may be valid for them. ....	SD	D	N	A	SA
119. I have no sympathy for panhandlers. ....	SD	D	N	A	SA
120. I always consider the consequences before I take action. ....	SD	D	N	A	SA
121. I'm seldom apprehensive about the future. ....	SD	D	N	A	SA
122. I really enjoy talking to people. ....	SD	D	N	A	SA
123. I enjoy concentrating on a fantasy or day dream and exploring all its possibilities, letting it grow and develop ....	SD	D	N	A	SA
124. I'm suspicious when someone does something nice for me. ....	SD	D	N	A	SA
125. I pride myself on my sound judgement. ....	SD	D	N	A	SA
126. I often get disgusted with the people I have to deal with. ....	SD	D	N	A	SA
127. I prefer jobs that let me work alone without being bothered by other people. ....	SD	D	N	A	SA
128. Poetry has little or no effect on me. ....	SD	D	N	A	SA
129. I would hate to be thought of as a hypocrite. ....	SD	D	N	A	SA
130. I never seem to be able to get organized. ....	SD	D	N	A	SA
131. I tend to blame myself when anything goes wrong. ....	SD	D	N	A	SA
132. Other people often look to me to make decisions. ....	SD	D	N	A	SA
133. I experience a wide range of emotions or feelings. ....	SD	D	N	A	SA
134. I'm not known for my generosity. ....	SD	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
135. When I make a commitment, I can always be counted on to follow through. ....	SD	D	N	A	SA
136. I often feel inferior to others. ....	SD	D	N	A	SA
137. I'm not as quick and lively as other people. ....	SD	D	N	A	SA
138. I prefer to spend my time in familiar surroundings. ....	SD	D	N	A	SA
139. When I've been insulted, I just try to forgive and forget. ....	SD	D	N	A	SA
140. I don't feel like I'm driven to get ahead. ....	SD	D	N	A	SA
141. I seldom give in to my impulses. ....	SD	D	N	A	SA
142. I like to be where the action is. ....	SD	D	N	A	SA
143. I enjoy working on "mind-twister"-type puzzles. ....	SD	D	N	A	SA
144. I have a very high opinion of myself. ....	SD	D	N	A	SA
145. Once I start a project, I almost always finish it. ....	SD	D	N	A	SA
146. It's often hard for me to make up my mind. ....	SD	D	N	A	SA
147. I don't consider myself especially "light-hearted". ....	SD	D	N	A	SA
148. I believe that loyalty to one's ideals and principles is more important than "open-mindedness". ....	SD	D	N	A	SA
149. Human need should always take priority over economic considerations. ....	SD	D	N	A	SA
150. I often do things on the spur of the moment.*** ....	SD	D	N	A	SA
151. I often worry about things that might go wrong. ....	SD	D	N	A	SA
152. I find it easy to smile and be outgoing with strangers. ....	SD	D	N	A	SA
153. If I feel my mind starting to drift off into daydreams, I usually get busy and start concentrating on some work or activity instead. ....	SD	D	N	A	SA
154. My first reaction is to trust people. ....	SD	D	N	A	SA
155. I don't seem to be completely successful at anything. ....	SD	D	N	A	SA
156. It takes a lot to get me mad. ....	SD	D	N	A	SA
157. I'd rather vacation at a popular beach than an isolated cabin in the woods. ....	SD	D	N	A	SA
158. Certain kinds of music have an endless fascination for me. ....	SD	D	N	A	SA
159. Sometimes I trick people into doing what I want. ....	SD	D	N	A	SA
160. I tend to be somewhat fastidious or exacting. ....	SD	D	N	A	SA
161. I have a low opinion of myself. ....	SD	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
162. I would rather go my own way than be a leader of others. ....	SD	D	N	A	SA
163. I seldom notice the moods or feelings that different environments produce.....	SD	D	N	A	SA
164. Most people I know like me.....	SD	D	N	A	SA
165. I adhere strictly to my ethical principals. ....	SD	D	N	A	SA
166. I feel comfortable in the presence of my bosses or other authorities. ....	SD	D	N	A	SA
167. I usually seem to be in a hurry. ....	SD	D	N	A	SA
168. Sometimes I make changes around the house just to try something different. ....	SD	D	N	A	SA
169. If someone starts a fight I'm ready to fight back. ....	SD	D	N	A	SA
170. I strive to achieve all I can.....	SD	D	N	A	SA
171. I sometimes eat myself sick. ....	SD	D	N	A	SA
172. I love the excitement of rollercoasters. ....	SD	D	N	A	SA
173. I have little interest in speculating on the nature of the human condition. ....	SD	D	N	A	SA
174. I feel I am no better than others, no matter what their condition.....	SD	D	N	A	SA
175. When a project gets too difficult, I'm inclined to start a new one. ....	SD	D	N	A	SA
176. I can handle myself pretty well in a crisis.....	SD	D	N	A	SA
177. I am a cheerful, high-spirited person.....	SD	D	N	A	SA
178. I consider myself broad-minded and tolerant of other people's lifestyles. ....	SD	D	N	A	SA
179. I believe all human beings are worthy of respect.....	SD	D	N	A	SA
180. I rarely make hasty decisions.....	SD	D	N	A	SA
181. I have fewer fears than most people.....	SD	D	N	A	SA
182. I have strong emotional attachments to my friends. ....	SD	D	N	A	SA
183. As a child I rarely enjoyed games of make believe.....	SD	D	N	A	SA
184. I tend to assume the best about people.....	SD	D	N	A	SA
185. I'm a very competent person.....	SD	D	N	A	SA
186. At times I have felt bitter and resentful.....	SD	D	N	A	SA
187. Social gatherings are usually boring to me. ....	SD	D	N	A	SA
188. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.....	D	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
189. At times I bully or flatter people into doing what I want them to.....	SD	D	N	A	SA
190. I'm not compulsive about cleaning.....	SD	D	N	A	SA
191. Sometimes things look pretty bleak and hopeless to me.....	SD	D	N	A	SA
192. In conversations, I tend to do most of the talking.....	SD	D	N	A	SA
193. I find it easy to empathize - to feel myself what others are feeling. ....	SD	D	N	A	SA
194. I think of myself as a charitable person.....	SD	D	N	A	SA
195. I try to do jobs carefully, so they won't have to be done again. ....	SD	D	N	A	SA
196. If I have said or done the wrong thing to someone, I can hardly bear to face them again. ....	SD	D	N	A	SA
197. My life is fast-paced. ....	SD	D	N	A	SA
198. On a vacation, I prefer going back to a tried and true spot.....	SD	D	N	A	SA
199. I'm hardheaded and stubborn. ....	SD	D	N	A	SA
200. I strive for excellence in everything I do.....	SD	D	N	A	SA
201. Sometimes I do things on impulse that I later regret.....	SD	D	N	A	SA
202. I'm attracted to bright colors and flashy styles. ....	SD	D	N	A	SA
203. I have a lot of intellectual curiosity. ....	SD	D	N	A	SA
204. I would rather praise others than be praised myself. ....	SD	D	N	A	SA
205. There are so many little jobs that need to be done that I sometimes just ignore them all.....	SD	D	N	A	SA
206. When everything seems to be going wrong, I can still make good decisions.....	SD	D	N	A	SA
207. I rarely use words like "fantastic!" or "sensational!" to describe my experiences. ....	SD	D	N	A	SA
208. I think that if people don't know what they believe in by the time they're 25, there's something wrong with them.....	SD	D	N	A	SA
209. I have sympathy for others less fortunate than me.....	SD	D	N	A	SA
210. I plan ahead carefully when I go on a trip. ....	SD	D	N	A	SA
211. Frightening thoughts sometimes come into my head. ....	SD	D	N	A	SA
212. I take personal interest in the people I work with.....	SD	D	N	A	SA
213. I would have difficulty just letting my mind wander without control or guidance. ....	SD	D	N	A	SA
214. I have a good deal of faith in human nature.....	SD	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
215. I am efficient and effective at my work.....	SD	D	N	A	SA
216. Even minor annoyances can be frustrating to me.....	SD	D	N	A	SA
217. I enjoy parties with lots of people.....	SD	D	N	A	SA
218. I enjoy reading poetry that emphasizes feelings and images more than story lines.....	SD	D	N	A	SA
219. I pride myself in my shrewdness in handling people.....	SD	D	N	A	SA
220. I spend a lot of time looking for things I've misplaced.....	SD	D	N	A	SA
221. Too often, when things go wrong, I get discouraged and feel like giving up.....	SD	D	N	A	SA
222. I don't find it easy to take charge of a situation.....	SD	D	N	A	SA
223. Odd things--like certain scents or the names of distant places--can evoke strong moods in me. ....	SD	D	N	A	SA
224. I go out of my way to help others if I can. ....	SD	D	N	A	SA
225. I'd really have to be sick before I'd miss a day of work.....	SD	D	N	A	SA
226. When people I know do foolish things, I get embarrassed for them. ....	SD	D	N	A	SA
227. I am a very active person.....	SD	D	N	A	SA
228. I follow the same route when I go someplace.....	SD	D	N	A	SA
229. I often get into arguments with my family and co-workers.....	SD	D	N	A	SA
230. I'm something of a "workaholic". ....	SD	D	N	A	SA
231. I am always able to keep my feelings under control. ....	SD	D	N	A	SA
232. I like being part of a crowd at sporting events.....	SD	D	N	A	SA
233. I have a wide range of intellectual interests. ....	SD	D	N	A	SA
234. I'm a superior person. ....	SD	D	N	A	SA
235. I have a lot of self-discipline.....	SD	D	N	A	SA
236. I'm pretty stable emotionally.....	SD	D	N	A	SA
237. I laugh easily.....	SD	D	N	A	SA
238. I believe that the new morality of permissiveness is no morality at all.....	SD	D	N	A	SA
239. I would rather be known as merciful than just.....	SD	D	N	A	SA
240. I think twice before I answer a question.....	SD	D	N	A	SA



## RRQ

**Instructions:**

For each of the following statements, circle the number from the scale below that best represents your level of agreement or disagreement with each statement.

- |  | <b>Disagree<br/>Strongly<br/>1</b> | <b>Disagree<br/>Slightly<br/>2</b> | <b>Neutral<br/>3</b> | <b>Agree<br/>Slightly<br/>4</b> | <b>Agree<br/>Strongly<br/>5</b> |
|--|------------------------------------|------------------------------------|----------------------|---------------------------------|---------------------------------|
| 1. My attention is often focused on aspects of myself I wish I'd stop thinking about.....                  | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 2. I always seem to be "re-hashing" in my mind recent things I've said or done.....                        | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 3. Sometimes it is hard for me to shut off thoughts about myself. ....                                     | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 4. Long after an argument or disagreement is over with, my thoughts keep going back to what happened. .... | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 5. I tend to "ruminate" or dwell over things that happen to me for a really long time afterward. ....      | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 6. I don't waste time re-thinking things that are over and done with. ....                                 | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 7. Often I'm playing back over in my mind how I acted in a past situation.....                             | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 8. I often find myself re-evaluating something I've done.....  | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 9. I never ruminate or dwell on myself for very long. ....   | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 10. It is easy for me to put unwanted thoughts out of my mind. ....  | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 11. I often reflect on episodes in my life that I should no longer concern myself with. ....               | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 12. I spend a great deal of time thinking back over my embarrassing or disappointing moments. ....         | 1                                  | 2                                  | 3                    | 4                               | 5                               |

PLEASE CONTINUE ON THE NEXT PAGE...

**Instructions:**

For each of the following statements, circle the number from the scale below that best represents your level of agreement or disagreement with each statement.

- |   | <b>Disagree<br/>Strongly<br/>1</b> | <b>Disagree<br/>Slightly<br/>2</b> | <b>Neutral<br/>3</b> | <b>Agree<br/>Slightly<br/>4</b> | <b>Agree<br/>Strongly<br/>5</b> |
|---|------------------------------------|------------------------------------|----------------------|---------------------------------|---------------------------------|
| 1. Philosophical or abstract thinking doesn't appeal to me that much..... | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 2. I'm not really a meditative type of person.....                        | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 3. I love exploring my "inner" self.....                                  | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 4. My attitudes and feelings about things fascinate me.....               | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 5. I don't really care for introspective or self-reflective thinking..... | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 6. I love analyzing why I do things.....                                  | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 7. People often say I'm a "deep", introspective type of person.....       | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 8. I don't care much for self-analysis.....                               | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 9. I'm very self-inquisitive by nature.....                               | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 10. I love to meditate on the nature and meaning of things.....           | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 11. I often love to look at my life in philosophical ways.....            | 1                                  | 2                                  | 3                    | 4                               | 5                               |
| 12. Contemplating myself isn't my idea of fun.....                        | 1                                  | 2                                  | 3                    | 4                               | 5                               |

Shortform Taylor Manifest Anxiety Scale  
(Bendig, 1956)

- |  |   |   |
|--|---|---|
| 1. I believe I am no more nervous than most others. ....   | T | F |
| 2. I work under a great deal of tension. ....  | T | F |
| 3. I cannot keep my mind on one thing. ....  | T | F |
| 4. I am more sensitive than most other people. ....  | T | F |
| 5. I frequently find myself worrying about something. ....   | T | F |
| 6. I am usually calm and not easily upset. ....  | T | F |
| 7. I feel anxiety about something or someone almost all the time. ....                                     | T | F |
| 8. I am happy most of the time. ....   | T | F |
| 9. I have periods of such great restlessness that I cannot sit long<br>in a chair. ....                    | T | F |
| 10. I have sometimes felt that difficulties were piling up so high that<br>I could not overcome them. .... | T | F |
| 11. I find it hard to keep my mind on a task or a job. ....  | T | F |
| 12. I am not unusually self-conscious. ....  | T | F |
| 13. I am inclined to take things hard. ....  | T | F |
| 14. Life is a strain for me much of the time. ....   | T | F |
| 15. At times I think I am no good at all. ....   | T | F |
| 16. I am certainly lacking in self-confidence. ....  | T | F |
| 17. I certainly feel useless at times. ....  | T | F |
| 18. I am a high-strung person. ....  | T | F |
| 19. I sometimes feel that I am about to go to pieces. ....   | T | F |
| 20. I shrink from facing a crisis or difficulty. ....  | T | F |

## Short R-S Scale

For each question below, circle the best answer - True or False. Answer all questions.

1. T    F    I wake up fresh and rested most mornings.
2. T    F    There seems to be a lump in my throat much of the time.
3. T    F    I feel that it is certainly best to keep my mouth shut when I'm in trouble.
4. T    F    I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't get going.
5. T    F    I am in just as good physical health as most of my friends.
6. T    F    I am a good mixer.
7. T    F    I am certainly lacking in self-confidence.
8. T    F    I think most people would lie to get ahead.
9. T    F    My hardest battles are with myself.
10. T    F    Much of the time I feel as if I have done something wrong or evil.
11. T    F    Often I feel as if there were a tight band about my head.
12. T    F    Often I can't understand why I have been so cross and grouchy.
13. T    F    Criticism or scolding hurts me terribly.
14. T    F    At times I feel like picking a fist fight with someone.
15. T    F    Most nights I go to sleep without any thoughts or ideas bothering me.
16. T    F    I have never felt better in my life than I do now.
17. T    F    I like to study and read about things that

I am working at.

- |     |   |   |  |
|-----|---|---|--|
| 18. | T | F | I frequently have to fight against showing that I am bashful.  |
| 19. | T | F | I am worried about sex matters.  |
| 20. | T | F | I frequently notice my hand shakes when I try to do something.                                       |
| 21. | T | F | I have very few headaches.   |
| 22. | T | F | I wish I were not so shy.  |
| 23. | T | F | I frequently find myself worrying about something.   |
| 24. | T | F | I brood a great deal.  |
| 25. | T | F | I believe I am no more nervous than most others.   |
| 26. | T | F | It is safer to trust nobody.   |
| 27. | T | F | When I leave home, I do not worry about whether the door is locked and the windows closed.           |
| 28. | T | F | I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer. |
| 29. | T | F | Life is a strain for me much of the time.  |
| 30. | T | F | I think nearly anyone would tell a lie to keep out of trouble.                                       |

31. T F I easily become impatient with people.
32. T F I forget right away what people say to me.
33. T F I often feel as if things were not real.
34. T F I have been afraid of things or people that I knew could not hurt me.
35. T F I have several times given up doing a thing because I thought too little of my ability.
36. T F Almost every day something happens to frighten me.
37. T F At periods, my mind seems to work more slowly than usual.
38. T F People often disappoint me.
39. T F Often, even though everything is going fine for me, I feel that I don't care about anything.
40. T F It makes me feel like a failure when I hear of the success of someone I know well.
41. T F I worry quite a bit over possible misfortunes.
42. T F I have a daydream life about which I do not tell other people.
43. T F I sometimes feel that I am about to go to pieces.

## QUESTIONNAIRE

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1      2      3      4      5      6      7      8

extremely  
inaccurate

extremely  
accurate

- \_\_\_\_\_ 1) I feel that I'm a person of worth, at least on equal basis with others.
- \_\_\_\_\_ 2) I feel that I have a number of good qualities.
- \_\_\_\_\_ 3) All in all, I am inclined to feel that I am a failure.
- \_\_\_\_\_ 4) I am able to do things as well as most other people.
- \_\_\_\_\_ 5) I feel I do not have much to be proud of.
- \_\_\_\_\_ 6) I take a positive attitude toward myself.
- \_\_\_\_\_ 7) On the whole, I am satisfied with myself.
- \_\_\_\_\_ 8) I wish I could have more respect for myself.
- \_\_\_\_\_ 9) I certainly feel useless at times.
- \_\_\_\_\_ 10) At times I think I am no good at all.

## BDI

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1.   0   I do not feel sad.  
     1   I feel sad.  
     2   I am sad all the time and I can't snap out of it.  
     3   I am so sad or unhappy that I can't stand it.
2.   0   I am not particularly discouraged about the future.  
     1   I feel discouraged about the future.  
     2   I feel I have nothing to look forward to.  
     3   I feel that the future is hopeless and that things cannot improve.
3.   0   I do not feel like a failure.  
     1   I feel I have failed more than the average person.  
     2   As I look back on my life, all I can see is a lot of failure.  
     3   I feel I am a complete failure as a person.
4.   0   I get as much satisfaction out of things as I used to.  
     1   I don't enjoy things the way I used to.  
     2   I don't get real satisfaction out of anything any more.  
     3   I am dissatisfied or bored with everything.
5.   0   I don't feel particularly guilty.  
     1   I feel guilty a good deal of the time.  
     2   I feel quite guilty most of the time.  
     3   I feel guilty all of the time.
6.   0   I don't feel I am being punished.  
     1   I feel I may be punished.  
     2   I expect to be punished.  
     3   I feel I am being punished.
7.   0   I don't feel disappointed in myself.  
     1   I am disappointed in myself.  
     2   I am disgusted with myself.  
     3   I hate myself.
8.   0   I don't feel I am any worse than anybody else.  
     1   I am critical with myself for my weaknesses or mistakes.  
     2   I blame myself all the time for my faults.  
     3   I blame myself for everything bad that happens.



9. 0 I don't have any thoughts of killing myself.  
1 I have thoughts of killing myself, but I would not carry them out.  
2 I would like to kill myself.  
3 I would kill myself if I had the chance.
10. 0 I don't cry any more than usual.  
1 I cry more now than I used to.  
2 I cry all the time now.  
3 I used to be able to cry, but now I can't cry even though I want to .
11. 0 I am no more irritated now than I ever am.  
1 I get annoyed or irritated more easily than I used to.  
2 I feel irritated all the time now.  
3 I don't get irritated at all by the things that used to irritate me.
12. 0 I have not lost interest in other people.  
1 I am less interested in other people than I used to be.  
2 I have lost most of my interest in other people.  
3 I have lost all of my interest in other people.
13. 0 I make decisions about as well as I ever could.  
1 I put off making decisions more than I used to.  
2 I have greater difficulty in making decisions than before.  
3 I can't make decisions at all anymore.
14. 0 I don't feel I look any worse than I used to.  
1 I am worried that I am looking old or unattractive.  
2 I feel that there are permanent changes in my appearance that make me look unattractive.  
3 I believe that I look ugly.
15. 0 I can work about as well as before.  
1 It takes an extra effort to get started at doing something.  
2 I have to push myself very hard to do anything.  
3 I can't do any work at all.
16. 0 I can sleep as well as usual.  
1 I don't sleep as well as I used to.  
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.  
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17. 0 I don't get more tired than usual.  
1 I get tired more easily than I used to.  
2 I get tired from doing almost anything.  
3 I am too tired to do anything.
18. 0 My appetite is no worse than usual.  
1 My appetite is not as good as it used to be.  
2 My appetite is much worse now.  
3 I have no appetite at all anymore.
19. 0 I haven't lost much weight, if any lately.  
1 I have lost more than 5 pounds.  
2 I have lost more than 10 pounds.  
3 I have lost more than 15 pounds.

I am purposely trying to lose weight by eating less.  
Yes\_\_\_\_\_ No\_\_\_\_\_

20. 0 I am no more worried about my health than usual.  
1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.  
2 I am very worried about physical problems and it's hard to think of much else.  
3 I am so worried about my physical problems, that I cannot think about anything else.
21. 0 I have not noticed any recent change in my interest in sex.  
1 I am less interested in sex than I used to be.  
2 I am much less interested in sex now.  
3 I have lost interest in sex completely.

I.D.# \_\_\_\_\_

Male \_\_\_\_\_ Female \_\_\_\_\_

Age \_\_\_\_\_

# BSI

## Instructions:

Below is a list of problems and complaints that people sometimes have. Read each one carefully, and circle one of the numbered descriptions to the right of each item that best describes **how much discomfort that problem has caused you during the past month, including today**. Do not skip any items, and circle your number clearly. If you change your mind, erase your first number completely.

**Example: How much were you distressed by:**

00. Body aches .....0 1 2 3 4

If this is **moderately** a problem, you would circle "2".

If this is **quite a bit** of a problem, you would circle "3".

If this is **extremely** a problem, you would circle "4".

... and so on.

**HOW MUCH WERE YOU DISTRESSED BY:**

1. Nervousness or shakiness inside .....0 1 2 3 4
2. Faintness or dizziness .....0 1 2 3 4
3. The idea that someone else can control your thoughts .....0 1 2 3 4
4. Feeling others are to blame for most of your troubles .....0 1 2 3 4
5. Trouble remembering things .....0 1 2 3 4
6. Feeling easily annoyed or irritated .....0 1 2 3 4
7. Pains in heart or chest .....0 1 2 3 4
8. Feeling afraid in open spaces .....0 1 2 3 4
9. Thoughts of ending your life .....0 1 2 3 4
10. Feeling that most people cannot be trusted .....0 1 2 3 4
11. Poor appetite .....0 1 2 3 4
12. Suddenly scared for no reason. ....0 1 2 3 4
13. Temper outbursts that you could not control .....0 1 2 3 4
14. Feeling lonely even when you are with people.....0 1 2 3 4
15. Feeling blocked in getting things done. ....0 1 2 3 4
16. Feeling lonely.....0 1 2 3 4
17. Feeling blue.....0 1 2 3 4
18. Feeling no interest in things.....0 1 2 3 4
19. Feeling fearful.....0 1 2 3 4
20. Your feelings being easily hurt.....0 1 2 3 4
21. Feeling that people are unfriendly or dislike you. ....0 1 2 3 4
22. Feeling inferior to others.....0 1 2 3 4
23. Nausea or upset stomach.....0 1 2 3 4
24. Feeling that you are watched or talked about by others.....0 1 2 3 4
25. Trouble falling asleep. ....0 1 2 3 4
26. Having to check and doublecheck what you do.....0 1 2 3 4
27. Difficulty making decisions.....0 1 2 3 4
28. Feeling afraid to travel on buses, subways, or trains. ....0 1 2 3 4

# HOW MUCH WERE YOU DISTRESSED BY:

29. Trouble getting your breath. ....0 1 2 3 4
30. Hot or cold spells. ....0 1 2 3 4
31. Having to avoid certain things, places, or activities  
because they frighten you. ....0 1 2 3 4
32. Your mind going blank. ....0 1 2 3 4
33. Numbness or tingling in parts of your body. ....0 1 2 3 4
34. The idea that you should be punished for your sins. ....0 1 2 3 4
35. Feeling hopeless about the future. ....0 1 2 3 4
36. Trouble concentrating. ....0 1 2 3 4
37. Feeling weak in parts of your body. ....0 1 2 3 4
38. Feeling tense or keyed up. ....0 1 2 3 4
39. Thoughts of death or dying. ....0 1 2 3 4
40. Having urges to beat, injure, or harm someone ....0 1 2 3 4
41. Having urges to break or smash things. ....0 1 2 3 4
42. Feeling very self-conscious with others. ....0 1 2 3 4
43. Feeling uneasy in crowds. ....0 1 2 3 4
44. Never feeling close to another person. ....0 1 2 3 4
45. Spells of terror or panic. ....0 1 2 3 4
46. Getting into frequent arguments. ....0 1 2 3 4
47. Feeling nervous when you are left alone. ....0 1 2 3 4
48. Others not giving you proper credit for your achievements. ....0 1 2 3 4
49. Feeling so restless you couldn't sit still. ....0 1 2 3 4
50. Feelings of worthlessness. ....0 1 2 3 4
51. Feeling that people will take advantage of you if you let them. ....0 1 2 3 4
52. Feelings of guilt. ....0 1 2 3 4
53. The idea that something is wrong with your mind. ....0 1 2 3 4

## NCS

Please describe yourself as accurately as possible using each statement below. Rate your level of agreement or disagreement by circling one of the scale categories.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. I would prefer complex to simple problems. ....   | 1 | 2 | 3 | 4 | 5 |
| 2. I like to have the responsibility of handling a situation that requires a lot of thinking. ....   | 1 | 2 | 3 | 4 | 5 |
| 3. Thinking is not my idea of fun. ....  | 1 | 2 | 3 | 4 | 5 |
| 4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. ....                   | 1 | 2 | 3 | 4 | 5 |
| 5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something. ....                     | 1 | 2 | 3 | 4 | 5 |
| 6. I find satisfaction in deliberating hard and for long hours. ....   | 1 | 2 | 3 | 4 | 5 |
| 7. I only think as hard as I have to. ....   | 1 | 2 | 3 | 4 | 5 |
| 8. I prefer to think about small daily projects to long-term ones. ....  | 1 | 2 | 3 | 4 | 5 |
| 9. I like tasks that require little thought once I've learned them. ....   | 1 | 2 | 3 | 4 | 5 |
| 10. The idea of relying on thought to make my way to the top appeals to me. ....   | 1 | 2 | 3 | 4 | 5 |
| 11. I really enjoy a task that involves coming up with new solutions to problems. ....   | 1 | 2 | 3 | 4 | 5 |
| 12. Learning new ways to think doesn't excite me very much. ....   | 1 | 2 | 3 | 4 | 5 |
| 13. I prefer my life to be filled with puzzles that I must solve. ....   | 1 | 2 | 3 | 4 | 5 |
| 14. The notion of thinking abstractly is appealing to me. ....   | 1 | 2 | 3 | 4 | 5 |
| 15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought. .... | 1 | 2 | 3 | 4 | 5 |
| 16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort. ....                                      | 1 | 2 | 3 | 4 | 5 |
| 17. Its enough for me that something gets the job done, I don't care how or why it works. ....   | 1 | 2 | 3 | 4 | 5 |
| 18. I usually end up deliberating about issues even when they do not affect me personally. ....  | 1 | 2 | 3 | 4 | 5 |

## NSK

Please read each of the following statements and decide how characteristic each statement is of you by circling the appropriate number to the left of each one. Use the scale as shown below:

- 1 = extremely uncharacteristic of me
- 2 = not characteristic of me
- 3 = neutral
- 4 = quite characteristic of me
- 5 = extremely characteristic of me

1. It's important to me understand as much as possible about myself. .... 1 2 3 4 5
2. One of my goals in life is to understand myself better..... 1 2 3 4 5
3. I think it's important for me to know what I'm really like. .... 1 2 3 4 5
4. It's not that important for me to understand myself a lot. .... 1 2 3 4 5
5. Having an accurate view of myself is very desirable..... 1 2 3 4 5

## AIQ

**Instructions:**

These items describe different aspects of ***your identity or sense of who you are***. Please read each item carefully and consider how it applies to you. Circle a number for each one, according to the scale below:

0= **Not** important to my sense of who I am.

1= **Slightly** important to my sense of who I am.

2= **Somewhat** important to my sense of who I am.

3= **Very** important to my sense of who I am.

4= **Extremely** important to my sense of who I am.

- |   |   |   |   |   |  |
|---|---|---|---|---|--|
| 0 | 1 | 2 | 3 | 4 | My personal values and moral standards.  |
| 0 | 1 | 2 | 3 | 4 | My popularity with other people.   |
| 0 | 1 | 2 | 3 | 4 | My dreams and imagination.   |
| 0 | 1 | 2 | 3 | 4 | The ways in which other people react to what I say and do.   |
| 0 | 1 | 2 | 3 | 4 | My personal goals and hopes for the future.  |
| 0 | 1 | 2 | 3 | 4 | My physical appearance: my height, weight, and the shape of my body.                                       |
| 0 | 1 | 2 | 3 | 4 | My emotions and feelings.  |
| 0 | 1 | 2 | 3 | 4 | My reputation, what others think of me.  |
| 0 | 1 | 2 | 3 | 4 | My thoughts and ideas.   |
| 0 | 1 | 2 | 3 | 4 | My attractiveness to other people.   |
| 0 | 1 | 2 | 3 | 4 | The ways I deal with my fears and anxieties.   |
| 0 | 1 | 2 | 3 | 4 | My gestures and mannerisms, the impression I make on others.   |
| 0 | 1 | 2 | 3 | 4 | My feeling of being a unique person, being distinct from others.   |
| 0 | 1 | 2 | 3 | 4 | My social behavior, such as the way I act when meeting people.   |
| 0 | 1 | 2 | 3 | 4 | Knowing that I continue to be essentially the same inside even though life involves many external changes. |
| 0 | 1 | 2 | 3 | 4 | My self-knowledge, my ideas about what kind of person I really am.   |
| 0 | 1 | 2 | 3 | 4 | My personal self-evaluations, the private opinion I have of myself.  |

PLEASE CONTINUE ON THE NEXT PAGE...



## R W A

**Instructions:**

For each of the following statements please indicate your level of agreement or disagreement by circling one of the scale categories to the right of each statement. Use the scale as shown below:

	<b>Disagree Strongly 1</b>	<b>Disagree Somewhat 2</b>	<b>Disagree Slightly 3</b>	<b>Agree Slightly 4</b>	<b>Agree Somewhat 5</b>	<b>Agree Strongly 6</b>
1. The way things are going in this country, it's going to take a lot of "strong medicine" to straighten out the troublemakers, criminals, and perverts.....	1	2	3	4	5	6
2. It is wonderful that young people today have greater freedom to protest against things they don't like and to "do their own thing".....	1	2	3	4	5	6
3. It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people's minds. ....	1	2	3	4	5	6
4. People should pay less attention to the Bible and the other traditional forms of religious guidance, and instead develop their own personal standards of what is moral or immoral.....	1	2	3	4	5	6
5. It would be best for everyone if the proper authorities censored magazines and movies to keep trashy material away from the youth.....	1	2	3	4	5	6
6. It may be considered old-fashioned by some, but having a decent, respectable appearance is still the mark of a gentleman and, especially, a lady.....	1	2	3	4	5	6
7. The sooner we get rid of the traditional family structure, where the father is the head of the family and the children are taught to obey authority automatically, the better. The old-fashioned way has a lot wrong with it.....	1	2	3	4	5	6
8. There is nothing wrong with premarital intercourse.....	1	2	3	4	5	6
9. The facts on crime, sexual immorality, and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers if we are going to save our moral standards and preserve law and order. ....	1	2	3	4	5	6
10. There is nothing immoral or sick in somebody's being a homosexual.....	1	2	3	4	5	6
11. It is important to protect fully the rights of radicals and deviants.....	1	2	3	4	5	6
12. Obedience and respect for authority are the most important virtues children should learn. ....	1	2	3	4	5	6
13. Rules about being "well-mannered" and respectable are chains from the past that we should question very thoroughly before accepting.....	1	2	3	4	5	6
14. Once our government leaders and the authorities condemn the dangerous elements in our society, it will be the duty of every patriotic citizen to help stamp out the rot that is poisoning our country from within. ....	1	2	3	4	5	6

	Disagree Strongly 1	Disagree Somewhat 2	Disagree Slightly 3	Agree Slightly 4	Agree Somewhat 5	Agree Strongly 6
15. "Free speech" means that people should even be allowed to make speeches and write books urging the overthrow of the government.....	1	2	3	4	5	6
16. Some of the worst people in our country nowadays are those who do not respect our flag, our leaders, and the normal way things are supposed to be done.....	1	2	3	4	5	6
17. In these troubled times laws have to be enforced without mercy, especially when dealing with the agitators and revolutionaries who are stirring things up. ....	1	2	3	4	5	6
18. Athiests and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.....	1	2	3	4	5	6
19. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.....	1	2	3	4	5	6
20. The self-righteous "forces of law and order" threaten freedom in our country a lot more than most of the groups they claim are "radical" or "godless". ....	1	2	3	4	5	6
21. Everyone has a right to his/her own lifestyle, religious beliefs or disbeliefs, and sexual preferences so long as it doesn't hurt others. ....	1	2	3	4	5	6
22. If a child starts becoming a little too unconventional, his parents should see to it he returns to the normal ways expected by society.....	1	2	3	4	5	6
23. In the final analysis, the established authorities, like parents and our national leaders, generally turn out to be right about things, and all the protesters don't know what they're talking about.....	1	2	3	4	5	6
24. A lot of our rules regarding modesty and sexual behavior are just customs which are not necessarily any better or holier than those which other peoples follow. ....	1	2	3	4	5	6
25. There is absolutely nothing wrong with nudist camps. ....	1	2	3	4	5	6
26. The <i>real</i> keys to the "good life" are obedience, discipline, and sticking to the straight and narrow. ....	1	2	3	4	5	6
27. It is best to treat dissenters with leniency and an open mind, since new ideas are the lifeblood of progressive change.....	1	2	3	4	5	6
28. Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the "rotten apples" who are ruining everything. ....	1	2	3	4	5	6
29. Students in high school and university must be encouraged to challenge their parents' ways, confront established authorities, and in general criticize the customs and traditions of our society. ....	1	2	3	4	5	6
30. One reason we have so many troublemakers in our society nowadays is that parents and other authorities have forgotten that good old-fashioned physical punishment is still one of the best ways to make people behave properly.....	1	2	3	4	5	6

## A B S

Please describe yourself as accurately as possible using each statement below. Rate your level of agree or disagreement by circling one of the scale categories. Answer quickly and truthfully.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Strongly Disagree	Disagree	neutral	Agree	Strongly Agree

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Sometimes I experience things as if they were doubly real.. .....  | 1 | 2 | 3 | 4 | 5 |
| 2. I like to watch cloud shapes change in the sky... ..   | 1 | 2 | 3 | 4 | 5 |
| 3. I think I really know what some people mean when they talk of mystic experiences....   | 1 | 2 | 3 | 4 | 5 |
| 4. My thoughts often don't occur as words but as visual images.....   | 1 | 2 | 3 | 4 | 5 |
| 5. I sometimes "step outside" my usual self and experience an entirely different state of being. ....   | 1 | 2 | 3 | 4 | 5 |
| 6. Some music reminds me of pictures or changing color patterns.....  | 1 | 2 | 3 | 4 | 5 |
| 7. Some of my most vivid memories are called up by scents and smells. ....  | 1 | 2 | 3 | 4 | 5 |
| 8. The sound of a voice can be so fascinating to me that I can just go on listening to it...  | 1 | 2 | 3 | 4 | 5 |
| 9. Sometimes thoughts and images come to me without the slightest effort on my part.. ..  | 1 | 2 | 3 | 4 | 5 |
| 10. If I stare at a picture and then look away from it, I can sometimes "see" an image of the picture, almost as if I were still looking at it.. ..                           | 1 | 2 | 3 | 4 | 5 |
| 11. Different colors have distinctive and special meanings for me. ....   | 1 | 2 | 3 | 4 | 5 |
| 12. Sometimes I can change noise into music by the way I listen to it.....  | 1 | 2 | 3 | 4 | 5 |
| 13. It is sometimes possible for me to be completely immersed in nature or in art and to feel as if my whole state of consciousness has somehow temporarily been altered..... | 1 | 2 | 3 | 4 | 5 |
| 14. When I listen to music I can get so caught up in it that I don't notice anything else.. ...   | 1 | 2 | 3 | 4 | 5 |
| 15. If I wish, I can imagine or daydream things so vividly that they hold my attention as a good movie or story does.....   | 1 | 2 | 3 | 4 | 5 |
| 16. When listening to organ music or other powerful music, I sometimes feel as if I'm being lifted into the air.. ..  | 1 | 2 | 3 | 4 | 5 |
| 17. I can be greatly moved by eloquent or poetic language.....  | 1 | 2 | 3 | 4 | 5 |
| 18. The crackle and flames of a wood fire stimulate my imagination.....   | 1 | 2 | 3 | 4 | 5 |

PLEASE TURN TO THE NEXT PAGE...

# PRF

Please describe yourself as accurately as possible using each statement below. Rate your level of agreement or disagreement by circling one of the scale categories.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. The motion of water in a river can almost hypnotize me.....                        | 1 | 2 | 3 | 4 | 5 |
| 2. I don't get any particular enjoyment from sitting in the sun. ....                 | 1 | 2 | 3 | 4 | 5 |
| 3. I think that my sense of touch is more sensitive than that of most people. ....    | 1 | 2 | 3 | 4 | 5 |
| 4. I could not possibly identify flowers just by their fragrance. ....                | 1 | 2 | 3 | 4 | 5 |
| 5. I rarely notice the texture of a piece of clothing. ....                           | 1 | 2 | 3 | 4 | 5 |
| 6. I don't care whether I drink water from a fine glass or from a paper cup. ....     | 1 | 2 | 3 | 4 | 5 |
| 7. I like to run through heaps of fallen leaves. ....                                 | 1 | 2 | 3 | 4 | 5 |
| 8. I rarely sit and watch the water at a beach or stream. ....                        | 1 | 2 | 3 | 4 | 5 |
| 9. I enjoy the feeling of mist and fog. ....  | 1 | 2 | 3 | 4 | 5 |
| 10. Sometimes I feel like stepping into mud and letting it ooze between my toes. .... | 1 | 2 | 3 | 4 | 5 |
| 11. Certain pieces of music remind me of pictures or moving patterns of colour. ....  | 1 | 2 | 3 | 4 | 5 |
| 12. I have never seen a statue that reminded me of a real person. ....                | 1 | 2 | 3 | 4 | 5 |

Your I.D.# \_\_\_\_\_

Form R: Male

# RRQ

## Instructions:

On the next three pages are 28 descriptive statements. Rate the degree to which each statement is descriptive of your roommate by circling one of the scale categories to the right of each statement. Use the scale as shown below:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SD	D	N	A	SA

For example, consider the statement "**He's often absent-minded.**"

If you strongly disagree, you would circle:

<input checked="" type="radio"/> SD	D	N	A	SA
-------------------------------------	---	---	---	----

If you mostly disagree, you would circle:

SD	<input checked="" type="radio"/> D	N	A	SA
----	------------------------------------	---	---	----

If you neither agree nor disagree, are neutral or cannot decide, you would circle:

SD	D	<input checked="" type="radio"/> N	A	SA
----	---	------------------------------------	---	----

If you mostly agree, you would circle:

SD	D	N	<input checked="" type="radio"/> A	SA
----	---	---	------------------------------------	----

If you strongly agree, you would circle:

SD	D	N	A	<input checked="" type="radio"/> SA
----	---	---	---	-------------------------------------

Please try and make use of all levels of the scale in your answers. Read each item carefully and circle the scale category that best reflects your actual opinion.

Please do not skip any items. The questionnaire takes about 5-10 minutes.

First name of person you are rating: \_\_\_\_\_

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
1. His attention is often focused on aspects of himself he would like to stop thinking about.	SD	D	N	A	SA
2. It is easy for him to put unwanted thoughts out of his mind.	SD	D	N	A	SA
3. Often he's playing back over in his mind how he acted in a past situation.	SD	D	N	A	SA
4. Sometimes it is hard for him to shut off thoughts about himself.	SD	D	N	A	SA
5. He doesn't waste time re-thinking things that are over and done with.	SD	D	N	A	SA
6. He often reflects on episodes in his life that he should no longer concern himself with.	SD	D	N	A	SA
7. Often his thoughts drift to some concern or worry about himself.	SD	D	N	A	SA
8. He often ruminates or dwells over aspects of his life.	SD	D	N	A	SA
9. Long after an argument or disagreement is over with, his thoughts keep going back to what happened.	SD	D	N	A	SA
10. His mind rarely gets preoccupied by personal worries.	SD	D	N	A	SA
11. His thoughts rarely dwell on self-concerns.	SD	D	N	A	SA
12. He often finds himself re-evaluating something he's done.	SD	D	N	A	SA
13. He often wishes he could stop from "re-hashing" in his mind his personal doubts and insecurities.	SD	D	N	A	SA
14. When he makes mistakes, he tends to put them out of his mind quickly and move on.	SD	D	N	A	SA
15. He rarely thinks about past embarrassments or disappointments.	SD	D	N	A	SA

	Strongly Disagree SD	Disagree D	Neutral N	Agree A	Strongly Agree SA
1. Philosophical or abstract thinking doesn't appeal to him that much.	SD	D	N	A	SA
2. He's not really a meditative type of person.	SD	D	N	A	SA
3. He loves analyzing why he does things.	SD	D	N	A	SA
4. He finds analyzing life a bit boring.	SD	D	N	A	SA
5. He doesn't like to analyze people's motives.	SD	D	N	A	SA
6. He loves to meditate on the nature and meaning of things.	SD	D	N	A	SA
7. He loves exploring his "inner" self.	SD	D	N	A	SA
8. Most people would describe him as quite a "deep" or introspective type of person.	SD	D	N	A	SA
9. He loves to contemplate life's mysteries.	SD	D	N	A	SA
10. He's very self-inquisitive by nature.	SD	D	N	A	SA
11. He doesn't really care for introspective or self-reflective thinking.	SD	D	N	A	SA
12. He often loves to look at his life in philosophical ways.	SD	D	N	A	SA
13. Contemplating himself isn't his idea of fun.	SD	D	N	A	SA

I.D.# \_\_\_\_\_

## Linguistic Implications Form

It is often possible to identify the missing words in a sentence by the meaning implied by the sentence. We would like to collect some basic statistics on several sentences to be used for later studies. For each of the sentences presented immediately below, any of the alternatives provided are technically correct. However, one alternative is probably more likely to occur in that context than the others. For each of the six sentences below, simply circle or underline the option word that is more likely to occur. Please answer quickly. Don't think long over your answer.

1. After spreading fertilizer liberally over the flower bed, ( I, she, we. ) watered the flowers.
2. Although ( their, our, my ) personal library consists of only a few books, some of them are classics.
3. Please don't do this to ( me, her, us ), it is just not fair.
4. At first it didn't seem to make any difference, but by later that night the noise from the party was entirely too loud to allow ( us, her, me ) to sleep.
5. It isn't easy to get lost in this town, but somehow ( I, we, they ) managed it.



**In general, how similar are you to others?**

- 6 extremely similar
- 5 very similar
- 4 quite similar
- 3 moderately similar
- 2 a little similar
- 1 only slightly similar
- 0 not at all similar