

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/13215604>

Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection

Article in *Journal of Personality and Social Psychology* · March 1999

DOI: 10.1037//0022-3514.76.2.284 · Source: PubMed

CITATIONS

578

READS

14,722

2 authors:



Paul D. Trapnell

45 PUBLICATIONS 12,134 CITATIONS

SEE PROFILE



Jennifer D Campbell

University of British Columbia

22 PUBLICATIONS 12,747 CITATIONS

SEE PROFILE

Private Self-Consciousness and the Five-Factor Model of Personality: Distinguishing Rumination From Reflection

Paul D. Trapnell
Ohio State University at Mansfield

Jennifer D. Campbell
University of British Columbia

A distinction between ruminative and reflective types of private self-attentiveness is introduced and evaluated with respect to L. R. Goldberg's (1982) list of 1,710 English trait adjectives (Study 1), the five-factor model of personality (FFM) and A. Fenigstein, M. F. Scheier, and A. Buss's (1975) Self-Consciousness Scales (Study 2), and previously reported correlates and effects of private self-consciousness (PrSC; Studies 3 and 4). Results suggest that the PrSC scale confounds two unrelated, motivationally distinct dispositions—rumination and reflection—and that this confounding may account for the “self-absorption paradox” implicit in PrSC research findings: Higher PrSC scores are associated with more accurate and extensive self-knowledge yet higher levels of psychological distress. The potential of the FFM to provide a comprehensive framework for conceptualizing self-attentive dispositions, and to order and integrate research findings within this domain, is discussed.

In this article we examine the private half of the popular public-private taxonomy of trait self-consciousness (Fenigstein, Scheier, & Buss, 1975) and propose a reconceptualization of private self-consciousness (PrSC) based on motivational distinctions implicit in its relation to the five-factor model of personality (FFM). Although enthusiasm for the FFM is not universal (e.g., Block, 1995; McAdams, 1992), for the present purposes we adopted the FFM as an initial best approximation of a comprehensive taxonomy of personality trait descriptors and their superordinate pattern of covariation.¹ The potential of the FFM for organizing and integrating dispositional research findings has been demonstrated in several research domains (e.g., Marshall, Wortman, Vickers, Kusulas, & Hervig, 1994; T. W. Smith & Williams, 1992; Tokar, Fischer, & Subich, 1998; Trull & McCrae, 1994). The PrSC research literature is vast but has yet to be systematically related to the FFM. We propose in the present article a distinction between *ruminative* and *reflective* self-focus, derived from the FFM distinction between Neuroticism and Openness to Experience, and demonstrate how it may explain a paradox in the current research literature on PrSC.

The Self-Consciousness Scales

Fenigstein et al. (1975) proposed a dispositional analogue of Duval and Wicklund's (1972) concept of self-awareness, operationalized by means of a self-report questionnaire. Factor analyses of their initial item pool did not, however, confirm their preliminary hypothesis of a general disposition to be self-focused. On the basis of those analyses, they concluded there were two psychologically distinct self-focusing tendencies: *private* self-consciousness (PrSC—consciousness of one's inner feelings, thoughts, and physical sensations) and *public* self-consciousness (PbSC—consciousness of one's appearance to others). The public-private distinction was eventually extended to self-focus states (e.g., Buss, 1980) and was a key component of Carver and Scheier's influential research program, providing “interlocking conceptual replications” (Carver & Scheier, 1981a, p. 40) of studies involving manipulated self-focus. Fenigstein et al.'s Self-Consciousness Scales (SCS) quickly became among the most influential trait measures in social psychological research (Fenigstein, 1987).

The Problem of Motives in the SCS

Despite this popularity, the construct validity of the SCS has been the object of considerable controversy (see Wicklund & Gollwitzer, 1987, and the commentaries and rejoinders that follow it). Researchers reasonably assumed that the PbSC and PrSC scales

Paul D. Trapnell, Department of Psychology, Ohio State University at Mansfield; Jennifer D. Campbell, Department of Psychology, University of British Columbia, Vancouver, British Columbia, Canada.

We gratefully acknowledge a Social Sciences and Humanities Research Council (SSHRC) Doctoral Fellowship awarded to Paul D. Trapnell and an SSHRC research grant, which supported this research. Thanks are also due to Jerry Wiggins and Del Paulhus for their helpful advice throughout the project and to Ruth Hahn for innumerable contributions in the conduct of the studies, data analysis, and preparation of this article.

Correspondence concerning this article should be addressed to Paul D. Trapnell, Department of Psychology, Ohio State University at Mansfield, 1680 University Drive, Mansfield, Ohio 44906. Electronic mail may be sent to trapnell.2@osu.edu.

¹ Agreement on the optimal partitioning and rotation of the factor axes within “a” five-factor model is also less than universal (John, 1990; McCrae, 1996a). The present studies derive from the five-factor conceptions of Goldberg (1990) and Costa and McCrae (1992). For convenience, we use the terms *Big Five* and *FFM* interchangeably in the present article and refer to the five factors described by those models with the labels recommended by McCrae and John (1992): *Extraversion*, *Agreeableness*, *Conscientiousness*, *Neuroticism*, and *Openness to Experience*, for Big Five Factors I–V, respectively.

primarily tap attentional differences between people and consequently interpreted their findings in the context of attentional processes specified in self-awareness or self-regulation theories (e.g., Nasby, 1985, 1989). Critics have noted, however, that the scales do not simply index frequency of attending to the public or the private selves; they index specific motives for doing so. The confounding of motive with direction of attention in the content, correlates, and social effects of the PbSC scale, for example, led Wicklund and Gollwitzer (1987) to suggest that it is better interpreted as a measure of “social dependency” than self-attention. Motivational confounds have also been cited with respect to the PrSC scale, including negative affect (Ingram, 1989), need for self-knowledge (Franzoi, Davis, & Markweisse, 1990), and need for autonomy and uniqueness (Schlenker & Weigold, 1990). To the extent that the PbSC and PrSC scales measure differences in motives, needs, or values, as well as self-awareness, the possibility exists that effects of the scales thought to be due to self-attentional mechanisms (e.g., activation of a “comparator” function in self-regulation) may instead be due to motivational ones (e.g., approach and avoidance motives related to interests, values, fears, expectancies, etc.; cf. Trapnell, Meston, & Gorzalka, 1997).

Dispositional Self-Consciousness From the Perspective of the FFM

We propose a reconceptualization of dispositional self-consciousness that acknowledges an inherent confounding of motive and direction of attention in the dispositional domain. In contrast to the purely cognitive approach to trait self-focus proposed by Fenigstein et al. (1975), we propose that self-attentive dispositions likely require specification in terms of a particular motive or value directing attention to the self. From this perspective, a public–private distinction among self-attentive dispositions may not merit special status in self-awareness or self-regulation theories (cf. Carver & Scheier, 1985) because it represents merely one among many potentially useful superordinate classifications of motives and values relevant to dispositional self-awareness. In our view, the PrSC and PbSC scales do not operationalize the two superordinate categories of private and public self-attention; they operationalize a specific motivational distinction within each of these categories (e.g., epistemic curiosity and “appearance” concern associated with social conformity motives, respectively). We assume other important motivational distinctions are possible, both within and beyond those categories.

We restrict our focus here to PrSC because detailed critiques of PbSC have been published by others (Wicklund & Gollwitzer, 1987) and because the high face validity of the PrSC scale presents a tougher challenge for our motivational confounding hypothesis than does the PbSC scale. The item content of the PrSC scale seems remarkably free of motivational or affective connotations. Consider the wording of the items typically loading most highly on the PrSC factor in factor analytic studies of Fenigstein et al.’s (1975) items: “I reflect about myself a lot,” “I’m constantly examining my motives,” and “I am always trying to figure myself out.” It is not clear what motive, need, or value these items reference, and the definition of the construct suggests that the motivational ambiguity in the wording of PrSC items was intentional, as they were designed to index frequency of self-focused

attention, per se, not self-focus in the service of a specific psychological motive.

If the PrSC items do, however, measure particular motives for self-attending, the motivationally ambiguous wording of PrSC items that lends them their high face validity may importantly confound interpretation of their correlates and effects. Consider two of the personality dimensions described by the FFM: Neuroticism and Openness to Experience. People who score high in Neuroticism describe themselves as prone to negative emotional states such as anxiety, depression, low self-esteem, pessimism, moodiness, irritability, and jealousy (e.g., Costa & McCrae, 1980; Eysenck & Eysenck, 1985; Goldberg, 1990). People who score high in Openness to Experience tend to seek out novel aesthetic, emotional, and intellectual experiences and report a high frequency of, and particular interest in, imaginative and reflective thought (e.g., McCrae & Costa, 1985, 1997a). Neuroticism and Openness to Experience are essentially independent domains of individual differences, a fact instantiated by the FFM. Both dimensions, however, clearly imply chronically higher levels of PrSC—for notably different reasons. Motivationally ambiguous items such as “I am always trying to figure myself out” can be readily interpreted to mean either reason: psychological distress (“I am always ruminating over or second guessing myself”) or epistemic curiosity (e.g., “I love trying to figure myself out”).

A conventional assumption in the interpretation of PrSC scores is that the motive for scoring high on the scale is not critical to the interpretation of PrSC effects. The philosopher’s and the neurotic’s equally high scores would imply the same cognitive state, private self-awareness, which invokes the same processes (e.g., activation of a self-regulatory comparator function), which precipitate the same basic psychological sequelae—in particular, heightened perception (amplification) of affect and self-concept articulation. Alternatively, we suggest that the motivational ambiguity of the PrSC items causes them to capture both negative affective (neurotic) and positive epistemic (intellective) sources of variance and that these two different determinants of PrSC variance independently determine neurotic and epistemic correlates and effects of the PrSC scale. To explicate the PrSC’s divergent motivational underpinnings, we describe below the factorial complexity of the scale and an apparent contradiction in its psychological effects.

PrSC Factorial Complexity

PrSC item intercorrelations reliably reveal two factors (e.g., Anderson & Bohon, 1996; Mittal & Balasubramanian, 1987; Piliavin & Charng, 1988) labeled *Self-Reflectiveness* (SR; six items, e.g., “I’m always trying to figure myself out”) and *Internal State Awareness* (ISA; four items, e.g., “I’m alert to changes in my mood”) by Burnkrant and Page (1984). Although Bernstein, Teng, and Garbin (1986) argued that support for two factors is confounded by differences in the items’ distributional properties, mounting evidence suggests that they are substantively, as well as statistically, different.

Foremost among this evidence is the fact that the SR factor correlates positively with measures of negative affectivity or Neuroticism, whereas the ISA factor correlates negatively or not at all with such measures. This divergent pattern of findings has been found for Neuroticism-related constructs such as anxiety and depression (P. J. Watson & Biderman, 1993; P. J. Watson, Morris, &

Hood, 1988), self-esteem and identity seeking (Piliavin & Charng, 1988), and self-concept clarity (Campbell et al., 1996). The contradictory relation of ISA and SR with measures of identity seeking and self-concept clarity is particularly noteworthy because of a postulated clarification effect of private self-attentiveness. PrSC “is assumed to make all private events, both affectively charged and neutral, clearer and more distinct” (Buss, 1980, p. 14). The notion of self-concept articulation (i.e., self-clarification) is routinely invoked to explain numerous PrSC information-processing effects (see below). If the ISA and SR factors both measure the PrSC construct, it is puzzling why they should show opposite associations with self-reported clarity and certainty of self-perceptions (Campbell et al., 1996; Franzoi, 1983). Their divergent relations with self-esteem, depression, and anxiety are important for a similar reason. Higher self-esteem has been shown to predict more certain self-knowledge (Campbell, 1990), and more resistance to social influence attempts (Brockner, 1979, 1984), two types of phenomena that figure prominently in efforts to test the clarification hypothesis of PrSC.

The “Self-Absorption Paradox”

In the article introducing the PbSC and PrSC scales, Fenigstein et al. (1975) noted the importance of self-awareness to many schools of psychotherapy. Similarly, *psychological-mindedness*—the disposition and ability to reflect on the meaning and motivation of behavior, thoughts, and feelings in oneself and others (Appelbaum, 1973; Hall, 1992)—is highly prized by mental health professionals (Farber, 1989), who often seek to promote it in patients as well as themselves and consider it important to therapeutic progress, a viewpoint not without empirical foundation (Appelbaum, 1973; Conte et al., 1990; cf. Prochasta, DiClemente, & Norcross, 1992). Farber (1989) considered PrSC “the construct most closely related to psychological-mindedness” (p. 212) and consequently operationalized the latter with the PrSC scale.

Psychotherapeutic advocacy of self-awareness assumes that veridical or authentic self-knowledge is critical for psychological growth and maturity and that pondering the self improves the extent and accuracy of self-knowledge. The first assumption is both ancient (e.g., the inscription “Know Thyself” on Apollo’s shrine at Delphi) and central to many clinically derived theories of adjustment (psychoanalytic, humanistic, existential), although its empirical status has been challenged in recent years (Taylor & Brown, 1988).

The second assumption is a fundamental corollary of most self-attention theories (e.g., Carver & Scheier, 1981a; Gibbons, 1990). Buss (1980) presented a particularly clear statement of this hypothesis: “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 [italics added], they know themselves very well” (p. 20). Self-knowledge, or self “clarification,” is postulated to explain all three of the most widely researched psychological effects of PrSC on the self: accuracy, for example, enhanced consistency and validity of self-reports; articulation, for example, more extensive and efficient processing of self-relevant information; and autonomy, for example, enhanced reactance and reduced compliance and suggestibility (for reviews see Carver & Scheier, 1981b, 1985; Gibbons, 1983, 1990; Nasby, 1985, 1989; Porterfield et al., 1988).

These and other findings suggest that chronic attending to private thoughts and feelings, per se, stimulates greater differentiation, integration, accuracy, and cognitive accessibility of self-information—that is, that it enhances self-knowledge.

If private self-focus increases self-knowledge, and if self-knowledge facilitates psychological adjustment, one would expect positive associations between PrSC and psychological health and adjustment. Instead, higher PrSC scores are reliably associated with higher levels of psychological distress, a finding that may reflect a broader phenomenon: Heightened self-focus appears to be implicated in a remarkably broad range of psychopathology (Ingram, 1990).

PrSC associations with psychological distress and pathology constitute a paradox for many traditional theories of adjustment: Chronic, private self-attention appears to enhance self-knowledge at the expense of psychological adjustment. Although one might be tempted to interpret this relation in terms of a “sadder but wiser” phenomenon (e.g., Alloy & Abramson, 1979), note that self-concept clarity typically shows a strong *negative* association with neuroticism, depression, and poor self-esteem (Campbell et al., 1996). This fact plainly contradicts any simple “sadder but wiser” assumption that PrSC-related improvements in self-clarification should have the effect of increasing psychological distress.

In addition, some of the traits associated with neuroticism predict the same self-knowledge-related behavioral phenomena as the PrSC scale, but in an opposite direction. For example, PrSC has been associated with resistance to suggestibility and social conformity pressures (Froming & Carver, 1981; Scheier, Carver, & Gibbons, 1979), whereas low self-esteem is generally implicated in behavioral plasticity effects such as suggestibility and compliance (Brockner, 1984). More important is that 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 et al., 1979); the behavioral plasticity effects of low self-esteem have been attributed to lack of certainty or confusion in the self-concept (Campbell & Lavalley, 1993).

Resolving the Paradox

Why, then, does PrSC correlate positively with psychological distress? There are at least three different potential explanations for this paradox. Two are cognitive explanations and are basic predictions from self-attention and self-regulation theories. If self-attention increases awareness of shortcomings (Duval & Wicklund, 1972), habitual self-attending (PrSC) should precipitate chronic negative affect. Constructs such as narcissism, however, suggest that this is not necessarily true with respect to chronic or dispositional self-attention. It is possible to be chronically self-attentive yet positively brimming with self-regard. A second interpretation is that attention to inner states heightens awareness of those states (Scheier & Carver, 1977). PrSC should therefore heighten awareness of one’s mood in addition to other aspects of the self. If so, one would anticipate a positive relation between PrSC and not only negative mood tendencies but also positive ones. PrSC typically shows no between-subjects association, however, with measures of positive affectivity (Campbell, 1993) or traits related to Extraversion (e.g., Carver & Glass, 1976; McCrae,

1993), the personality dimension most closely associated with positive affectivity (D. Watson & Clark, 1997). A third interpretation is implied by the fact that PrSC correlates about equally with two unrelated personality dimensions: Neuroticism and Openness to Experience (McCrae, 1993). The motivationally ambiguous PrSC items may fail to differentiate neurotic motives for self-attending (e.g., anxiety) from epistemic ones (e.g., curiosity), thereby confounding individual differences related to Openness to Experience with those related to Neuroticism.

Overview

In the present studies we introduce and articulate a distinction implicit in PrSC research findings: neurotic self-attentiveness, or *rumination*, and intellectual self-attentiveness, or *reflection*. We first attempt to establish some generality of the proposed distinction across natural language descriptors of self-attention (Study 1) and the research scales proposed by Fenigstein et al. (1975; Study 2). We next introduce brief measures intended to maximally differentiate ruminative from reflective self-focus and evaluate their relations with the original Fenigstein et al. (1975) scales, the proposed factors within the PrSC scale, and the FFM. Finally, we test our principal hypothesis that the two motivationally distinct traits of rumination and reflection independently explain PrSC correlates and effects.

Study 1

An underappreciated application of lexical trait taxonomies is their use as empirical tools for mapping the potential nomological terrain of a trait. The "lexical hypothesis" (Goldberg, 1993) holds that all individual differences that are socially important enough for people to notice and need to communicate about will tend to be registered in their lexicon, typically in the form of a trait adjective (e.g., *stupid*) or noun (e.g., *blockhead*). To the extent that this is true (cf. McCrae, 1990), archival lexical data provide an efficient means for surveying the psychological semantics of phenotypic trait constructs (e.g., social evaluative anxiety) having natural language exemplars (e.g., *shy*, *bashful*). In Study 1 we exploited lexical data to comprehensively map the correlates of two natural language exemplars of Fenigstein et al.'s (1975) trait conception of self-awareness: *self-conscious* and *self-examining*.

Method

Participants

Participants were 187 university undergraduate volunteers (84 men, 103 women) at the University of Oregon who completed self-reports on Goldberg's (1982) "1,710" trait taxonomy. The data were generously made available to us by Lewis Goldberg (see Goldberg, 1982, for a more detailed description).

Measures

Participants rated themselves on 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 taxonomies of trait descriptors are detailed in Goldberg (1982) and John (1990). Goldberg's 1,710 taxonomy is among the most comprehensive and

representative compilations of English trait adjectives currently available (John, 1990).

Procedure

A convenient but reasonable assumption is that the 40 adjectives in Goldberg's 1,710 taxonomy containing the prefix *self* (e.g., *self-assertive*) define the subset of terms most likely to include the exemplars of dispositional self-focus. Two of these 40 adjectives—*self-conscious* and *self-examining*—clearly stand apart in denoting self-attention without accompanying denotations of self-evaluation or interpersonal style. *Self-conscious* and *self-examining* clearly denote a type of self-attentive state (consciousness of the self) or a type of self-attentive process (examining or inspecting the self) that directly implies a self-attentive state. The remaining adjectives refer to self-directed attitudes and evaluations (e.g., *self-satisfied*, *self-pitying*) and interpersonal tendencies (e.g., *self-confident*, *self-expressive*, *selfish*).² We therefore selected *self-conscious* and *self-examining* as the most prototypic exemplars of the dispositional self-focus construct (e.g., Fenigstein et al., 1975) within Goldberg's 1,710 taxonomy. In Study 1, self-ratings on *self-conscious* and *self-examining* were correlated with self-ratings on the remaining 1,708 trait adjectives. From the resulting pattern of correlations, we sought to explicate the differences in meaning between these two natural language exemplars of trait self-focus.

Results and Discussion

The 20 trait terms most highly correlated with *self-conscious* and *self-examining* are presented in Table 1. With the exception of *self-critical* (shown in the last row of the table), traits strongly correlated with *self-conscious* were not strongly correlated with *self-examining*, and vice-versa. Furthermore, the two adjectives diverge in meaning in a way that corresponds to the motivational distinction proposed here: Self-perceptions of being *self-conscious* are mainly related to negative self-perceptions and negative emotions, whereas self-perceptions of being *self-examining* are mainly related to epistemic interests and intellectual traits. These findings suggest that the English trait lexicon rather clearly distinguishes neurotic from epistemically motivated self-attention. According to the lexical hypothesis, this fact implies that such a distinction was a socially significant one to our English-speaking ancestors. The behavioral consequences of anxious versus epistemic self-focus are likely to vary in socially important ways.³

² The remaining 38 "self" hyphenated words contained in the Goldberg list are: *-assertive*, *-assured*, *-centered*, *-confident*, *-consistent*, *-controlled*, *-critical*, *-deceiving*, *-defeating*, *-defensive*, *-deluding*, *-denying*, *-deprecating*, *-destructive*, *-disciplined*, *-disparaging*, *-doubting*, *-effacing*, *-excusing*, *-expressive*, *-important*, *-indulgent*, *selfish*, *selfless*, *-pitying*, *-possessed*, *-punishing*, *-reliant*, *-reproachful*, *-respecting*, *-restrained*, *-revealing*, *-righteous*, *-sacrificing*, *-satisfied*, *-seeking*, *-sufficient*, and *-willed*. We would consider several additional terms frequently referred to in the PrSC literature as exemplars of dispositional self-focus (e.g., *self-aware*, *self-attentive*, *self-reflective*). Their absence from Goldberg's (1982) empirically derived list offered us no a priori rationale for consideration in Study 1 and precluded their evaluation in these archival data.

³ Many of the correlates of *self-examining* reported in Table 1 bear more than a passing resemblance to important PrSC research findings. For example, the negative association with *unamusable* recalls associations reported between PrSC scores and intensity of laughter in response to videotape presentations of broadcast media bloopers (Porterfield et al., 1988). Other correlates reported in Table 1 that resemble PrSC effects are

Study 2

Proponents of the FFM argue that the Big Five dimensions represent fundamental semantic axes of trait description (Goldberg, 1993; McCrae & Costa, 1997b). One implication of this view is that the Big Five will typically exert some pressure on the factor structure of virtually any broadly defined pool of trait descriptors, regardless of its theoretical origins. The empirical evidence for these claims (for reviews see Goldberg, 1993; Wiggins & Trapnell, 1997) led us to consider whether the Big Five played an unrecognized role in Fenigstein et al.'s (1975) decision to abandon a unifactor model of dispositional self-attention in favor a multifactor one. Fenigstein et al.'s (1975) three scales were not constructed on the basis of an a priori, three-factor conception of self-attentiveness but unexpectedly emerged from a pool of 38 items that had been written to measure "a unitary, homogeneous disposition to be self-attentive" (Fenigstein, 1987, p. 548). Is it possible that this multifactor conception was, in part, produced by a Big Five "undertow" unknowingly unleashed beneath the surface of an overly broad item pool?

Consider, for example, the seven a priori categories Fenigstein et al. (1975) adopted to generate their item pool. Three categories—concern over the appraisal of others; preoccupation with past, present, and future behavior; and recognition of one's positive and negative attributes—clearly implicate general negative affectivity or Neuroticism (e.g., anxiety, rumination, and [low] self-esteem, respectively), whereas three others—sensitivity to inner feelings, introspective behavior, and a tendency to picture or imagine oneself—clearly implicate Openness to Experience (e.g., openness to feelings, ideas, and fantasy, respectively). Given these categories, one might anticipate at least two factors: a Neuroticism-related factor and an intellect/Openness-related factor. As it happened, three factors emerged (PbSC, PrSC, and Social Anxiety). The third factor label, *Social Anxiety*, implies that some items were included that overlapped with a third Big Five dimension, Extraversion (or, more precisely, its negative pole, Introversion), a possibility that could readily account for their relative dissociation from the other items (see Briggs, 1988).

Although our foremost concern here is with PrSC, it is instructive to initially locate all three SCS within the FFM. Doing so permits an evaluation of a Big Five explanation of Fenigstein et al.'s (1975) unexpected factor results and provides a common

feelingful and *sensitive*, which dispositionally correspond to the "affect amplification" effects of PrSC (Scheier & Carver, 1977), and *self-reliant* and *self-willed*, which appear to correspond to the autonomous identity orientation (Schlenker & Weigold, 1990) and greater resistance to compliance (Froming & Carver, 1981) and suggestibility (Scheier et al., 1979) found to be associated with higher PrSC scores. The construct of Openness to Experience may offer useful insights into why these various phenomena tend to be linked to epistemic, but not neurotic, self-attentiveness. See, for example, Pinker's (1997, pp. 545–554) fascinating evolutionary analysis of humor, which offers an explanation of why the antiauthoritarianism typical of people who are dispositionally open to experience (Trapnell, 1994) would tend to make them prone to bemusement. Perhaps it is more than a historical accident that the notorious unamusability of pruders (e.g., Queen Victoria of Britain) is a Western cultural cliché (e.g., comedian Dana Carvey's character "The Church Lady"): Like authoritarianism, sexual conservatism is associated with dispositionally low Openness to Experience (Trapnell & Meston, 1996).

Table 1

Top 20 Correlates of Self-Conscious and Self-Examining Among 1,708 English Trait Adjectives^a

Adjective	Self-conscious	Self-examining
Self-doubting	.44	.19
Self-punishing	.39	.16
Self-disparaging	.36	.12
Pouty	.35	-.04
Self-excusing	.34	.13
Reclusive	.32	.07
Self-deluding	.31	.04
Seclusive	.31	.17
Self-indulgent	.31	.15
Fretful	.30	.14
Overnervous	.30	.06
Self-deprecating	.30	.01
Self-effacing	.30	-.04
Oversensitive	.29	.18
Bashful	.29	-.08
Inward	.29	.14
Self-reproachful	.29	.17
Despondent	.28	-.08
Withdrawn	.27	.06
Anxious	.27	.08
Reflective	.04	.47
Philosophical	-.02	.41
Introspective	.13	.39
Sensitive	.12	.39
Meditative	.06	.38
High-principled	.12	.35
Philosophizing	-.01	.33
Deep	.02	.33
Unamusable	-.02	-.32
Curious	.01	.31
Feelingful	.02	.31
Progressive	-.02	.31
Analytical	.06	.30
Perceptive	.01	.30
Self-reliant	-.02	.30
Free-minded	-.02	.30
Overthoughtful	.16	.29
Self-willed	.06	.29
Contemplative	.11	.28
Intellectual	.08	.28

Note. $N = 187$. Data are adapted from Goldberg (1982). Correlations with an absolute value $> .20$ are presented in boldface type.

^a Omitted from the table is the only notable exception to the discriminant pattern above we observed, the adjective *self-critical*, which correlated moderately and equally with *self-conscious* (.36) and *self-examining* (.45).

perspective on the original SCS factors (PbSC, PrSC, and Social Anxiety) and the PrSC subfactors (ISA and SR). In Study 2 we therefore evaluated the Big Five profiles of the SCS and the PrSC factors.

Method

Participants

Five independent samples of university undergraduates (referred to as Samples A through E) were recruited from introductory psychology classes during the early part of the fall semester, in four successive years. All of the participants completed questionnaires on a voluntary basis in exchange for partial course credit. Between 5%–8% of participants from each sample were excluded because of missing data, leaving 555, 570, 441, 710, and

427 respondents in Samples A through E, respectively. 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). Because European ancestry participants did not differ meaningfully from Asian ancestry participants on the self-attention measures in this study, the two ethnic groups were combined in each sample. Participants ranged in age from 17 to 59, with 90% of them between 17 and 25.

Measures

Self-attentiveness. In each of the samples we administered Fenigstein et al.'s (1975) SCS as the first measure in the assessment battery. As noted above, the SCS contains three scales: PbSC, PrSC, and Social Anxiety. The PbSC scale consists of 7 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. The Social Anxiety scale consists of 6 statements thought to measure anxious reactions to socially self-conscious states (e.g., "It takes me time to overcome my shyness in new situations"). The PrSC scale consists of 10 statements (e.g., "I reflect about myself a lot") thought to measure chronic attendance to one's thoughts and feelings. All three scales possess adequate internal consistency and test-retest reliability for scales of this length (Fenigstein et al., 1975). Because factor analyses of the PrSC items within each of our five samples consistently recovered the two factors noted earlier, we also calculated subscales representing SR and ISA by summing the constituent items.

The Big Five. Three different measures of the Big Five factors were administered. In Sample A, participants completed the Extended Interpersonal Adjective Scales (IASR-B5; Trapnell & Wiggins, 1990), which measures the Big Five factors of Conscientiousness, Neuroticism, and Openness with 20 adjectives each. The two remaining factors are measured by means of factor scores computed from the 64 adjectives of the Interpersonal Adjective Scales (Wiggins, 1994). Eight 8-item scales are scored from these adjectives; each scale represents a different octant of the interpersonal circumplex (Wiggins, 1979). These eight scales are combined to yield two orthogonal factor scores, labeled *Dominance* (DOM) and *Love* (LOV), which may be interpreted as variants of the Big Five factors of Extraversion and Agreeableness, respectively. DOM and LOV differ 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 slightly colder version of Extraversion and LOV as a slightly bolder 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 short form of the NEO Personality Inventory (Costa & McCrae, 1985). Reliability and validity evidence for the FFI is impressive (Costa & McCrae, 1992). In Sample E, the Big Five instrument was the Revised NEO Personality Inventory (NEO-PIR; Costa & McCrae, 1992). The NEO-PIR is a 240-item personality questionnaire designed to measure the FFM by means of six brief (8-item) scales, each representing a content distinction or facet thought to be basic or fundamental for a particular Big Five dimension (e.g., the assertiveness facet of Extraversion).

Results and Discussion

Scores on the Social Anxiety, PbSC, and PrSC scales, and the SR and ISA subscales, were each regressed on the various measures of the FFM. Results of those regressions are provided in Table 2. Social Anxiety demonstrated strong positive associations with Neuroticism and strong negative associations with Extraversion. Like the closely related constructs of shy-

ness (e.g., Cheek & Briggs, 1988) and social reticence (e.g., D. Watson & Friend, 1969), Social Anxiety clearly represents a strongly disaffiliative form of Neuroticism (Briggs, 1988; Paulhus & Trapnell, 1998).

The PbSC scale showed a strong positive relation to Neuroticism and a very weak but positive association with Extraversion. In contrast to social anxiety, PbSC represents a mildly affiliative form of Neuroticism. This partly explains why Social Anxiety and PbSC are factorially distinct: Despite sharing strong associations with Neuroticism, Social Anxiety and PbSC relate oppositely to a broad, factorially powerful dimension of trait description, Extraversion.

Turning to the PrSC scale, the regressions indicate that PrSC scores are moderately but equally associated with two unrelated personality domains: Neuroticism and Openness to Experience. A representative sample of high PrSC scorers will tend to include two different sorts of individuals: those inclined to neurotically ruminate about themselves, and those inclined to philosophical curiosity (in addition, of course, to a third group of Woody Allenesque individuals who both ruminate and philosophize, or philosophically ruminate).

The bottom half of Table 2 also shows important differences between the SR and ISA subscales of the PrSC. SR and ISA are both associated with Openness, but they differ in that SR alone is related to Neuroticism and ISA to Conscientiousness. These differences provide an explanation for why the PrSC items reliably cleave into two factors. That ISA and SR items covary enough to define a common factor may be attributed to their shared association with Openness to Experience.

The substantial secondary relation of ISA and Conscientiousness was not anticipated and merits brief comment. In their factor analytic effort to articulate content distinctions within the broad affective domain of Positive Affectivity, D. Watson and Clark (1992) found "attentiveness" to be a replicable facet of Positive Affectivity. They also reported strong positive associations between Conscientiousness and attentiveness in adjectival data. Attentiveness was defined by self-ratings on four adjectives: *attentive*, *alert*, *concentrating*, and *determined*. In light of this, consider the four items that define the ISA factor of the PrSC: "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"; "Generally, I'm not very *aware* of myself" (italics added). The trait words *alert* and *attentive* (and possibly *aware*) apparently connote conscientious deployment of attention. The robust association between ISA and Conscientiousness shown in Table 2 (see also Realo & Allik, 1998) may be of some theoretical significance. Self-awareness arising directly from personality differences in self-control may obviously be of some relevance to self-regulation theory. Rather than pursue here the potentially rich issue of Conscientiousness and self-attention, we focus on what we believe to be the more theoretically important outcome of this study: the dual association of PrSC with Neuroticism and Openness to Experience and the potential of that duality to explain the self-absorption paradox implicit in PrSC research findings. In the subsequent studies reported here, we consider a reconceptualization of the PrSC construct derived from an explicit consideration of these two Big Five dimensions.

Table 2
Multiple Regression of the Self-Consciousness Scales (Public, Private, and Social Anxiety) and the ISA and SR Factors of the Private Self-Consciousness Scale (PrSC) on Markers of the Big-Five Personality Factors

Factor	Big Five instrument		
	IASR-B5, ^a Sample A (N = 555)	NEO-FFI, Sample B + C + D (N = 1,721)	NEO-PIR, Sample E (N = 427)
Criterion = Social Anxiety			
Extraversion	-.57***	-.38***	-.46***
Agreeableness	-.14***	.09***	.17***
Conscientiousness	.02	-.03	.05
Neuroticism	.27***	.35***	.37***
Openness to Experience	-.02	-.12***	-.06
R	.73	.61	.67
Criterion = public Self-Consciousness Scale			
Extraversion	.03	.22***	.18***
Agreeableness	-.01	-.03	.00
Conscientiousness	.06	.08***	.07
Neuroticism	.41***	.48***	.51***
Openness to Experience	-.11	-.03	-.09
R	.41	.44	.47
Criterion = PrSC			
Extraversion	.04	.05	-.05
Agreeableness	-.17***	-.07***	.04
Conscientiousness	.16***	.08***	.16***
Neuroticism	.39***	.29***	.28***
Openness to Experience	.48***	.33***	.36***
R	.62	.43	.46
Criterion = SR factor of PrSC			
Extraversion	.01	.03	-.05
Agreeableness	-.22***	-.11***	.01
Conscientiousness	.04	-.02	.03
Neuroticism	.48***	.37***	.41***
Openness to Experience	.39***	.27***	.29***
R	.64	.48	.52
Criterion = ISA factor of PrSC			
Extraversion	.07	.07***	-.02
Agreeableness	.00	.05	.04
Conscientiousness	.27***	.21***	.23***
Neuroticism	.04	-.01	.01
Openness to Experience	.39***	.27***	.29***
R	.48	.38	.38

Note. Table values are standardized regression coefficients (betas). Big Five factors having beta weights with a magnitude > .20 across all samples are presented in boldface type. ISA = Internal State Awareness factor of PrSC; SR = Self-Reflection factor of PrSC; IASR-B5 = Revised Interpersonal Adjective Scales; NEO-FFI = NEO Five-Factor Inventory; NEO-PIR = Revised NEO Personality Inventory.

^a Extraversion and Agreeableness were represented by IASR-B5 Dominance and Love factor scores, respectively.

*** $p < .001$.

Study 3

Neurotic and intellective forms of PrSC may both be construed as self-regulatory tendencies sharing the important characteristic of directing attention toward one's thoughts and feelings. The psychological motives, values, goals, and intentions that accompany each of these equally "private" traits are sufficiently different, however, that their self-regulatory effects are likely to be distinct. Neurotic self-consciousness may chiefly involve compul-

sive attending to perceived threats, losses, and injustices to the self. Epistemic self-consciousness may chiefly involve playful exploring of novel, unique, or alternative self-perceptions. The cognitive-affective processes attending these two self-regulatory functions—that is, safety versus exploration—are likely to differ in theoretically important ways (cf. Maslow, 1955). The broad psychological differences that warrant separate Neuroticism and Openness factors within the FFM provide a reasonable basis for

specifying and separately measuring neurotic and intellectual variants of PrSC. The preliminary purpose of Study 3, therefore, was to construct efficient, reliable markers of neurotic and intellectual self-consciousness, dispositions we henceforth refer to as *rumination* and *reflection*, respectively.

Note that the rumination–reflection distinction being proposed here is clearly not equivalent to the SR–ISA distinction among PrSC items. The SR items do not differentiate neurotic from intellectual self-consciousness, a distinction we have argued is fundamental. The ISA items do not differentiate intellectual from conscientious self-consciousness, a distinction the FFM suggests may be nontrivial. Note also that in advancing our own two-factor perspective on private self-attentiveness, we do not take issue with the psychometric integrity of the PrSC. There is ample common variance among SR and ISA items to justify scoring and interpreting the PrSC total score (with the caveat that substantive differences between SR and ISA may often require evaluation of their separate effects). Psychological interpretation of PrSC correlations and effects depends, however, on the motive (e.g., neurotic or intellectual) directing attention toward the private self. That knowledge cannot be inferred from the PrSC total score, or from the SR and ISA subscale scores, because all three confound divergent motives for looking inward.

The primary goal of Study 3 was to evaluate whether the reflection–rumination distinction provides a useful conceptual framework for interpreting the self-absorption paradox. Study 2 suggests that the PrSC scale items confound reflection with rumination, motivationally distinct tendencies that may be differentially responsible for the two classes of PrSC effects defining the paradox.

The FFM profile of the PrSC demonstrated here and elsewhere (e.g., McCrae, 1993) implies that the PrSC's dispositional correlates will be those traits associated with either the Neuroticism or Openness dimensions. Although a comprehensive review of published correlates of the PrSC is beyond the scope of this article, we briefly note that the PrSC scale typically shows little or no association with Extraversion (McCrae, 1993); traits closely associated with Extraversion, such as sociability and activity level (Carver & Glass, 1976); traits related to Conscientiousness, such as impulsivity (Carver & Glass, 1976), ego strength, and self-control (Davies, 1982); Agreeableness (McCrae, 1993); and traits closely associated with that domain, such as forthrightness and trust (Davies, 1982).

Significant positive correlations with PrSC are routinely reported, however, for traits associated with Neuroticism and Openness. Neuroticism-related correlates include the core Neuroticism facets of anxiety (e.g., Flett & Blankstein, 1987; Hope & Heimberg, 1988; Matthews & Wells, 1988; Wells, 1991) and depression (Ingram, 1989; Ingram & Smith, 1984; Larson & Cowan, 1988; T. W. Smith & Greenberg, 1981) and other traits associated with Neuroticism, such as fear of negative evaluation (Monfries & Kafer, 1994).

The PrSC scale also demonstrates positive correlations with a remarkably broad range of traits linked to Openness to Experience. These include traits with an obvious theoretical relevance to PrSC, such as thoughtfulness (Turner, Scheier, Carver, & Ickes, 1978), imaginativeness (Davies, 1982), and need for cognition (Reeves, Watson, Ramsey, & Morris, 1995), and traits whose relation to PrSC is less theoretically obvious, including personal identity (Cheek & Briggs, 1982), need for uniqueness (Schlenker & Weigold, 1990), radicalism (Davies, 1982), artistic occupational

interests (Carson & Mowesian, 1993), and paranormal beliefs (Davies, 1985).

In Study 3 we tested the hypothesis that scores on the rumination and reflection scales would differentially explain a very broad range of PrSC correlates. We evaluated this hypothesis by examining the effects of partialing rumination and reflection scores from PrSC's correlations with a broad range of traits relevant to Neuroticism and Openness. We also reexamined a reported association between PrSC and self–other similarity judgments. Srull and Gaelick (1983) reported that PrSC scores moderated a predicted asymmetry effect in self–other similarity judgments. On the basis of theoretical models of similarity asymmetry phenomena (e.g., Tversky, 1977), Srull and Gaelick interpreted that moderation as evidence that PrSC enhances awareness of unique features of the self; that is, that it enhances self-knowledge. We hypothesized that this PrSC effect on self–other similarity judgments stems from PrSC's overlap with the epistemic trait of reflection rather than to private self-attending per se.

Method

Participants and Measures

Data were provided by Samples A through E, described above, and one additional sample, Sample F ($N = 965$), which was demographically similar to the others but with a slightly greater proportion of Chinese ancestry participants (approximately 40%). Because the majority of the latter were relatively recent immigrants who spoke English as a second language, and because several correlations of interest significantly differed in magnitude between the Chinese and European ancestry participants in this sample (e.g., reflection with paranormal beliefs), we report Sample F findings only for the European ancestry participants who spoke English as their first language ($N = 551$). We constructed two scales for this study to distinguish the private self-attentive aspects of Neuroticism (rumination) and Openness to Experience (reflection). Development of these scales is detailed below. In addition to the Big Five inventories and the SCS, described in Study 2, participants completed measures of various traits relevant to the PrSC research literature. Because all of these 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, the measures are simply listed below with citations to these sources.

Measures relevant to Neuroticism included the short form of the Taylor Manifest Anxiety scale (Bendig, 1956), the short form of Byrne's (1961) Repression–Sensitization scale (Paulhus & Levitt, 1983), the Rosenberg Self-Esteem Scale (Rosenberg, 1965), the Negative Affectivity scale of the Positive and Negative Affect Schedule (PANAS; D. Watson, Clark, & Tellegen, 1988), the Beck Depression Inventory (Beck, 1967), and the Brief Symptom Index (Derogatis, 1975). Measures relevant to Openness to Experience included the short form of the Need for Cognition Scale (Cacioppo, Petty, & Kao, 1984), the Need for Self-Knowledge Scale (Franzoi et al., 1990), the Personal Identity subscale of the Aspects of Identity Scale (Cheek, 1989), the Right-Wing Authoritarianism Scale (Altemeyer, 1981), and ad hoc short forms of two additional scales: the Multidimensional Personality Questionnaire Absorption scale (Tellegen, 1994) and the Personality Research Form Sentience scale (Jackson, 1984). To accommodate administrative constraints, we omitted one third of the Sentience scale items and half of the Absorption scale items.⁴ Sample F

⁴ Exclusion criteria were item length and low face validity. In the context of the large number of other scales examined, bias in the results for these two scales as a result of item selection unwittingly favoring the hypothesis was not considered consequential.

included a paranormal beliefs scale constructed by Paul D. Trapnell for this sample for other research purposes. Its inclusion permitted re-evaluation of Davies's (1985) finding that paranormal belief is positively related to PrSC. Cronbach's alpha estimate of reliability for the 10-item paranormal belief scale was .88 for the Sample F participants of European ancestry ($N = 551$). Typical of the paranormal belief scale content are the items "Certain gifted psychics do possess extraordinary, unusual powers" and "I believe certain people do have real memories of a past life lived before this one," which loaded most highly (.77 and .75, respectively) on the first unrotated principal component underlying the 10 paranormal item inter-correlations in this sample.⁵

A random subset ($n = 220$) of participants in Sample A, and all Sample F participants, also completed a self-other similarity rating. In Sample A the rating was done first, before the personality and attitude measures. In Sample F the rating was administered last, after the other measures. Randomly selected halves of these samples received one of two wordings of the similarity rating question. One half was asked "In general, how similar are you to others?"; the other half was asked "In general, how similar are others to you"? In Sample A, responses were made on a 7-point scale, ranging from 6 (*extremely similar*) to 0 (*not at all similar*). Responses in Sample F were made on a 5-point scale, ranging from 1 (*very similar*) to 5 (*not at all similar*). To simplify presentation of these data, we reverse scored Sample F ratings.

Procedure

To operationalize the traits of rumination and reflection, we developed brief questionnaire measures of each construct by means of conventional construct-oriented methods (construct definition, rational item generation, empirical checks on scale homogeneity, factor structure, and convergent and discriminant associations with other traits). We inferred a preliminary conception of dispositional self-attentiveness associated with Neuroticism (rumination) from the research literature on the metacognitive and self-evaluative implications of negative affectivity or Neuroticism, in particular its core traits of anxiety and depression (e.g., Costa & McCrae, 1980). Anxiety states and traits are associated with worry (Borkovec, Shadick, & Hopkins, 1990); hypervigilant attention to threat cues (Mathews, 1990); and chronic, intrusive thoughts (Rachman & Hodgson, 1980). Depression is associated with attentional biases favoring negative self-information (e.g., Greenberg & Pyszczynski, 1986), cognitive undoing following negative life events (e.g., Horowitz, 1976), and ruminative tendencies (e.g., Nolen-Hoeksema, 1991; Nolen-Hoeksema, Morrow, & Fredrickson, 1993). These considerations together suggest a general, neurotic category of self-attentiveness defined as recurrent thinking or ruminations about the self prompted by threats, losses, or injustices to the self (i.e., self-related recurrent thought associated with anxiety, depression, and anger, respectively). We view this form of chronic self-focus as primarily past oriented, in contrast to the closely related construct "worry," which tends to be future oriented (for a detailed theoretical discussion of recurrent thought in general, see Wyer, 1996). Our conception of rumination would correspond to what Martin and Tesser (1996) referred to as "working through, and regret" (p. 9) or to what Gohm, Isbell, and Wyer (1997) referred to as "negative thinking about the past" (p. 87), but it has a narrower focus in that it refers specifically to the chronic self-attention accompanying these thoughts.

We wrote 15 preliminary questionnaire items to operationalize this conception of ruminative self-focus. We sought to ensure that each item conveyed a suitably negative tone while still connoting a primarily attentional tendency rather than an affective one. To accomplish this, we exploited the implicit undesirability of ruminative frequency. Thus, the majority of items contain explicitly or implicitly negative references to duration or frequency (e.g., *long time afterward, often, always, great deal of time*).⁶

A preliminary conception of dispositional self-attentiveness associated with positive epistemic motives, reflection, was inferred from the literature specifying the cognitive and motivational characteristics of Openness to

Experience (see especially Costa & McCrae, 1985; McCrae, 1993–1994, 1994, 1996b; McCrae & Costa, 1997a; Trapnell & Wiggins, 1990). Two considerations were particularly influential. The first was the close empirical association of curiosity with Openness to Experience. 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), and Openness is correlated with trait curiosity (e.g., Costa & McCrae, 1987), especially epistemic variants such as Murray's (1938) "need for understanding" (e.g., Costa & McCrae, 1988). These associations were influential in that they allow a basis for inferring a fundamental motivational distinction underlying the proposed two forms of self-attention: anxiety/fear versus curiosity/exploration (for reviews of this distinction see Russell, 1973; Spielberger, Peters, & Frain, 1981).

A second consideration was the consistently high loadings of trait descriptors referring to philosophical reflectiveness on the Openness factor. For example, when Trapnell and Wiggins (1990) evaluated candidate items for an adjectival measure of Openness, adjectives associated with philosophical reflectiveness (e.g., *philosophical, reflective, contemplative, meditative, introspective*) were found to have the strongest and most general relations with seven preliminary content facets of Openness. A scale consisting of these and similar adjectives was the highest loading scale on Goldberg's (1990) Intellect factor. These five adjectives are also among those most highly correlated with the self-focus exemplar *self-examining* in Study 1 (see Table 1). Finally, note that a close connection between self-attention and proclivity for abstract thinking has long been assumed in multivariate trait psychology. In the 1930s, J. P. Guilford identified a personality dimension unrelated to social introversion he first labeled "Interest in the *Self*" (italics added) and subsequently relabeled "Thoughtfulness" (see Guilford, 1975). This factor is conceptually and empirically closely related to Openness to Experience (McCrae, 1993–1994; 1994).

These considerations together suggested a general, intellectual category of self-attentiveness defined as reflections on the self motivated not by distress about the self but by epistemic curiosity, that is, pleasurable, intrinsic interest in abstract or philosophical thinking. We wrote 13 preliminary items to measure this intellectual category of self-attentiveness. Most items were constructed by the simple method of translating adjective markers of reflectiveness (e.g., philosophical) into statements worded so as to ensure that each statement connoted positive, epistemic motivations (e.g., "I love exploring my inner self," [italics added]).

The items were assembled in a preliminary 28-item questionnaire called the Rumination-Reflection Questionnaire (RRQ), with rumination items on the first page and reflection items on the second.⁷ Instructions 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." Responses were given on a 5-point scale with the points *strongly disagree* (1), *disagree* (2), *neutral* (3), *agree* (4), and *strongly agree* (5). Analyses based on the first 129 participants of Sample A led us to drop 3 rumination items and 1 reflection item and to reword 2 rumination items and 1 reflection item. The remaining participants in Sample A completed the revised version of the RRQ.⁸

⁵ A fuller description of the item content and descriptive statistics of this scale are available on request from Paul D. Trapnell.

⁶ Dickman's (1990) operational distinction between negative and positive forms of impulsivity appear to involve a similar item wording strategy for negative impulsivity.

⁷ For arguments and data defending this "transparent" strategy of item ordering in the questionnaire, see Goldberg (1992).

⁸ We combined data across the two versions in subsequent analyses involving Sample A, because the means and standard deviations of the preliminary and revised versions were comparable and because internal consistency of the preliminary version was good.

Results and Discussion

The RRQ

Table 3 presents factor loadings and summary item statistics. As expected, the rumination and reflection items loaded highly and uniquely on their corresponding factors. The correlation between the rumination and reflection factors was minimal ($r = .22$, direct oblimin rotation), less than that typically obtained between PrSC and PbSC (e.g., across the 17 samples reviewed by Wicklund & Gollwitzer, 1987, the median correlation between PrSC and PbSC scale scores was .42). Rumination and reflection appear to be essentially independent tendencies. Table 4 presents descriptive statistics and estimates of internal consistency for the RRQ scales. Alpha estimates of reliability exceeded .90, and the mean interitem correlation (r_{ii}) exceeded .40 for both scales. Neither scale mean differed significantly between women and men (both $ts < 1$).

Relations Between the RRQ and the SCS

Table 5 gives the correlations between the RRQ and SCS measures. As expected, Reflection and Rumination both correlated substantially with PrSC (mean $rs = .59$ and $.43$, respectively) but showed a divergent pattern of association with SR and ISA. SR

correlated substantially and equivalently with reflection and rumination (mean $rs = .53$ and $.53$, respectively), whereas ISA correlated moderately with reflection (mean $r = .39$) but not with rumination (mean $r = .05$). Their divergent associations with rumination imply that SR and ISA are psychologically as well as psychometrically distinct (cf. Bissonette & Bernstein, 1990). SR items appear to involve connotations of rumination (e.g., "I'm *constantly* examining my motives"; "I'm *always* trying to figure myself out"; "I reflect about myself *a lot*" [italics added]), whereas ISA items apparently do not (e.g., "I'm generally attentive to my inner feelings"). These differences in ruminative connotations may provide a sufficient explanation for the differential relation of SR and ISA items with Rumination and the reliable identification of two PrSC factors.

The fact that SR and ISA both demonstrate substantial associations with reflection introduces the possibility that reflection may fully account for the general component of PrSC item intercorrelations. If so, this would imply that the psychometric core of the PrSC is, in fact, reflection. Shared variance between SR and ISA provides a convenient operationalization of this common variance (the variance not specific to the SR or ISA factors—from a factor analytic perspective, the construct of PrSC represents the higher order factor defined by common SR and ISA variance; residual

Table 3
Factor Structure and Descriptive Statistics of Rumination-Reflection Questionnaire (RRQ) Items

RRQ item	Factor loadings ^a		Sample statistics ^b	
	I	II	M	SD
Reflection				
15. I love exploring my "inner" self.	.81	-.04	3.10	1.06
23. I often love to look at my life in philosophical ways.	.79	.01	2.84	1.11
22. I love to meditate on the nature and meaning of things.	.76	-.06	3.14	1.14
17. I don't really care for introspective or self-reflective thinking. (-)	.75	.00	3.51	0.96
16. My attitudes and feelings about things fascinate me.	.72	-.03	3.20	1.00
18. I love analyzing why I do things.	.71	.11	2.98	1.09
20. I don't care much for self-analysis. (-)	.71	.06	3.46	0.99
14. I'm not really a meditative type of person. (-)	.70	-.05	3.14	1.14
13. Philosophical or abstract thinking doesn't appeal to me that much. (-)	.69	.09	3.42	1.17
24. Contemplating myself isn't my idea of fun. (-)	.69	-.01	2.82	1.04
19. People often say I'm a "deep," introspective type of person.	.67	.03	2.75	1.10
21. I'm very self-inquisitive by nature.	.59	.11	3.34	0.93
Rumination				
5. I tend to "ruminate" or dwell over things that happen to me for a really long time afterward.	-.03	.80	3.43	1.09
7. Often I'm playing back over in my mind how I acted in a past situation.	-.03	.78	3.72	0.90
2. I always seem to be rehashing in my mind recent things I've said or done.	-.02	.77	3.62	1.04
4. Long after an argument or disagreement is over with, my thoughts keep going back to what happened.	-.05	.71	3.84	1.02
6. I don't waste time rethinking things that are over and done with. (-)	-.02	.71	3.66	0.94
8. I often find myself reevaluating something I've done.	.03	.70	3.74	0.88
11. I often reflect on episodes in my life that I should no longer concern myself with.	.00	.70	3.29	1.03
12. I spend a great deal of time thinking back over my embarrassing or disappointing moments.	.10	.69	3.10	1.15
9. I never ruminate or dwell on myself for very long. (-)	.10	.65	3.32	1.00
10. It is easy for me to put unwanted thoughts out of my mind. (-)	-.06	.61	3.50	1.03
3. Sometimes it is hard for me to shut off thoughts about myself.	.17	.59	3.18	1.10
1. My attention is often focused on aspects of myself I wish I'd stop thinking about.	.10	.58	3.12	1.10

Note. Based on Samples D and E combined, $N = 1,137$. Reverse-scored items are indicated by (-). Factor loadings greater than |.25| are shown in boldface type.

^a Principal-components extraction, oblique rotation by means of direct oblimin method. ^b Means for reverse-scored items are means following reverse scoring; item response options were *strongly disagree* (1), *disagree* (2), *neutral* (3), *agree* (4), and *strongly agree* (5).

Table 4
Psychometric Characteristics of Rumination–Reflection Questionnaire Scales

Scale	Coefficient alpha	Combined sample (<i>N</i> = 1,137)			Women (<i>n</i> = 687)		Men (<i>n</i> = 447)	
		\bar{r}_{ii}	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Reflection	.91	.48	3.14	0.76	3.17	0.76	3.09	0.76
Rumination	.90	.43	3.46	0.71	3.48	0.71	3.42	0.71

Note. Tabled values are based on Samples D and E combined. Total sample includes cases with missing gender information. Scale means are expressed as mean item responses, on the basis of a five-place response format. \bar{r}_{ii} = mean interitem correlation.

variance specific to SR and ISA defines those constructs but does not define PrSC). We evaluated whether reflection explains covariation between SR and ISA by comparing the zero-order correlation between the ISA and SR with their partial correlations, controlling for RRQ reflection. Results of this analysis are presented in Table 6. In light of the large sample sizes here, one can confidently conclude that SR and ISA are associated with each other because of their common relation to reflection. Taken together, the findings reported in Tables 5 and 6 suggest (a) that the psychometric core of PrSC is redundant to reflection and (b) that PrSC total scores confound reflection variance with a second source of variance, neurotic rumination, that is specific to the larger SR factor.

Note, again, that these conclusions do not imply correspondence of SR with rumination and ISA with reflection. SR and ISA are both substantially correlated with reflection. We interpret SR as a blend of reflection and rumination and ISA as a blend of reflection and something else (e.g., conscientious self-consciousness, or alertness). SR and ISA have complex associations with rumination and reflection and do not clearly correspond to either.

Table 5
Correlation of Private Self-Consciousness (PrSC) and PrSC Factors SR and ISA with Rumination and Reflection

Sample	<i>N</i>	PrSC	PrSC factor	
			ISA	SR
RRQ rumination				
A	555	.44	.02	.53
B	570	.47	.07	.57
C	441	.44	.10	.51
D	710	.41	.02	.53
E	427	.36	.02	.53
<i>M</i>		.43	.05	.53
RRQ reflection				
A	555	.53	.31	.48
B	570	.62	.43	.56
C	441	.63	.46	.54
D	710	.56	.32	.52
E	427	.60	.42	.54
<i>M</i>		.59	.39	.53

Note. Tabled correlations greater than .08 are significantly different from zero at $p < .05$. SR = Self-Reflection; ISA = Internal State Awareness; RRQ = Rumination–Reflection Questionnaire.

Relations Among Rumination, Reflection, and the FFM

The RRQ scales were designed explicitly to distinguish anxious from inquisitive self-focus. We therefore anticipated a high, positive association between the rumination scale and markers of Neuroticism, and a high, positive association between the reflection scale and markers of Openness to Experience. We expected all other Big Five associations for the RRQ scales to be near zero. In all samples (A–F) this was essentially the case. For the rumination scale, convergent correlations with Neuroticism ranged from .57 to .64, and the largest divergent Big Five correlation was with Extraversion (–.15, Sample A). For the reflection scale, convergent correlations with Openness to Experience ranged from .61 to .68, and the largest divergent Big Five correlation was with Neuroticism (.15, Sample D). This pattern of association with the Big Five supports our conception of rumination and reflection as the self-attentive aspects of Neuroticism and Openness to Experience, respectively.⁹

PrSC Correlates

In Table 7 we provide a comprehensive set of dispositional correlates of PrSC grouped according to the Big Five factor they are most associated with: Neuroticism or Openness to Experience. For each criterion measure, the table displays zero-order correlations with the RRQ and PrSC scales, and partial correlations with the PrSC scale controlling for the RRQ scales. Four general

⁹ Additional component and regression analyses in Sample E ($n = 427$) also supported this conclusion. In a conjoint principal-component analysis, with varimax rotation, of NEO facets and all of the self-attention measures (reflection, rumination, SR, ISA, PbSC, and Social Anxiety), reflection obtained the highest absolute loading (.81) of the eight variables defining an Openness factor, and rumination obtained the third-highest absolute loading (.76) of the 10 variables defining a Neuroticism factor. In contrast to SR, ISA, PbSC, and Social Anxiety, neither rumination nor reflection had any meaningful loading (e.g., $> .20$) on a second Big Five factor (factor loading matrices from this analysis are available on request). In follow-up analyses, reflection scores were regressed onto the six NEO Openness facets, and rumination scores were regressed onto the six NEO Neuroticism facets. Significant beta weights on reflection included ideas (.40), feelings (.33), and aesthetics (.17). Significant beta weights on rumination included self-consciousness (.25), depression (.21), and anxiety (.20). These findings suggest that reflection and rumination, despite their narrow conceptual bandwidth, possess very general relations to Openness and Neuroticism, respectively.

Table 6
Correlation Between SR and ISA Factors of PrSC as a Function of Rumination and Reflection

Sample	N	Correlation between PrSC factors	Correlation between PrSC factors 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
M		.25	.27	.06

Note. Tabled correlations greater than .08 are significantly different from zero at $p < .05$. SR = Self-Reflection; ISA = Internal State Awareness; PrSC = Private Self-Consciousness Scale; Rum = rumination; Ref = reflection.

conclusions may be drawn from these findings. First, the PrSC scale is significantly correlated with every Neuroticism-related measure shown in this table, and every Openness-related measure, with the exception of Openness to Values and Openness to Actions, the NEO Openness facets that typically have the weakest association with the NEO Openness factor (e.g., Costa, McCrae, & Dye, 1991). PrSC correlates appear to be quite predictable according to their FFM status: Individual differences related to either the Neuroticism or Openness to Experience domains will—in general—tend to be associated with PrSC.

Second, in every instance rumination and reflection demonstrated stronger associations with the trait in question than did the PrSC. This implies that PrSC correlates with all of these traits because its items indirectly capture elements of rumination and reflection, constructs that have a more direct, distinct relation to these traits.

Third, rumination and reflection explained PrSC associations with all of these traits differentially (compare the two rightmost columns of Table 7). This could be due, in part, to a “Big Five” bias in the sampling of PrSC correlates for this study. If these criteria are, however, fairly representative of the PrSC research literature, the findings suggest that reflection and rumination will differentially explain most, if not all, associations between PrSC and other traits. The widely discussed association of PrSC with indexes of psychological distress (e.g., the Beck Depression Inventory) would appear to be an artifact of ruminative variance specific to the SR items. Partialing out rumination eliminated all of PrSC’s covariation with measures of psychological distress. Partialing out reflection, on the other hand, left these correlations unchanged or increased them (in the upper half of Table 7, compare values in Column 3 with the corresponding values in Column 7). Although chronic self-focused attention may indeed amplify the experience of emotions, including negative emotions (e.g., Nolen-Hoeksema, McBride, & Larson, 1997; Scheier & Carver, 1977), PrSC correlations with negative affect and psychopathology may have nothing to do with this process.

Results presented in the bottom half of Table 7 indicate that PrSC relations with cognitive traits and sociopolitical attitudes are due to PrSC overlap with reflection. Need for cognition, openness

to ideas, absorption, sentience, right-wing authoritarianism, and paranormal beliefs correlated more highly with RRQ reflection than with PrSC, and in most cases all of the PrSC’s covariation with these Factor V traits was accounted for by reflection. Indeed, openness to ideas and openness to actions demonstrated significant reversals in association with PrSC after reflection variance was controlled. The exceptions involved either inconsistent findings (e.g., personal identity), joint association with rumination and reflection (e.g., openness to feelings), or a relatively small sample size (e.g., need for self-knowledge and absorption).

Fourth, in both samples (A and F) PrSC associations with self-other similarity judgments were not attributable to private self-attentiveness per se but instead to the PrSC’s reflection variance. As was the case with all of the other correlates of PrSC presented in the bottom half of Table 7, perceptions of self-other similarity correlated more highly with reflection than with PrSC, and partialing out reflection eliminated the PrSC associations. Srull and Gaelick (1983) attributed those associations to cognitive consequences of self-focus, that is, heightened awareness of unique self-aspects. Note that chronic ruminative self-focus does not show any consistent association with self-other similarity judgments. Perhaps ruminative self-focus does not lead to heightened awareness of unique self-aspects. The results here introduce one alternative possibility: Greater perceived self-other dissimilarity with higher levels of PrSC may be due, in part, to openness-related motives to view oneself as unique (Schlenker & Weigold, 1990). Motives to be different (see Snyder & Fromkin, 1980) are historically associated with artists and other social and intellectual “rebels” within a given culture, that is, those most prototypically open to experience (McCrae, 1994; Sulloway, 1996). Given the strength and generality of associations between reflection and Openness-related dispositions (Table 7), one might anticipate a relatively high “need for uniqueness” among highly reflective persons.¹⁰

Taken together, the results reported in Table 7 offer a straightforward account of the self-absorption paradox implicit in PrSC research findings. PrSC may not engender self-knowledge and psychological distress by means of a unitary private self-attentional process such as heightened awareness of private thoughts and feelings (Buss, 1980); instead, PrSC self-knowledge effects may stem from epistemic processes related to the Openness-related trait of reflection. In contrast to the predictions of self-awareness and self-regulation theories (Buss, 1980; Carver & Scheier, 1981a; Duval & Wicklund, 1972), the results of Study 3 imply that PrSC self-knowledge effects may be statistically and functionally independent of their association with negative affect. PrSC associations with negative affect and psychological distress may stem from the dysfunctional cognitive processes implied by the Neuroticism-related construct of rumination: uncontrollable problem “scanning” and analysis that is unproductively repetitive (see Wyer, 1996).

¹⁰ Although these correlational findings support our conjecture that reflection explains PrSC’s association with self-other similarity judgments, in both samples we failed to replicate the previously reported interaction between PrSC and the asymmetry effect (Srull & Gaelick, 1983). Additionally, self-other similarity ratings in Sample A were significantly higher in the others-to-self condition than in the self-to-others condition, a finding that constitutes a reversal of the usual self-other asymmetry effect. Failure to replicate the previously reported PrSC interaction with the asymmetry effect may stem from procedural differences between our studies and Srull and Gaelick’s (1983) study.

Table 7
PrSC Correlates as a Function of Rumination and Reflection

PrSC Correlate	Sample	N	Zero-order correlation			PrSC controlling for	
			Rum	Ref	PrSC	Rum	Ref
Neuroticism-related							
IASR-B5 Neuroticism	A	555	.60*	.14*	.32*	.06	.32*
NEO-FFI Neuroticism	D	710	.64*	.15*	.27*	.00	.27*
NEO-PIR Neuroticism	E	427	.63*	.14*	.25*	.03	.21*
NEO-PIR Neuroticism: Anxiety	E	427	.56*	.18*	.30*	.10	.26*
NEO-PIR Neuroticism: Depression	E	427	.58*	.14*	.28*	.09	.29*
NEO-PIR Neuroticism: Vulnerability	E	427	.50*	.03	.16*	-.04	.22*
NEO-PIR Neuroticism: Self-consciousness	E	427	.58*	.05	.25*	.02	.32*
NEO-PIR Neuroticism: Hostility	E	427	.37*	.08	.19*	.08	.22*
NEO-PIR Neuroticism: Impulsiveness	E	427	.22*	.11	.19*	.10	.15*
Taylor Manifest Anxiety (s)	C	441	.59*	.07	.23*	.03	.24*
Byrne Repression-Sensitization (s)	C	441	.57*	.04	.24*	-.02	.27*
PANAS Negative affect	D	710	.46*	.16	.14*	.03	.15*
PANAS Negative affect	C	441	.43*	.08	.26*	.09	.26*
PANAS Negative affect	B	570	.40*	.05	.13*	-.04	.12*
Beck Depression Inventory (s)	C	441	.38*	.04	.21*	.06	.22*
Beck Depression Inventory (s)	B	570	.36*	.08	.16*	.01	.13*
Derogatis Brief Symptom Index	A	555	.43*	.10	.29*	.11	.29*
Openness-related							
IASR-B5 Openness	A	555	.10	.64*	.43*	.46*	.03
NEO-FFI Openness	D	710	.05	.61*	.34*	.37*	.01
NEO-PIR Openness	E	427	.09	.63*	.37*	.37*	-.01
NEO-PIR Openness to Ideas	E	427	.02	.54*	.25*	.27*	-.14*
NEO-PIR Openness to Feelings	E	427	.24*	.54*	.50*	.46*	.24*
NEO-PIR Openness to Fantasy	E	427	.22*	.40*	.29*	.24*	.07
NEO-PIR Openness to Aesthetics	E	427	.08	.54*	.26*	.26*	-.11
NEO-PIR Openness to Actions	E	427	-.18*	.27*	.05	.15*	-.17*
NEO-PIR Openness to Values	E	427	-.13	.16*	.06	.14*	-.04
Need for cognition (s)	A	177 ^a	.01	.50*	.33*	.37*	.02
Need for cognition (s)	C	441	-.14	.48*	.22*	.31*	-.12
Need for self-knowledge	A	242 ^a	.10	.63*	.51*	.49*	.17*
Absorption (s)	A	242 ^a	.15	.50*	.46*	.43*	.18*
PRF Sentence (s)	E	427	.04	.42*	.31*	.32*	.07
Personal identity	A	242 ^a	-.02	.42*	.30*	.33*	.05
Personal identity	D	710	.08	.39*	.35*	.35*	.17*
Right-wing authoritarianism	E	427	.06	-.29*	-.15*	-.18*	.03
Paranormal beliefs	F	551 ^b	.04	.35*	.24*	.23*	.00
"How similar are you to others?"	A	109 ^a	-.25*	-.18*	-.13	-.03	.02
"How similar are you to others?"	F	268 ^b	-.04	-.22*	-.17*	-.17*	-.03
"How similar are others to you?"	A	111 ^a	.03	-.41*	-.23*	-.30*	-.01
"How similar are others to you?"	F	265 ^b	-.09	-.32*	-.13*	-.10	.10

Note. Short form or abbreviated version of a scale is indicated by (s). PrSC = Private Self-Consciousness Scale; Rum = rumination; Ref = reflection; IASR-B5 = Revised Interpersonal Adjective Scales; NEO-FFI = NEO Five-Factor Inventory; NEO-PIR = Revised NEO Personality Inventory; PANAS = Positive and Negative Affect Schedule; PRF = Personality Research Form.

^a Subsample of Sample A. ^b Participants of European ancestry.

* Experiment-wise $p < .05$ ($p < .05/28$ criterion scales, pairwise $p < .002$).

Study 4

In Study 4 we evaluated the distinction between rumination and reflection self-focus in the context of a suggestion by Franzoi et al. (1990), who argued that PrSC scores reflect a motivational as well as an attentional tendency. In support of this claim, they showed that higher PrSC scores are associated with a greater likelihood of volunteering for psychology experiments. Franzoi et al. interpreted the underlying motive as "need for self-knowledge," an interpretation that closely resem-

bles Murray's (1938) "need for understanding," which in turn is closely identified with Openness to Experience (Costa & McCrae, 1988). These identities imply that the PrSC effect on research volunteering may be attributable solely to the PrSC's overlap with Openness-related reflection.

Method

Participants were those described in Sample B (see Study 2). The envelope of measures contained a signup form that stated:

Table 8
PrSC Effect on Volunteering for Psychology Experiments as a Function of Openness to Experience and Reflection

ANOVA cell means and effects	Ref	Open	PrSC	SR	ISA
Cell means					
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
Between-groups effect					
$F(1, 573)$	17.8***	14.2***	6.5*	<i>ns</i>	9.0**
$F(1, 573)$, Openness partialled	6.1*		<i>ns</i>	<i>ns</i>	4.6*
$F(1, 573)$, reflection partialled		<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>

Note. Sample B, $N = 574$. PrSC = Private Self-Consciousness Scale; Ref = reflection; Open = Openness to Experience; SR = Self-Reflection; ISA = Internal State Awareness.

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

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 that you may wish to participate in (also in exchange for research credit points), please leave your name and phone in the space provided below.

Of the 574 participants who returned completed personality questionnaires in Sample B, 513 (89% of the total sample) provided their names and phone numbers on the form. Participants' scores on the PrSC, RRQ, and a global measure of Openness to Experience (from the FFI; see Study 2) were reanalyzed for the present study.

Results and Discussion

Participants were designated as either "signers" (those who completed the signup sheet) or "nonsigners" (those who did not complete the signup sheet). We evaluated mean differences between signers and nonsigners with one-way analyses of variance, and we examined mediation effects with two-group analyses of covariance. Results are presented in Table 8. Rumination means did not differ between signers and nonsigners and are therefore not included in the table. Means for PrSC were significantly lower among nonsigners than signers, $F(1, 573) = 6.5, p < .05$, a finding that replicates that of Franzoi et al. (1990). However, as anticipated, nonsigners tended to have even lower scores than signers on reflection, $F(1, 573) = 17.8, p < .001$, and Openness, $F(1, 573) = 14.2, p < .001$. Thus, as was the case in our earlier studies, effects for reflection tended to be stronger than for PrSC.

The principal hypothesis was that individual differences in reflection would account for the motivational effect of PrSC on research volunteering. The F ratios reported in the last two rows of Table 8 are most relevant to this hypothesis. Group differences in PrSC were completely redundant with the reflection scale. Controlling for group differences in Openness also eliminated the PrSC effect.

These findings imply that the PrSC scale predicts research volunteering because it overlaps with the epistemic trait of reflection. The rumination component of PrSC variance, which accounts for its association with various measures of psychopathology, is not related to research volunteering. This conclusion is further supported by the distinct pattern of effects for the PrSC factors, SR and ISA. SR was not related to research volunteering. ISA, the

PrSC component carrying no rumination variance, accounted for all of the PrSC association with research volunteering. General Openness to Experience did not fully account for the ISA effect on volunteering. The self-attentive aspect of Openness, reflection, did.¹¹

In concluding that "need for self-knowledge" underlies the positive association between PrSC and volunteering for psychology experiments, Franzoi et al. (1990) developed their own 5-item Need for Self-Knowledge scale. This scale was included in the present Study 3. Findings with this scale (reported near the bottom of Table 7) were consistent with the results of this study: The Need for Self-Knowledge scale was essentially unrelated to rumination ($r = .16$) and strongly related to reflection ($r = .63$), and reflection accounted for the lion's share of this scale's association with PrSC.

General Discussion

In an exploratory factor analysis of the SCS items, Fenigstein et al. (1975) revealed two factors thought to reflect a fundamental dichotomy in self-perception of long-standing utility in psychology: the public and private selves (e.g., James, 1890, cited in Fenigstein, 1987). In this article we introduced and articulated a motivational distinction relevant to dispositional self-focus that bears a family resemblance to another dichotomy of long-standing utility in psychology: fear and curiosity. Rumination provides a summary conception of self-attentiveness motivated by perceived threats, losses, or injustices to the self. Reflection provides a summary conception of self-attentiveness motivated by curiosity or epistemic interest in the self. Rumination and reflection are statistically and psychologically distinct: Rumination is uniquely associated with the Neuroticism factor, and reflection is associated with the Openness factor of the FFM.

We demonstrated the utility of the RRQ distinction by applying it to a paradox inherent in PrSC research findings. A large body of evidence suggests that higher PrSC scores are associated with greater self-knowledge yet higher levels of psychological distress.

¹¹ The reliable association between ISA and Conscientiousness (Study 2) might suggest other motives for research volunteering: achievement striving or dutifulness. In the present study, however, signers did not differ from nonsigners on the FFI-Conscientiousness scale ($p > .25$).

We hypothesized that this paradox derives from motivational ambiguity in the wording of many PrSC items that confounds two unrelated dispositions, rumination and reflection. A series of studies evaluating this hypothesis revealed the following findings.

First, lay descriptors of self-attentiveness codified in the natural language (*self-consciousness* and *self-examining*), and the influential conceptions represented in the SCS scales, both exemplify, in some form, the motivational distinction articulated here. The Social Anxiety and PbSC scales are primarily neurotically motivated forms of self-attention, and the PrSC scale is primarily an intellectually motivated form. However, all three SCS involve secondary distinctions with respect to other broad personality differences: Social Anxiety and PbSC relate oppositely to Extraversion, and different subsets of PrSC items have unique associations with Neuroticism and Conscientiousness.

Second, it is possible to distinguish neurotic self-attentiveness from Openness-related self-attentiveness by conventional questionnaire measures. Scales constructed to separately measure neurotic and intellectual self-focus had a minimal correlation with each other, but both were substantially associated with PrSC. Mean rumination and reflection correlations with the larger PrSC factor, SR, were, in fact, exactly equal (.53).

Third, the rumination–reflection distinction sheds light on the issue of factorial complexity in the PrSC. The two factors that have been repeatedly recovered from the PrSC items can be attributed to item content differences related to rumination and reflection. What primarily associates the factors is reflection (present in both SR and ISA). What primarily distinguishes them is rumination (present in SR only). Analysis of ISA and SR relations with the FFM suggested a further distinction that we believe warrants future research attention: The ISA factor has a very reliable, secondary association with Conscientiousness.

Fourth, rumination and reflection differentially explain dispositional correlates of PrSC. Rumination connotations of a subset of PrSC items explain PrSC associations with psychological distress (e.g., depression, anxiety). Reflection explains PrSC associations with intellectual traits (e.g., need for cognition, need for self-knowledge) and a remarkably broad array of other traits known to be associated with Openness to Experience (e.g., lack of authoritarianism, paranormal beliefs) but that have no theoretically obvious relation to self-focused attention. Because neurotic traits and intellectual traits define major, uncorrelated dimensions of personality, these data raise serious questions about the psychological unity of PrSC correlates and effects.

Finally, results here suggest that PrSC effects on self-knowledge are due to PrSC overlap with reflection, not to private self-attention per se. Reflection demonstrated stronger and more robust associations than PrSC with self–other similarity judgments, research volunteerism, and traits associated with enhanced information processing, such as need for cognition. PrSC associations with all of these criteria were fully mediated by reflection.

These findings have important implications for theory and research on dispositional self-focus. We discuss below their implications for the PrSC research literature, for the status of the public–private distinction within trait conceptions of self-focused attention, and for our general proposal to reconceptualize dispositional self-consciousness from the perspective of the FFM.

Implications for the PrSC Literature

Factorial Complexity of the PrSC Scale

In light of these data, the view that the two recurrent factors within the PrSC are due mainly to differences in item response distributions or item difficulties (Bernstein et al., 1986) does not appear tenable. The correlations for ISA and SR with the FFM are clearly distinct, but, more important, the distinction is consistent with a natural language distinction between neurotic and intellectual self-focus, and these and other findings reported here dovetail with other reports that the ISA and SR subscales show divergent associations with theoretically relevant criteria of PrSC (e.g., Anderson & Bohon, 1996; Campbell et al., 1996; Lavallee & Campbell, 1995; P. J. Watson et al., 1988).

Reevaluation of Previous PrSC Research Findings

In light of the psychological distinctions implied by the constructs of rumination and reflection, independent mediation of PrSC correlates and effects by the two RRQ scales raises important concerns about the routine cognitive (i.e., attentional) interpretations of many PrSC findings. PrSC findings attributed to such cognitive mechanisms as “comparator activation” (comparison of self-aspects or one’s behavior with a salient reference standard) or “self-concept articulation” may reflect stable neurotic (proneness to negative affect) or epistemic motivational differences between high and low scores on the PrSC. Differences in epistemic motives and values, for example, may cause differences in task absorption or engagement, or intrinsic motivation, during experimental tests of self-awareness and self-regulatory hypotheses. Task-relevant motivational effects of both Openness and Neuroticism variance tapped by the PrSC could differentially mimic the cognitive effects of self-attention postulated by self-regulation theories. This would lead to the erroneous impression that particular state and trait effects of “self-focus” were conceptual replications of the same phenomena.

Consider, for example, experiments reported by Scheier and Carver (1983), who sought to test whether self-awareness prompts comparison of one’s behavior with salient behavioral reference standards (“comparator activation,” in the language of self-regulation theory). In one study, participants copied a complex geometric figure with only intermittent visual access to the original. The number of times they requested access to the original (i.e., the salient behavioral reference standard) operationalized the self-regulatory notion of comparator activation. Results for manipulated self-attention paralleled those for the PrSC: As predicted, higher levels of PrSC were associated with more frequent requests to have another peek at the original geometric figure. However, it is reasonable to ask whether people who are especially high in intellectual curiosity or aesthetic sensitivity (the defining features of Openness to Experience) are merely more interested in their performance on such tasks. If such PrSC effects have more to do with the motive for self-attending (epistemic vs. neurotic) than the mere fact of it, we would expect reflection and rumination to differentially explain PrSC comparator activation effects. Reflection should explain PrSC effects on tasks likely to motivate intellectually curious people, and rumination should explain PrSC effects on tasks likely to trigger self-evaluative doubts and worries. Note that some experimental tasks are likely to confound neurotic

and epistemic dispositional effects on comparator activation (e.g., performance tests of cognitive abilities).

Self-Absorption Paradox

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, and depressed mood no longer appears to promise as much cognitive clarity as it once did (e.g., Dobson & Franche, 1989; Haaga & Beck, 1995). It now appears that depressed mood can improve self-evaluative accuracy, and can impair 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).

We noted that the repeated demonstration of two apparently contradictory outcomes of PrSC, psychological distress and self-knowledge effects, seemed to suggest a sadder-but-wiser phenomenon we refer to as the *self-absorption paradox*: Frequent inspection of one’s feelings and thoughts seems to improve the accuracy of self-knowledge, but at the cost of psychological well-being. The present findings cast doubt on a sadder-but-wiser interpretation. A majority of high scorers on the PrSC scale are not in fact sadder and wiser, rather they are sadder or wiser. Because rumination and reflection are relatively independent dispositions, and the former alone accounts for the “sadness” while the latter explains the “wisdom” effects of the PrSC, there may be no psychological paradox to resolve.

The PrSC literature’s self-absorption paradox may have little to do with sadder-but-wiser phenomena. This conclusion clearly leaves open, however, the central question about these phenomena that is so theoretically relevant to a construct such as PrSC: the relation of self-knowledge to mental health. What role, if any, does veridicality or authenticity of self-perceptions play in psychological health and adjustment? The relation of self-awareness and mental health obviously depends first on one’s definition of mental health and, consequently, the problem of values in that definition. Those who place a high value on authenticity, uniqueness, and autonomy of the self, or who especially value the epistemic activity of reflection—people high in Openness to Experience—are likely to believe the emotional costs of dispassionate self-perception are well worth it (e.g., Socrates, Sartre, Carl Rogers). People with other value orientations, such as those who place a higher value on authority, propriety, and tradition than on autonomy and uniqueness—people low in Openness to Experience—may legitimately disagree (e.g., religious fundamentalists). The question of whether reflection fosters or hinders adjustment depends in part on the question of values (individual and cultural) in conceptions of mental health (cf. M. B. Smith, 1961).

We believe the distinction proposed here between rumination and reflection will prove useful in future efforts to address dispositional aspects of this question, although the relation of these two traits to mental health is bound to be complex, especially for the trait of reflection. Rumination may be a general risk factor for maladjustment (e.g., Nolen-Hoeksema et al., 1997), but reflection is likely to both help and hinder psychological adjustment. Although reflective self-focus may indeed foster articulation and veridicality of the self-schema, accurate self-perception involves

both costs and benefits. Removing the rose-colored coating from one’s looking glass is unlikely to enhance self-confidence and optimism (Taylor & Brown, 1988). The interpersonal benefits of accurate self-perception may, however, be substantial. Reflectiveness or psychological-mindedness appears to enhance observer perceptions of mental health (Colvin, Block, & Funder, 1995) and may buffer psychological distress within close relationships. In a recent report, for example, the depression risk of women who were dispositionally ruminative was significantly reduced if they had a dispositionally reflective spouse (Preece, DeLongis, Campbell, & Trapnell, 1998). This intriguing “dyadic interaction” of reflection and rumination within close relationships suggests that the reflection–rumination distinction may be especially relevant to the coping and adjustment literature. Rumination and reflection appear to provide a useful 2×2 model of cognitive approach and avoidance styles. In combination, they suggest an intriguing, alternative definition of four cognitive styles with deep roots in the adjustment literature: *sensitizing* (high reflection, high rumination), *repressive* (low reflection, low rumination), *vulnerable* (low reflection, high rumination), and *adaptable* (high reflection, low rumination).

The Public–Private Distinction Revisited

According to self-awareness theory (Duval & Wicklund, 1972), directing attention to the self affects behavior by means of mechanisms that ensue simply as a consequence of becoming self-aware. Fenigstein et al. (1975) accordingly sought to operationalize a chronic self-focusing tendency by means of a self-report questionnaire, but they unexpectedly discovered three theoretically suggestive factors among their candidate items. One factor, Social Anxiety, was theoretically downgraded relative to the others, and the other two were thought to reflect a basic distinction among self-conscious processes: public and private ones. The nature of this process distinction amounted to a spatial metaphor: outside versus inside the self. The historically rich resonances of that self metaphor in psychology (for a review see Hogan & Cheek, 1982) may, however, have routinely distracted researchers from (a) considering the potential role of individual differences in motives and affect in PbSC and PrSC research findings and (b) exploring more fully the provocative new domain of individual differences that Fenigstein et al. (1975) had so importantly introduced to psychological research: self-attentive traits.

It is plausible the Big Five factors played a silent role in Fenigstein et al.’s (1975) abandonment of a unifactor conception of dispositional self-consciousness. The findings reported here are consistent with the hypothesis that three unanticipated categories emerged from Fenigstein et al.’s item pool because it unwittingly traversed a few factorial “black holes” of trait description: Neuroticism, Extraversion, and Openness to Experience (e.g., Table 2). Had it spanned additional Big Five dimensions (e.g., Agreeableness), additional factors would have been likely. The plausible self-attention item “I love to admire how I look” has a narcissistic flavor that would tend to associate it with the negative pole of Agreeableness within the FFM. Items such as these would be unlikely to correlate positively or substantially with PbSC items (e.g., “I’m self-conscious about the way I look”), or with social anxiety, or with PrSC items. Had such items been included in their preliminary item pool, and a “disagreeable PbSC” factor emerged

in addition to the "neurotic PbSC" factor they did obtain, it is reasonable to suppose Fenigstein et al. would have found a simple inner-outer distinction among the factors less persuasive. In their efforts to account for why a unitary, general self-awareness factor failed to emerge from their candidate item pool, they might alternatively have centered on possible motivational and affective distinctions among the factors that did emerge (prosocial, antisocial, epistemic, etc.).

Beyond Neuroticism and Openness

Wicklund (1975) argued that an individual-difference approach to self-awareness is seriously 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 [the differences they measure] 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. (p. 268)

These remarks are noteworthy in that they appeared in the literature long before the empirical findings documenting potential motivational confounds in both the PbSC (reviewed by Wicklund & Gollwitzer, 1987) and PrSC scales (e.g., Franzoi et al., 1990; Schlenker & Weigold, 1990). We may be more optimistic (or foolish) than Wicklund about the potential scientific utility of dispositional conceptions of self-attentiveness. We agree with Wicklund's implication that trait measures of self-focus will typically involve important individual differences other than attentional ones, but, rather than ignore a trait approach, we suggest that motivational "confounds" in self-attentive dispositions might be articulated in a systematic manner. One approach, the one we propose here, is to explicitly reference self-attentive dispositions to important motivational distinctions already summarized and ordered within comprehensive empirical trait taxonomies such as the FFM.

One benefit of such an approach is that the task of specifying candidate "third variables" is assumed by the taxonomy. We noted that PrSC is associated (by means of reflection variance) with the Openness factor of the FFM. There are other trait constructs closely associated with the Openness factor that have generated research literatures as extensive as those of PrSC, including need for cognition (Cacioppo, Petty, Feinstein, & Jarvis, 1996), absorption (Tellegen & Atkinson, 1974), and authoritarianism (Altemeyer, 1981). The FFM can readily alert investigators to the potential for identities in research findings across such large, and largely independent, research literatures as these. In the absence of a comprehensive trait taxonomy, rounding up the usual suspects to make these identifications is a much more haphazard enterprise. Routine reference to a well-structured taxonomy such as the FFM also helps prevent the "jingle-jangle" fallacy (the same traits secretly traveling under different names between investigators; Block, 1995), which is responsible for trait psychology's enduring "Tower of Babel" problem (Goldberg, 1971): incommunication

between investigators owing to the lack of a common (trait descriptive) language.

The FFM suggests motivational distinctions relevant to trait self-attention other than the two developed here. The disagreeable-extroverted location within the FFM is associated with two widely researched dispositions relevant to self-attention and self-regulation: narcissism (Raskin & Hall, 1979) and self-monitoring (Snyder, 1974). The interpersonal motives and values associated with this region of the FFM suggest basic distinctions between these traits and the self-attentive dispositions referred to in this article. Raskin and Hall's (1979) construct of dispositional narcissism describes dispositional self-focus in the service of a self-enhancement motive (Robins & John, 1997) that is manifested in interpersonally disagreeable ways (e.g., superiority and entitlement, both of which are implicit derogations of others, a reliable sign of hostility, lack of altruism, or both). Snyder's (1974) self-monitoring construct describes a self-regulatory trait in the service of political motives, that is, social dominance, or the control of other people and resources (Robins & John, 1997).

The FFM Conscientiousness factor suggests another potentially useful conception of self-attentiveness. Natural language trait terms such as *alert*, *aware*, and *attentive* are empirically identified with this factor and appear in the items of the PrSC-ISA factor. The specification of a conscientious form of self-attentiveness, and the development of an appropriate measure, may prove useful in applications of self-regulation theory to health issues (e.g., Mullen & Suls, 1982) and stress and coping (e.g., Frone & McFarlin, 1989).

References

- Alloy, L. Y., & Abramson, L. B. (1979). Judgment of contingency in depressed and nondepressed students: Sadder but wiser? *Journal of Experimental Psychology: General*, *108*, 441-485.
- Altemeyer, R. A. (1981). *Right-wing authoritarianism*. Winnipeg, Manitoba, Canada: University of Manitoba Press.
- Anderson, E. M., & Bohon, L. M. (1996). Factor structure of the Private Self-Consciousness Scale. *Journal of Personality Assessment*, *66*, 144-152.
- Appelbaum, S. A. (1973). Psychological-mindedness: Word, concept, and essence. *International Journal of Psychoanalysis*, *54*, 35-46.
- Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York: Hoeber.
- Bendig, A. W. (1956). The development of a short form of the Manifest Anxiety Scale. *Journal of Consulting Psychology*, *20*, 384.
- Bernstein, I., Teng, G., & Garbin, C. (1986). A confirmatory factoring of the Self-Consciousness Scale. *Multivariate Behavioral Research*, *21*, 459-475.
- Bissonette, V., & Bernstein, I. H. (1990). Artifacts can replicate: A reply to Piliavin & Charng. *Personality and Social Psychology Bulletin*, *16*, 554-561.
- Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin*, *117*, 187-215.
- Borkovec, T. D., Shadick, R., & Hopkins, M. (1990). The nature of normal and pathological worry. In D. Barlow & R. Raper (Eds.), *Chronic anxiety and generalized anxiety disorder* (pp. 29-51). New York: Guilford Press.
- Briggs, S. R. (1988). Shyness: Introversiveness or neuroticism? *Journal of Research in Personality*, *22*, 290-307.
- Brockner, J. (1979). The effects of self-esteem, success-failure, and self-

- consciousness on task performance. *Journal of Personality and Social Psychology*, 37, 1732–1741.
- Brockner, J. (1984). Low self-esteem and behavioral plasticity: Some implications for personality and social psychology. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 4, pp. 237–271). Beverly Hills, CA: Sage.
- Burnkrant, R. R., & Page, T. (1984). A modification of the Fenigstein, Scheier, and Buss Self-Consciousness Scale. *Journal of Personality Assessment*, 48, 629–637.
- Buss, A. (1980). *Self-consciousness and social anxiety*. San Francisco: W. H. Freeman.
- Byrne, D. (1961). The Repression-Sensitization Scale: Rationale, reliability, and validity. *Journal of Personality*, 29, 334–349.
- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, 119, 197–253.
- Cacioppo, J. T., Petty, R. E., & Kao, C. F. (1984). The efficient assessment of need for cognition. *Journal of Personality Assessment*, 48, 306–307.
- Campbell, J. D. (1990). Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology*, 59, 538–549.
- Campbell, J. D. (1993). [Annual personality and attitude survey, University of British Columbia]. Unpublished raw data.
- Campbell, J. D., & Fehr, B. (1990). Self-esteem and perceptions of conveyed impressions: Is negative affectivity associated with greater realism? *Journal of Personality and Social Psychology*, 58, 122–133.
- Campbell, J. D., & Lavallee, L. F. (1993). Who am I? The role of self-concept confusion in understanding the behavior of people with low self-esteem. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 3–22). New York: Plenum.
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Lavallee, L. F., Katz, I. M., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, 70, 141–156.
- Carson, A. D., & Mowesian, R. (1993). Self-monitoring and private self-consciousness: Relations to Holland's vocational personality types. *Journal of Vocational Behavior*, 42, 212–222.
- Carver, C. S., & Glass, D. C. (1976). The Self-Consciousness Scale: A discriminant validity study. *Journal of Personality Assessment*, 40, 169–172.
- Carver, C. S., & Scheier, M. F. (1981a). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer-Verlag.
- Carver, C. S., & Scheier, M. F. (1981b). Self-consciousness and reactance. *Journal of Research in Personality*, 15, 16–29.
- Carver, C. S., & Scheier, M. F. (1985). Aspects of self, and the control of behavior. In B. R. Schlenker (Ed.), *The self and social life* (pp. 146–174). New York: McGraw-Hill.
- Cheek, J. M. (1989). Aspects of identity. In D. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 275–285). New York: Springer-Verlag.
- Cheek, J. M., & Briggs, S. R. (1982). Self-consciousness and aspects of identity. *Journal of Research in Personality*, 16, 401–408.
- Cheek, J. M., & Briggs, S. R. (1988). Shyness as a personality trait. In W. R. Crozier (Ed.), *Shyness and embarrassment: Perspectives in social psychology* (pp. 315–337). Cambridge, England: Cambridge University Press.
- Colvin, C. R., Block, J., & Funder, J. (1995). Overly positive self-evaluations and personality: Negative implications for mental health. *Journal of Personality and Social Psychology*, 68, 1152–1162.
- Conte, H. R., Plutchik, R., Jung, B. B., Picard, S., Karasu, T. B., & Lotterman, A. (1990). Psychological mindedness as a predictor of psychotherapy outcome: A preliminary report. *Comprehensive Psychiatry*, 31, 426–431.
- Costa, P. T., Jr., & McCrae, R. R. (1980). Still stable after all these years: Personality as a key to some issues in adulthood and old age. In P. G. Baltes & O. G. Brim (Eds.), *Life-span development and behavior* (Vol. 3, pp. 65–102). New York: Academic Press.
- Costa, P. T., Jr., & McCrae, R. R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., Jr., & McCrae, R. R. (1987). Personality assessment in psychosomatic medicine: Value of a trait taxonomy. In G. A. Fava and T. N. Wise (Eds.), *Advances in psychosomatic medicine: Research paradigms in psychosomatic medicine* (Vol. 17, pp. 71–82). Basel, Switzerland: Karger.
- Costa, P. T., Jr., & McCrae, R. R. (1988). From catalogue to classification: Murray's needs and the five factor model. *Journal of Personality and Social Psychology*, 55, 258–265.
- Costa, P. T., Jr., & McCrae, R. R. (1989). *The NEO-PI/FFI manual supplement*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., Jr., McCrae, R. R., & Dye, D. A. (1991). Facet scales for Agreeableness and Conscientiousness: A revision of the NEO Personality Inventory. *Personality and Individual Differences*, 12, 887–898.
- Davies, M. F. (1982). Correlates of self-consciousness and the 16 Personality Factor Questionnaire. *Journal of Psychology*, 111, 123–128.
- Davies, M. F. (1985). Self-consciousness and paranormal beliefs. *Perceptual & Motor Skills*, 60, 484–486.
- Derogatis, L. R. (1975). *The Brief Symptom Inventory*. Baltimore: Clinical Psychometrics Research.
- Dickman, S. J. (1990). Functional and dysfunctional impulsivity: Personality and cognitive correlates. *Journal of Personality and Social Psychology*, 58, 95–102.
- Dobson, K., & Franche, R. (1989). A conceptual and empirical review of the depressive realism hypothesis. *Canadian Journal of Behavioral Science*, 21, 419–433.
- Duval, S., & Wicklund, R. A. (1972). *A theory of objective awareness*. New York: Academic Press.
- Dykman, B. M., & Abramson, L. Y. (1989). Processing of ambiguous and unambiguous feedback by depressed and nondepressed college students: Schematic biases and their implications for depressive realism. *Journal of Personality and Social Psychology*, 56, 431–445.
- Eysenck, H. J., & Eysenck, M. W. (1985). *Personality and individual differences: A natural science approach*. New York: Plenum.
- Farber, B. A. (1989). Psychological mindedness: Can there be too much of a good thing? *Psychotherapy*, 26, 210–216.
- Fenigstein, A. (1987). On the nature of public and private self-consciousness. *Journal of Personality*, 55, 543–553.
- Fenigstein, A., Scheier, M. F., & Buss, A. (1975). Public and private self-consciousness. *Journal of Consulting and Clinical Psychology*, 43, 522–527.
- Flett, G. L., & Blankstein, K. R. (1987). Self-focused attention in test anxiety and depression. *Journal of Social Behavior and Personality*, 2, 259–266.
- Franzoi, S. L. (1983). Self-concept differences as a function of private self-consciousness and social anxiety. *Journal of Research in Personality*, 17, 275–287.
- Franzoi, S. L., Davis, M. H., & Markweisse, B. (1990). A motivational explanation for the existence of private self-consciousness differences. *Journal of Personality*, 58, 641–659.
- Froming, W. J., & Carver, C. S. (1981). Divergent influences of private and public self-consciousness in a compliance paradigm. *Journal of Research in Personality*, 15, 159–171.
- Frone, M. R., & McFarlin, D. B. (1989). Chronic occupational stressors, self-focused attention, and well-being: Testing a cybernetic model of stress. *Journal of Applied Psychology*, 74, 876–883.

- Gibbons, F. X. (1983). Self-focused attention and self-report validity: The "veridicality" hypothesis. *Journal of Personality, 51*, 517-542.
- Gibbons, F. X. (1990). Self-attention and behavior: A review and theoretical update. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, pp. 249-295). New York: Academic Press.
- Gohm, C. L., Isbell, L. M., & Wyer, R. S., Jr. (1997). Some thoughts about thinking. In R. S. Wyer (Ed.), *Ruminative thoughts: Advances in social cognition* (Vol. 9, pp. 81-95). Hillsdale, NJ: Erlbaum.
- Goldberg, L. R. (1971). A historical survey of personality scales and inventories. In P. McReynolds (Ed.), *Advances of psychological assessment* (Vol. 2, pp. 293-336). Palo Alto, CA: Science and Behavior Books.
- Goldberg, L. R. (1982). From Ace to Zombie: Some explorations in the language of personality. In C. D. Spielberger & J. N. Butcher (Eds.), *Advances in personality assessment* (Vol. 1, pp. 203-234). Hillsdale, NJ: Erlbaum.
- Goldberg, L. R. (1990). An alternative "description of personality:" The Big Five factor structure. *Journal of Personality and Social Psychology, 59*, 1216-1229.
- Goldberg, L. R. (1992). The development of markers for the Big Five factor structure. *Psychological Assessment, 4*, 26-42.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48*, 26-34.
- Greenberg, J., & Pyszczynski, T. (1986). Persistent high self-focus after failure and low self-focus after success. The depressive self-focusing style. *Journal of Personality and Social Psychology, 50*, 1039-1044.
- Guilford, J. P. (1975). Factors and factors of personality. *Psychological Bulletin, 82*, 802-814.
- Haaga, D. A. F., & Beck, A. T. (1995). Perspectives on depressive realism: Implications for cognitive theory of depression. *Behavior Research and Therapy, 33*, 41-48.
- Hall, J. A. (1992). Psychological-mindedness: A conceptual model. *American Journal of Psychotherapy, 46*, 131-140.
- Hogan, R., & Cheek, J. M. (1982). Identity, authenticity, and maturity. In T. R. Sarbin & K. E. Scheibe (Eds.), *Studies in social identity* (pp. 339-357). New York: Praeger.
- Hope, D. A., & Heimberg, R. G. (1988). Public and private self-consciousness and social phobia. *Journal of Personality Assessment, 52*, 626-639.
- Horowitz, M. J. (1976). *Stress response syndromes*. New York: Aronson.
- Ingram, R. (1989). Affective confounds in social-cognitive research. *Journal of Personality and Social Psychology, 57*, 715-722.
- Ingram, R. (1990). Self-focused attention in clinical disorders: Review and a conceptual model. *Psychological Bulletin, 107*, 156-176.
- Ingram, R. E., & Smith, T. W. (1984). Depression and internal versus external focus of attention. *Cognitive Therapy and Research, 8*, 139-152.
- Jackson, D. N. (1984). *Personality Research Form manual* (3rd ed.). Port Huron, MI: Research Psychologists Press.
- John, O. (1990). The Big Five factor taxonomy: Dimensions of personality in the natural language and in questionnaires. In L. A. Pervin (Ed.), *Handbook of personality, theory and research* (pp. 66-100). New York: Guilford Press.
- Larson, R. J., & Cowan, G. S. (1988). Internal focus of attention and depression: A study of daily experience. *Motivation and Emotion, 12*, 237-249.
- Lavallee, L. F., & Campbell, J. D. (1995). Impact of personal goals on self-regulation processes elicited by daily negative events. *Journal of Personality and Social Psychology, 69*, 341-452.
- Marshall, G. N., Wortman, C. B., Vickers, R. R., Jr., Kusulas, J. W., & Hervig, L. K. (1994). The five-factor model of personality as a framework for personality-health research. *Journal of Personality and Social Psychology, 67*, 278-286.
- Martin, L. L., & Tesser, A. (1996). Some ruminative thoughts. In R. S. Wyer (Ed.), *Ruminative thoughts: Advances in social cognition* (Vol. 9, pp. 1-47). Hillsdale, NJ: Erlbaum.
- Maslow, A. (1955). Deficiency motivation and growth motivation. In M. R. Jones (Ed.), *Nebraska Symposium on Motivation*. Lincoln: University of Nebraska Press.
- Mathews, A. (1990). Why worry? The cognitive function of anxiety. *Behavior Research and Therapy, 28*, 455-468.
- Mathews, G., & Wells, A. (1988). Relationships between anxiety, self-consciousness, and cognitive failure. *Cognition and Emotion, 2*, 123-132.
- McAdams, D. P. (1992). The five-factor model in personality: A critical appraisal. *Journal of Personality, 60*, 329-361.
- McCrae, R. R. (1990). Traits and trait names: How well is openness represented in natural languages? *European Journal of Personality, 4*, 119-129.
- McCrae, R. R. (1993). Moderated analyses of longitudinal personality stability. *Journal of Personality and Social Psychology, 65*, 577-585.
- McCrae, R. R. (1993-1994). Openness to Experience as a basic dimension of personality. *Imagination, Cognition, and Personality, 13*, 39-55.
- McCrae, R. R. (1994). Openness to Experience: Expanding the boundaries of Factor V. *European Journal of Personality, 8*, 251-272.
- McCrae, R. R. (1996a). Integrating the levels of personality. *Psychological Inquiry, 7*, 353-356.
- McCrae, R. R. (1996b). Social consequences of experiential openness. *Psychological Bulletin, 120*, 323-337.
- McCrae, R. R., & Costa, P. T., Jr. (1985). Openness to Experience. In R. Hogan & W. H. Jones (Eds.), *Perspectives in personality* (Vol. 1, pp. 145-172). Greenwich, CT: JAI Press.
- McCrae, R. R., & Costa, P. T., Jr. (1989). The structure of interpersonal traits: Wiggins' circumplex and the five factor model. *Journal of Personality and Social Psychology, 56*, 586-595.
- McCrae, R. R., & Costa, P. T., Jr. (1997a). Conceptions and correlates of Openness to Experience. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 825-847). Orlando, FL: Academic Press.
- McCrae, R. R., & Costa, P. T., Jr. (1997b). Personality trait structure as a human universal. *American Psychologist, 52*, 509-516.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60*, 175-215.
- Mittal, B., & Balasubramanian, S. (1987). Testing the dimensionality of the Self-Consciousness Scales. *Journal of Personality Assessment, 51*, 53-68.
- Monfries, M. M., & Kafer, N. F. (1994). Private self-consciousness and fear of negative evaluation. *Journal of Psychology, 128*, 447-454.
- Mullen, B., & Suls, J. (1982). "Know thyself:" Stressful life changes and the ameliorative effect of private self-consciousness. *Journal of Experimental Social Psychology, 18*, 43-55.
- Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.
- Nasby, W. (1985). Private self-consciousness, articulation of the self-schema, and recognition memory of trait adjectives. *Journal of Personality and Social Psychology, 49*, 704-709.
- Nasby, W. (1989). Private and public self-consciousness and articulation of the self-schema. *Journal of Personality and Social Psychology, 56*, 117-123.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology, 100*, 569-582.
- Nolen-Hoeksema, S., McBride, A., & Larson, J. (1997). Rumination and psychological distress among bereaved partners. *Journal of Personality and Social Psychology, 72*, 855-862.
- Nolen-Hoeksema, S., Morrow, J., & Fredrickson, B. L. (1993). Response styles and the duration of episodes of depressed mood. *Journal of Abnormal Psychology, 102*, 20-28.

- Norman, W. T. (1967). *2,800 Personality trait descriptors: Normative operating characteristics for a university population*. Ann Arbor, MI: Department of Psychology, University of Michigan.
- Paulhus, D. L., & Levitt, K. (1983). *A short version of the Repression-Sensitization Scale: The Mini-RS*. Unpublished manuscript, University of British Columbia.
- Paulhus, D. L., & Trapnell, P. D. (1998). Typological measures of shyness. *Journal of Research in Personality, 32*, 182–201.
- Piliavin, J., & Charng, H. (1988). What is the factorial structure of the Private and Public Self-Consciousness Scales? *Personality and Social Psychology Bulletin, 14*, 587–595.
- Pinker, S. (1997). *How the mind works*. New York: W. W. Norton.
- Porterfield, A. L., Mayer, F. S., Dougherty, K. G., Kredich, K. E., Kronberg, M. M., Marsee, K. M., & Okazaki, Y. (1988). *Journal of Research in Personality, 22*, 409–424.
- Preece, M., DeLongis, A., Campbell, J. D., & Trapnell, P. D. (1998, May). *Husbands' reflection buffers the long-term effects of wives' rumination on depressed mood*. Poster presented at the annual meeting of the American Psychological Society, Washington, DC.
- Prochasta, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behavior. *American Psychologist, 47*, 1102–1114.
- Rachman, S., & Hodgson, R. (1980). *Obsessions and compulsions*. Englewood Cliffs, NJ: Prentice Hall.
- Raskin, R. N., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports, 45*, 590.
- Realo, A., & Allik, J. (1998). The Estonian Self-Consciousness Scale and its relation to the five-factor model of personality. *Journal of Personality Assessment, 70*, 109–124.
- Reeves, A. L., Watson, P. J., Ramsey, A., & Morris, R. J. (1995). Private self-consciousness factors, need for cognition, and depression. *Journal of Social Behavior and Personality, 10*, 431–443.
- Robins, R. W., & John, O. P. (1997). The quest for self-insight: Theory and research in accuracy and bias in self-perception. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 649–680). Orlando, FL: Academic Press.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Russell, P. A. (1973). Relationships between exploratory behavior and fear. *British Journal of Psychology, 64*, 417–433.
- Scheier, M. F., & Carver, C. S. (1977). Self-focused attention and the experience of emotion: Attraction, repulsion, and elation. *Journal of Personality and Social Psychology, 35*, 625–636.
- Scheier, M. F., & Carver, C. S. (1983). Self-directed attention and the comparison of self with standards. *Journal of Experimental Social Psychology, 19*, 205–222.
- Scheier, M. F., Carver, C. S., & Gibbons, F. X. (1979). Self-directed attention and awareness of bodily states, and suggestibility. *Journal of Personality and Social Psychology, 37*, 1576–1588.
- Schlenker, B. R., & Weigold, M. F. (1990). Self-consciousness and self presentation: Being autonomous versus appearing autonomous. *Journal of Personality and Social Psychology, 59*, 820–828.
- Smith, M. B. (1961). Mental health reconsidered: A special case of the problem of values in psychology. *American Psychologist, 16*, 299–306.
- Smith, T. W., & Greenberg, J. (1981). Depression and self-focused attention. *Motivation and Emotion, 5*, 323–331.
- Smith, T. W., & Williams, P. G. (1992). Personality and health: Advantages and limitations of the five-factor model. *Journal of Personality, 60*, 395–423.
- Snyder, C. R. (1974). Self monitoring of expressive behavior. *Journal of Personality and Social Psychology, 30*, 526–537.
- Snyder, C. R., & Fromkin, H. L. (1980). *Uniqueness: The human pursuit of difference*. New York: Plenum.
- Spielberger, C. D., Peters, R., & Frain, F. J. (1981). Anxiety and curiosity. In H. G. Voss & H. Keller (Eds.), *Neugierforschung* (pp. 197–225). Weinheim, Germany: Beltz.
- Srull, T. K., & Gaelick, L. (1983). General principles and individual differences in the self as a habitual reference point: An examination of self–other judgments of similarity. *Social Cognition, 2*, 108–121.
- Sulloway, F. J. (1996). *Born to rebel: Birth order, family dynamics, and creative lives*. New York: Pantheon Books.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103*, 193–210.
- Tellegen, A. (1994). *Manual for the Multidimensional Personality Questionnaire*. Minneapolis: University of Minnesota Press.
- Tellegen, A., & Atkinson, G. (1974). Openness to absorbing and self-altering experiences (“absorption”), a trait related to hypnotic susceptibility. *Journal of Abnormal Psychology, 83*, 268–277.
- Tokar, D. M., Fischer, A. R., & Subich, L. M. (1998). Personality and vocational behavior: A selective review of the literature, 1993–1997. *Journal of Vocational Behavior, 53*, 115–153.
- Trapnell, P. D. (1994). Openness vs. intellect: A lexical left turn. *European Journal of Personality, 8*, 273–290.
- Trapnell, P. D., & Meston, C. M. (1996, July). *Sex and the five factor model of personality: Nice guys finish last*. Poster presented at the 104th Annual Convention of the American Psychological Association, Toronto, Ontario, Canada.
- Trapnell, P. D., Meston, C. M., & Gorzalka, B. (1997). Spectatoring and the relationship between body image and sexual experience: Self-focus or self-valence? *Journal of Sex Research, 34*, 267–278.
- Trapnell, P. D., & Wiggins, J. S. (1990). Extension of the Interpersonal Adjective Scales to include the Big Five dimensions of personality. *Journal of Personality and Social Psychology, 59*, 781–790.
- Trull, T. J., & McCrae, R. R. (1994). A five-factor perspective on personality disorder research. In P. T. Costa, Jr., & T. A. Widiger (Eds.), *Personality disorders and the five-factor model of personality* (pp. 59–71). Washington, DC: American Psychological Association.
- Turner, R. G., Scheier, M. F., Carver, C. S., & Ickes, W. (1978). Correlates of self-consciousness. *Journal of Personality Assessment, 42*, 285–289.
- Tversky, A. (1977). Features of similarity. *Psychological Review, 84*, 327–352.
- Watson, D., & Clark, L. A. (1992). Traits and temperament: General and specific factors of emotional experience and their relation to the five factor model. *Journal of Personality, 60*, 441–476.
- Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 767–793). Orlando, FL: Academic Press.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*, 1063–1070.
- Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*, 448–457.
- Watson, P. J., & Biderman, M. D. (1993). Narcissistic Personality Inventory factors, splitting, and self-consciousness. *Journal of Personality Assessment, 6*, 41–57.
- Watson, P. J., Morris, R. J., & Hood, R. W., Jr. (1988). Sin and self-functioning, Part 1: Grace, guilt, and self-consciousness. *Journal of Psychological Theology, 16*, 254–269.
- Wells, A. (1991). Effects of dispositional self-focus, appraisal, and attention instructions on responses to a threatening stimulus. *Anxiety Research, 3*, 291–301.
- Wicklund, R. A. (1975). Objective self-awareness. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 8, pp. 233–275). New York: Academic Press.
- Wicklund, R. A., & Gollwitzer, P. M. (1987). The fallacy of the private-public self-focus distinction. *Journal of Personality, 55*, 491–523.
- Wiggins, J. S. (1979). A psychological taxonomy of trait descriptive terms:

- The interpersonal domain. *Journal of Personality and Social Psychology*, 37, 395-412.
- Wiggins, J. S. (1994). *The Interpersonal Adjective Scales (IAS) manual*. Odessa, FL: Psychological Assessment Resources.
- Wiggins, J. S., & Trapnell, P. D. (1997). Personality structure: The return of the Big Five. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 737-765). Orlando, FL: Academic Press.
- Wyer, R. S. (Ed.). (1996). *Ruminative thoughts: Advances in social cognition* (Vol. 9). Hillsdale, NJ: Erlbaum.

Received June 10, 1997

Revision received August 3, 1998

Accepted August 27, 1998 ■