

Empirical Evidence for a New Class of Personality Disorder: The Safety-Oriented Personality Style or Phobicentric Psychopathology (SOPS/PCP) and Impact on Personality Psychology

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Abstract

This study is aimed at establishing that the Safety-Oriented Personality Style (SOPS) or Phobicentric Psychopathology (PCP) is an actual mental disorder representing a disproportionate, self-focused pattern of reacting to ordinary fear-anxiety situations. SOPS/PCP is most similar to Neuroticism in the widely accepted Big 5 model. The presentation of personality within a dimensional structure is in contradistinction to that of the lately criticized category-based Diagnostic and Statistical Manual (DSM). Nonetheless contrasting both Big 5 and DSM, a neuro-biological theory provided the SOPS/PCP construct with etiological capability to empirically explain progress of the condition from normal to dysfunctional functioning, thus linking it with day-to-day emotional life. From a sample of 406 adults, who participated in confirming respectively that SOPS/PCP is present outside the clinical setting and is a real-world empirical condition, 100 individuals were randomly selected to examine the reliability and validity of the SOPS/PCP Individual Questionnaire (SOPSIQ). The results confirmed SOPS/PCP is an actual mental disorder, which is absent in some people and supported all the hypotheses in relation to the research objectives. In rivalry with three prominent formulations of personality, DSM, Big 5 and Interpersonal Relatedness & Self-Definition (IR), which is related to Contemporary Integrative Interpersonal Theory (CIIT), that of SOPS/PCP is presented as aspiring to be a more accurate elucidation of

personality. Implications discussed also include suggesting DSM's new categorical-dimensional platform is fatally flawed and questioning the investigative legitimacy of both the Big 5 and IR/CIIT. Among other ideas, it is suggested that SOPS/PCP might provide Big 5 with a presumptive etiological base; and that the behavior-to-theory approach of SOPS/PCP would be more research-friendly than the theory-to-behavior orientation prevalent in personality research. By describing personality functioning and its supporting theory as emotion-rooted this study recommends such a perspective makes it more practical to reliably define, track and eventually treat personality disorders.

Keywords

Fear-Anxiety, Big 5, DSM, Emotion-Based, Contemporary Integrative Interpersonal Theory, Interpersonal Relatedness & Self-Definition

1. Introduction

This study intends to provide empirical evidence for a fear-safety style of functioning called: the Safety-Oriented Personality Style or Phobicentric Psychopathology. Together its characteristics on the one hand indicate a need for safety, based on which they represent a Safety-Oriented Personality Style (SOPS). On the other hand with abnormal fear at the center of these reactions they signal a Phobicentric Psychopathology (PCP). SOPS/PCP is new in the sense that its characteristics are being formulated for the first time here as constituting a specific behavioral group organized by fear. While fear (or the need for safety) may be adaptive in response to actual threat cues, the SOPS/PCP construct in this study describes fear that is considered to be out-of-control and dysfunctional, at its core subjective and displayed as a disproportionate and persistent over-reaction in relation to the circumstances, which give rise to it.

The very serious or severe expression of this condition would characterize it as a disorder. In other words, a phobicentric psychopathology is believed to develop under specific conditions from normal or adaptive fear to pathological reactivity. As emotion-based behavioral functioning it is further explained as controlled by neurobiological activity. Since SOPS represents characteristics attributable to a normal emotional reaction of fear, which develops into a worse form of a disordered pattern of persistent fearfulness or anxiety it fits well on a dimensional continuum.

The study purports to explain among other phenomena the shared psychological basis of such usually mystifying behavior patterns as witnessed in or reported about evidently dissimilar people in different settings. Examples are reported of a prominent politician who exhibits seemingly undisciplined, unpredictable behavior; an ex-prime minister with apparently measured, well calculated presentation but considered to have a highly secretive style; a deceased

self-appointed ex-president with a self-aggrandizing and sadistic retaliatory attitude; and a president whose reaction to opposition is believed to be authoritarian dictatorship. As well SOPS/PCP may indicate a common underlying personality pattern in the behaviors of perpetrators of domestic and social violence and in some people afflicted by PTSD, and particularly as observed in people who choose to express entitlement and frustration in public displays of heinous acts (for example, from leaders of Daesh/ISIS to lone shooters). In effect this study attempts to bring already known though disparate behavioral characteristics under a unified structure of personality functioning.

In general, SOPS/PCP claims to illustrate a mental-health phenomenon that takes a toll on the individual, family, work colleagues, subordinates or other close associates and on society. On the other hand however it may also underlie personal, corporate or group success. In its general manifestations this condition's complex, multifarious symptomatology has been prone to being misunderstood and ostensibly unidentifiable as a coherent dysfunction mainly because until now it has remained unrecognized as a distinct, consistent personality type. The approach of this study in presenting an organized picture of this personality type conforms to the current trend in the field of personality psychology and is especially comparable with the Big 5 model (John et al. 2008), which represents a shift away from the category-based paradigm introduced and popularized in the DSM series.

The emergence or strengthening of the dimensional model as a more favored conceptualization of personality has properly enabled personality disorder diagnosis to be credibly seen as concerned with normal personality attributes that have acquired maladaptive characteristics (as represented by investigators like Widiger, 2003). Problems with the DSM categorical model, which many have described, have led to an increasing need for and attempts at recommending dimensional prototypes (Dalal & Sivakumar, 2009; Widiger & Lowe, 2008; Trull et al., 2007; Widiger & Sankis, 2000). Despite these attempts at reforming the basis of diagnosing personality disorders there remains a gap of clearly explaining how a specific personality type arises in the first place. In other words how to definitively account for its etiologic origin, from which its progression from a normal to pathologic state along a continuous dimension may be judged. For this reason the introduction of the SOPS/PCP type of personality is promising, being purported to be traceable always to the activity of a specific, normal emotional state (fear) that develops into a disordered (anxiety) syndrome. The exemplification of this personality style indicates a necessary step forward down the dimensional path, leading to a more defendable system of personality classification than the categorical approach.

SOPS/PCP then is a pattern of behavior that depicts a threat-sensitive and biologically promoted, disagreeable responsiveness to a variety of environmental, social, bodily and interpersonal cues. Behaviors considered as demonstrative of its pathological characteristics typically indicate a disposition of an excessive sense of fear, shame, anxiety, self-consciousness, worry, defensiveness, anger and a need to control. Although the attributes that characterize the behavior pattern

identified as SOPS/PCP seem to best fit within the Neuroticism domain of the Big Five model (Krueger et al., 2012; John et al., 2008; Benet-Martinez & John, 1998; Watson & Clark, 1992), nonetheless from their description (Bickersteth, 2015) these qualities do not appear to completely overlap the facet and sub-facet groupings currently identified within the Neuroticism domain.

On the one hand this is probably because there has not been universal acceptance of or agreement on the categories below the larger domain level (Costa Jr. & McCrae, 1995), which makes it difficult to consistently identify all the behavioral patterns within the Big 5 to be able to tell whether its apparent similarity with SOPS/PCP indicates near perfect unity. On the other hand, the imperfect match may simply indicate a divergence in what SOPS/PCP and Big 5-Neuroticism respectively represent. An important indication of the uniqueness of SOPS/PCP however is that these attributes are not described as a distinct group within the DSM-IV-TR classification of personality disorders nor as a specific Item Facet grouping in the comprehensive model proposed by Krueger et al. for DSM-V (Krueger et al., 1991). The new DSM-V criteria for personality disorders (APA, 2013) do not contain the description of a category that may be said to completely overlap the pathological expression of SOPS/PCP, either.

It is the apparent absence of acknowledgment in the literature, of this group of behavioral characteristics as a discrete pattern of psychological functioning or personality style that prompted the current study. As a result, the empirical infrastructure for this study will need to be constructed practically from scratch. Nonetheless, despite considered distinctive the characteristics of this newly identified personality are expected to show similarity not only with Big Five Neuroticism but also with anxiety disorders as described in the relevant literature.

The attributes of SOPS/PCP were first observed among family members, acquaintances and certain individuals who were seen in the lead author's psychology practice over a period spanning several years and at a point, serendipitously identified and compiled as an independent class of personality. These characteristics are reported in a comprehensive description only in the lead author's book (Bickersteth, 2015).

2. Theoretical Background

As understood normal fear behavior occurs in threatening situations in reaction to which specific safety responses are elicited. This pattern of responsiveness does not constitute a personality. When these safety-oriented behavior characteristics, which are usually deployed as specific stimulus-response reactions, cohere and persist as a way of responding to feelings of threat and not just to actual incidents of threat however they are then seen as forming into a pattern of PCP or the personality structure called SOPS/PCP. Such a pattern differs in range in different individuals based on its developmental etiology and history. From this basis the theory behind this study utilizes the three areas considered by Funder (2001) as indispensable to be represented in empirical personality investigation, namely: the person, the situation and behavior. That is, SOPS/PCP proposes that

a person's psychological nature, arising from both biological (brain functioning) and social (familial and or personal) history, reacts behaviorally in ubiquitous situations with a response style directed by fear. A person may begin to show SOPS/PCP characteristics in response to events encountered directly in their life, as well as from exposure to these attributes indirectly through vicarious (especially parental) transmission or encountered in both ways.

Accordingly, as an identified set of personality characteristics, which are observed to include situation-sensitivity bias in specific people, using Funder's personality research principles it should be feasible to more fully describe SOPS/PCP behaviors (beyond this study, via observation and self-report analysis), obtain frequency counts in a variety of settings (e.g. at church, work, entertainment event) and possibly be able to predict which pinpointed behaviors and situations will arouse a SOPS/PCP reaction or to explain why a SOPS/PCP response occurred (Funder, 2001).

Since fear always necessitates a defensive reaction, whether fight, flight or freeze, for any of these responses to be adaptive however, a counter inhibitory response is required to appropriately counterbalance the reaction being used to respond to the threatening stimulus as Patrick and Bernat (2010) explain in their psychoneurometric model. They describe it as an approach that "...focuses on the neurobehavioral constructs of defensive reactivity and inhibitory control..." (p. 440). When this system is in proper functioning order, coordinated chiefly between the amygdala and the prefrontal cortex (PFC) in association with the anterior cingulate cortex (ACC), the fear response is of a stimulus-specific phobic nature. Dysfunction results in a non-adaptive internally cued distress-type fear (anxiety).

The convincing argument by Depue and Lenzenweger (2005) for a separation of anxiety and fear is also noted as contributive. Strictly speaking however, their distinction is based on the "...psychometric independence of fear and anxiety..." (p. 410). In their systematic and well-elucidated neurobiological explanation of anxiety and its circuitry, the authors describe this non-specific maladaptive reaction (anxiety) as "...characterized by negative emotion or affect... that serves the purpose of informing the individual that although no explicit, specific aversive stimuli are present, conditions are potentially threatening..." (p. 407). With the understanding that this neurobehavioral process is actually felt as fear-anxiety, their explanation can be claimed as an elaborated explanation of the neurobehavioral basis of the SOPS/PCP construct.

Accordingly the root of SOPS/PCP is believed to be in the psychology and biology of certain individuals. It is expected to manifest in people who experienced a relatively long period of or intense exposure to fearfulness or insecurity; and/or in people who were raised by a fear-prone parent-figure who modeled a life of fear, worry or anxiety, which may be instilled in a susceptible child. Over the long run these individuals would have internalized fear-anxiety as the major or persistent response pattern to most situations. In general, the amygdala, hippocampus

campus, PFC and/or ACC would be the brain mechanisms expected to be implicated in the occurrence of or predisposition to this personality (Penzo et al., 2015; Debiec & Sullivan 2014; Kumar et al., 2014; Hughes & Shin, 2011; Jovanovic et al., 2010; Shin & Liberzon, 2010; Etkin & Wager, 2007; Shin et al., 2006; Gilbertson et al., 2002; Bremner, 1999) due to the effects of plasticity, damage or malfunction.

Of particular note is the study by Terburg et al. (2012), which demonstrated that focal, bilateral damage to the basolateral amygdala (BLA) impairs the inhibitory function of the brain's threat vigilance system, in at least partial support of our study's theoretical position. Thus in an environment in which harm is perceived, expected or experienced, a person with this emotional condition will continually use disproportionate fear to interact with their social, physical and internal milieu. As such the individual's behavior may change in similar situations depending on the perceived threat level, as a fear-safety reaction is always at the core of this disposition.

According to the SOPS/PCP theory it should be possible to trace the range of an individual's adaptive expression of this personality from knowledge of the normal ordinary state of fearfulness to an extreme that may be described as disturbed. In due course, it should be practical to direct attention towards the treatment of individuals who develop its severe and chronic manifestations (examples of which are provided in Bickersteth, 2015).

As a new articulation of personality however, SOPS/PCP does not appear to have a direct precedent in the literature to compare this study with others to further explore identical theoretical elucidatory factors. Nonetheless some foundational research relating to certain similar elements shared in common with SOPS/PCP (noted in the hypotheses) does exist that will help to provide some confirmatory methodological structure for SOPS/PCP. Accordingly characteristics of this personality type are expected to show similarity with anxiety dysfunction, whether in general, in the DSM or Neuroticism.

Like the fear aspect of SOPS/PCP its counterpart, safety, does not feature in previous research as articulated here. A different conceptualization of the safety construct however generally appears in previous studies as concerned with health and performance issues in occupational settings (e.g. Rial-González et al., 2005) rather than with personality theory. Nonetheless some influential studies with a focus on work environments define safety as antithetical to fear (for example: Frazier et al., 2016; Kahn, 1990, 1992), which is its presentation in our current study. Notably, utilizing the description of the Emotional Stability and Openness to Experience Domains of the Big 5, Frazier et al. describe safety as a state in which: "...Emotionally stable individuals are more likely to perceive a psychologically safe environment because they tend to be calm, relaxed, and secure as opposed to anxious, hostile, and vulnerable to stress" (p. 118). This depiction indirectly supports SOPS/PCP's definition of emotional instability. In effect, our study's theoretical framework is unique.

3. Materials and Methods

3.1. Sample

To estimate an adequate sample size this study used a Sample Size Calculator from the National Statistical Service of Australia described on their website as “...the community of government agencies, led by the Australian Bureau of Statistics as Australia’s national statistical organisation, building a rich statistical picture for a better informed Australia. It aims to develop and improve the statistical system to ensure providers and users of statistics have the confidence to trust the statistics produced within it.” [www.nss.gov.au/nss/home.NSF/]

By this method the Sample size for the main study was estimated at 325 (rounded up to 400 to accommodate potential attrition). Finally however 406 people actually volunteered. The Test-Retest Sample size was estimated at 80 (rounded up to 100 to accommodate potential attrition) using the same sample calculator. This sample was selected from the larger group of 406, who had done the test. The Retest sample was tested two weeks after the entire sample. Testing the larger sample was done on February 15, 2018 and the re-test on April 2.

Survey Sampling International (SSI) provided a random sample, comprising English-speaking female, male and other adults aged between 18 and 80+ years from the United States and Canada (See **Table 1**).

SSI (formerly Research Now SSI) describes itself as “...the global leader in digital research data for better insights and business decisions. The company provides world-class research data solutions that enable better results for more than 3500 market research, consulting, media, healthcare and corporate clients.” [www.surveysampling.com/]

3.2. Measures

The SOPS/PCP Individual Questionnaire (SOPS/PCPIQ)—This test was developed specifically for this research and the following procedure was used:

- 1) An informal, exploratory trial in which test items were formulated from the original descriptions of SOPS/PCP attributes in the book (Bickersteth, 2015) laid the groundwork for the initial version of the SOPS/PCPIQ instrument. This version was later revised (from yes/no) to conform to a Likert-style format.
- 2) Not all attributes described in the book are obvious to observe. For example those that may be inconsistently displayed, unlikely to be recognized or accepted by the individual except usually only privately or in a close relationship were excluded.
- 3) Items were added to provide demographic information.
- 4) A preliminary study using this version indicated that the instrument was ready for formal deployment.
- 5) Respondents were required to indicate the frequency of the SOPS/PCP attribute in their behavioral repertoire using a six-point Likert-style scale with a range from zero (Never) to 5 (Always).

Table 1. Demographic data.

Age	Frequency	Percent	Valid Percent	Cumulative Percent
18 - 39	142	35.0	35.0	35.0
40 - 59	130	32.0	32.0	67.0
60 - 79	100	24.6	24.6	91.6
80 and higher	34	8.4	8.4	100.0
Total	406	100.0	100.0	
Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Female	217	53.4	53.4	53.4
Male	188	46.3	46.3	99.8
Other	1	0.2	0.2	100.0
Total	406	100.0	100.0	
Current Country	Frequency	Percent	Valid Percent	Cumulative Percent
United States	202	49.8	49.8	49.8
Canada	204	50.2	50.2	100.0
Total	406	100.0	100.0	

The SOPS/PCPIQ is presumed to include psychometric properties in common with tests that have a proven reliability and validity and that reflect similar important SOPS/PCP attributes. Core tendencies arising from a need for safety were seen as fear, anxiety and worry and were considered especially critical in a comparison with this test. The apparent general disposition toward negativity and emotional distress, which has been discussed in relation to emotion and emotional disorder (Watson & Naragon-Gainey, 2014), arise from characteristics associated with the Neuroticism domain of the Big 5. In like manner, similar SOPS/PCP attributes were expected to relate to the Big 5 Neuroticism and key worry-anxiety tests. Accordingly the SOPS/PCPIQ was to be compared with such scales aiming to measure the presumed similar tendencies and especially to observe the relationship between the Neuroticism Domain in the Big Five Inventory and the SOPS/PCPIQ. These tests are as follows:

The Anxiety Control Questionnaire-Revised (ACQ-R)—This test (Brown et al., 2004) assesses an individual's perceived level of control over anxiety and anxiety-related events. It comprises 15 items, eleven of which are to be scored in reverse (R), such as: "When I am anxious, I find it hard to focus on anything other than my anxiety." (R) "Most events that make me anxious are outside my control." (R) "If something is going to hurt me, it will happen no matter what I do." (R) The remaining items are scored directly. For example: "I am able to control my level of anxiety." "I can usually relax when I want." The ACQ-R was included to examine its association with SOPS/PCPIQ, which is expected to be negative, as the former represents Emotion Control, Threat Control and Stress Control.

The Penn State Worry Questionnaire (PSWQ)—This test is made up of 16

items (Meyer et al., 1990). It measures a tendency to worry excessively and uncontrollably in many life situations. Eleven items are to be scored in reverse. Examples of these are: "If I do not have enough time to do everything, I do not worry about it." "I do not tend to worry about things." "I never worry about anything." The others are directly scored, such as: "I am always worrying about something." "I notice that I have been worrying about things." "As soon as I finish one task, I start to worry about everything else I have to do." Higher scores (with the reverse scoring taken into consideration) indicate the individual is clearly prone to worry. The PSWQ was included for its representation of worry, a key element of SOPS/PCP, to examine its association with the SOPS/PCPIQ.

The Beck Anxiety Inventory (BAI)—This self-report instrument consists of 21 items and assesses the extent to which the focus of each item of the test has bothered the individual. The items listed are made up of somatic symptoms such as: "Feeling hot", "Dizzy or lightheaded", "Heart pounding/racing", "Hands trembling" and subjective symptoms such as: "Fear of worst happening", "Terrified or afraid", "Fear of losing control", "Fear of dying". The psychometric properties of the BAI have generally been confirmed by Kabacoff et al. (1997), Osman et al. (1997), Creamer et al. (1995) as demonstrating trustworthy reliability as well as convergent and discriminant validity. The wide acceptance of the BAI, as a strong measure of anxiety made it a suitable instrument to compare with the SOPS/PCPIQ, which also claims to address anxiety as a central issue.

The Big Five Inventory (BFI)—The BFI is a well-known measurement tool, which consists of 44 items that measure the five trait dimensions of personality proposed by McCrae and Costa Jr. (1999). The test contains 9 Extraversion items, 9 items denoting Agreeableness, 9 items pertaining to Conscientiousness, 8 Neuroticism items and 9 items relate to Openness to Experience. Several investigations have noted the negative relationship between Extraversion and Neuroticism (Uliaszek et al., 2010; Watson et al., 1992). It was considered important to see whether the SOPS/PCPIQ follows this trend and therefore establish that the SOPS/PCPIQ best falls under the Big 5 domain structure.

3.3. Design and Procedures

The research questions were as follows:

Study 1—Do people in general outside of a clinical setting observe behavior characteristics of SOPS?

A synopsis of selected aspects is provided in **Table 2**. These brief descriptions of the SOPS/PCP attributes formed the bases of an Observer Questionnaire and a SOPS/PCP questionnaire, which were developed for this study.

Participants were required to indicate on the SOPS/PCP Observation Survey (SOPSO) how often they had encountered the same characteristics of SOPS, as in the rest of this research study. This survey, designed as a Likert-style questionnaire, consisted of items derived from a synopsis of the SOPS attributes (**Table 2**). The SOPSO provided descriptive statistics presented in **Table 3**.

Table 2. Synopses of selected SOPS/PCP attributes.

Attribute	Description
1) A need for control.	Being in control is very important for those who are continually fearful. They tend sometimes to use intimidation or conflict to gain control of situations.
2) Matters are taken seriously.	Fear-guided people present as living life on the serious side and see most of the statements and behaviors of others as significant. Their motto seems to be: "Do things my way" They want to get things right and to produce significant results.
3) Time is very important.	They have a need to keep accurate time and expect it of others. Impatience is a characteristic of this personality type.
4) Impulsive tendencies	Fairly often, under a degree of emotional pressure they act or speak without proper thought.
5) Appearance and image are important	They tend to present an image of themselves that will be approved of, accepted or liked and present themselves as fault-free in appearance, performance or manner.
6) Tendency to be competitive.	Usually covert about their competitiveness. Tend to form alliances and conspiracies; hero-worship, solicit praise and acknowledgement; use self-promotion—all towards maintaining a safety network
7) Extremes & inconsistencies in behavior	As a key example, capable of easily swinging from cooperative and appeasing (wimp) to boldness and aggression (bully).
8) Keep ahead of situations.	Always seeking information, not disclosing their full agenda or intentions; they take a position to win or avoid opposition or criticism.
9) Secret weapons	Use sarcastic humor, secretly held resentments and contempt, display of extreme shock responses for effect, strategic non-involvement and presentation of emotional distress or "drama".
10) Constantly threatened.	Information antennae are always sweeping the internal and external environment for threats, what can go wrong or what is not right; a tendency to personalize.
11) Fear is hidden and shame constant	Tend to hide their fear; fear and shame are interdependent, which intensifies defensiveness.
12) Guilt and blaming	Though frequently guilt-ridden they are very prone to blame and "guilt-trip" others directly or indirectly.
13) Low tolerance of others' emotional expressions.	Intolerant of others' emotional reactions, unless displayed mildly.
14) Low tolerance of bodily and environmental discomforts	Inclined to frequently complain and be dissatisfied; unexpectedly show distressing reaction to disliked situations
15) Preference for certain types of motion and color patterns.	Some show strong reactions to certain types of motion activity, color patterns and textures
16) Order and cleanliness are necessary.	Display an inflexible desire to restore smoothness and straightness to disarranged or rough appearance to bring order. They tend to spend an unwarranted amount of time in regular or constant cleaning. Order and cleanliness seem to provide predictability
17) Many likes and dislikes are based on fear	Dislike for certain animals, people or places with more than ordinary fear below the surface.
18) Care or indiscretion with money and possessions usually fear-based.	Fear is usually the reason to horde money (to ensure availability) or to spend, seemingly foolishly or thoughtlessly (to ward off disagreeable feelings).
19) Fear may undergo transformation.	In the course of life, these personality traits intertwine with other psycho-social outcomes (e.g., intellectual abilities, education, self-esteem, morality, socioeconomic standing, power, cultural values etc.) such that these ways of behaving may not be recognized as safety tactics
20) Fear of criticism and blame is very strong.	They tend to perceive blaming or criticism even when neither is intended; the defense of their innocence or reputation they put up against criticism or blame tends to be disproportionately strong, while desire to be acknowledged and admired seems insatiable.
21) Moody, with faultfinding.	They tend to show an irritable mood and frequent complaining; in this mood, at various times, they also tend to be provocative or conflict-prone.
22) Relationship Difficulties	People with SOPS encounter serious relationship problems socially, at work, in the family and/or in romantic situations

Table 3. SOPSOS items and descriptive statistics.

How often you have observed any part of these behaviors or characteristics in others?	Median	Mean (SD)
1) Seems to feel threatened often	1	1.61 (1.37)
2) Tends to take statements and actions of others seriously or “as is” most of the time	3	2.47 (1.34)
3) Being on time or using time effectively is very important	3	3.37 (1.25)
4) Speaking or acting hastily as if without thinking things through at times; showing impatience	3	2.54 (1.28)
5) Appearing fault-free and keeping image are very important	3	2.72 (1.33)
6) Tends to compete for the most attention	2	2.38 (1.51)
7) Usually keen to get full information: keeps own complete agenda undisclosed	3	2.59 (1.26)
8) Sometimes shows behaviors that are opposite to or inconsistent with other behaviors in similar situations	2	2.27 (1.32)
9) Frequently uses sarcastic humor	3	2.67 (1.43)
10) Tries to control others; seems to strongly desire that others are in agreement with them	2	2.38 (1.52)
11) Tends to become strongly defensive; easily offended	3	2.51 (1.46)
12) Appears to feel guilty often: tends to place blame or guilt on others	2	2.35 (1.47)
13) Quickly frustrated when others show their own emotional needs	2	2.20 (1.38)
14) Low tolerance of discomfort; displays “emotional drama” sometimes	3	2.40 (1.43)
15) Sometimes shows strong liking or dislike for certain textures, colors, patterns and/or motion	2	2.08 (1.45)
16) Order, tidiness and cleanliness appear to be very important	3	2.95 (1.33)
17) Very cautious in spending money; often spends freely	3	2.82 (1.30)
18) Seems to go to lengths to avoid criticism or blame; has a strong need to be acknowledged, praised or admired	3	2.65 (1.37)
19) Tends to often complain or be dissatisfied	3	2.67 (1.41)
20) Tends to be moody, easily bothered or irritated	3	2.63 (1.42)
21) Tends to have relationship problems (e.g. at work, within the family, socially and/or in romantic settings)	3	2.47 (1.48)

Study 2—Is the SOPS/PCPIQ (SOPSIQ) reliable? Internal reliability and test-retest reliability of the SOPSIQ were assessed.

Study 3—Is the SOPSIQ valid? The following hypotheses were formulated:

The SOPSIQ is associated with well-established fear-anxiety tests and with the Big 5 Neuroticism test embedded in the BFI and unrelated to Extraversion in the Big 5 model.

The factor structure of SOPSIQ shows consistency.

Study 4—Is SOPS an actual behavioral style distinguishable from non-SOPS? The following hypothesis was formulated:

Trauma-history subjects show significant difference on SOPIQ performance from non-trauma history subjects. This difference was shown using t-test.

All data were collected online and all items were mandatory, as participants were prevented from doing the next item before completing the preceding.

4. Results

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS), version 24.

4.1. Study 1

Descriptive Analysis of SOPSOS—**Table 3** presents the descriptive statistics for SOPS items. As the table shows, most of the behavior characteristics (14 out of 21) of SOPS have a median score of 3, indicating these behavior characteristics were occasionally observed by people outside of a clinical setting. Six out of 21 behavior characteristics have a median score of 2, indicating they were rarely observed. Only one behavior characteristic, “seems to feel threatened often”, has a median score of 1, indicating this behavior was very rarely observed. The standard deviations of the items range from 1.25 to 1.52, indicating good variability.

4.2. Study 2

Descriptive Statistics and Analysis of SOPS/PCPIQ (SOPSIQ) Items—**Table 4** presents the descriptive statistics for SOPSIQ items. For both pre- and post-tests, the medians, means, and standard deviations of the item are provided. The last column presents the Pearson correlation between test and retest at item level. The correlation coefficients were all found to be significant, ranging from 0.26 to 0.74.

Reliability Analysis—The internal and test retest reliability of the SOPSIQ scale were assessed using Cronbach’s alpha and intraclass correlation (ICC), which are presented in **Table 5**.

These results show that the pre- and post tests have comparable Cronbach’s alpha, 0.87, which suggests a high internal reliability of the scale. For test retest reliability, we computed ICC using a single-rating, absolute-agreement, 2-way fixed-effects model with two tests across 97 matched subjects. The resulting ICC value was 0.585, indicating moderate reliability (Koo & Li, 2016). The 95% confidence interval of ICC ranged between 0.44 and 0.70.

4.3. Study 3

Convergent and Divergent Validity Analysis—To assess the convergent validity of the SOPSIQ scale, we examined the Pearson correlations between SOPSIQ and three similar well-established fear/anxiety tests (BAI, ACQ-R, PSWQ) & BFI Neuroticism. Divergent validity was assessed using the Pearson correlations between SOPSIQ and BFI Extraversion subscale. The results are shown in **Table 6**.

SOPSIQ had moderate positive but significant correlations with BAI [0.65 ($p < 0.01$)], PSWQ [0.60 ($p < 0.01$)] and BFI Neuroticism [0.61 ($p < 0.01$)]. SOPSIQ also had moderate negative but significant correlations with ACQ-R’s Emotion Control [0.65 ($p < 0.01$)], Threat Control, [0.60 ($p < 0.01$)] and Stress Control [0.61 ($p < 0.01$)]. These results supported the convergent validity of the SOPSIQ scale. In contrast, there was no significant correlation between SOPSIQ and BFI Extraversion subscale. This result provided divergent validity evidences for the SOPSIQ scale.

Exploratory Factor Analysis (EFA)—EFA was conducted to explore SOPSIQ’s factor structure. *Principal axis factoring extraction with Promax*

Table 4. SOPSIQ items and descriptive statistics.

Select your response choice to express how you feel or think about each statement.	Test			Re-test			Test/re-test <i>r</i>
	Median	Mean	SD	Median	Mean	SD	
1) It is normal to be unsure that you are safe from being harmed or hurt	3.00	2.63	1.27	3.00	2.48	1.50	0.37**
2). It is easy for people to hurt others with unfair criticism or blame	3.00	3.39	1.16	4.00	3.40	1.18	0.29*
3) I look for all the compliments and praise I am due	2.00	2.23	1.27	3.00	2.42	1.35	0.50**
4) I often say so when it feels like life is unfair or things are not going my way or in my favor	2.00	2.40	1.27	3.00	2.62	1.40	0.33**
5) More than a few times a day I feel frustrated or upset	2.00	2.07	1.32	2.00	2.26	1.43	0.65**
6) It is very uncomfortable whenever others find fault with one's appearance or image	3.00	2.86	1.33	3.00	3.31	1.23	0.33**
7) It is difficult to wait for people or things	3.00	2.71	1.25	3.00	2.69	1.39	0.46**
8) I probably speak or act in haste at times	3.00	2.48	1.18	3.00	2.40	1.35	0.41**
9) I often regret things soon after I say or do them	2.00	2.08	1.24	2.00	2.10	1.36	0.62**
10) Some of my statements could be (or have been) described as sarcastic humor	3.00	2.95	1.36	3.00	3.09	1.25	0.44**
11) I may sometimes react very strongly or "lose it"	2.00	2.05	1.34	2.00	1.99	1.38	0.67**
12) Many situations are difficult in a relationship (whether at work, socially, in the family and/or in romantic situations)	3.00	2.56	1.20	3.00	2.67	1.26	0.50**
13) The things that make a person very defensive or feel offended are always around you	2.00	2.12	1.23	2.00	2.33	1.31	0.26**
14) It is always very important to get as much information as there is	4.00	3.89	0.92	4.00	3.94	1.13	0.44**
15) Order, tidiness and cleanliness are very important	4.00	3.66	1.04	4.00	3.69	1.18	0.34**
16) I have a definite liking or dislike for certain textures, colors, patterns and/or motion	3.00	2.77	1.42	3.00	2.71	1.46	0.35**
17) It might seem to others that my behavior is opposite to or inconsistent with other behaviors in similar situations	2.00	2.25	1.25	2.00	2.24	1.31	0.50**
18) Most of the time I take almost all statements and actions of others seriously or "as is"	3.00	2.90	1.16	3.00	2.87	1.18	0.60**
19) Being on time and using time effectively are always very important	4.00	3.92	1.01	4.00	3.98	1.01	0.36**
20) It is seldom necessary to disclose all of one's options	3.00	2.96	1.11	3.00	3.03	1.16	0.30**
21) I worry often about many things		2.67	1.47	3.00	2.85	1.42	0.69**
22) "Do things my way" could well be my motto, because that always feels better	3.00	2.5	1.33	3.00	2.71	1.34	0.53**
23) Very often my mind is full of thoughts that come up again and again	3.00	3.05	1.28	3.00	3.09	1.39	0.49**
24) At least one of my parents (the person who raised me) may be described as "a worrier"	3.00	2.76	1.56	3.00	2.76	1.55	0.58**
25) At least one of my parents (the person who raised me) had emotional problems when I was growing up	2.00	2.12	1.73	3.00	2.41	1.73	0.74**
26) I have suffered from the effects of trauma or a difficult emotional life for at least two years	2.00	2.14	1.82	3.00	2.27	1.74	0.59**
27) I and/or one parent experienced a dangerous or very threatening personal, political and/or military event/s for an extended period	1.00	1.42	1.7	1.00	1.57	1.7	0.49**
28) I have been/am being bullied	2.00	1.79	1.6	2.00	1.89	1.57	0.60**
29) I and/or one parent has suffered a serious illness	3.00	2.63	1.86	3.00	2.51	1.73	0.60**

**significant at 0.01 level; *significant at 0.05 level.

Table 5. Internal consistency and test retest reliability of SOPS IQ.

	Sample Size	Mean	Std. deviation	Cronbach's alpha
Test	406	75.94	18.081	0.87
Re-test	97	78.28	18.94	0.87
Test/retest Reliability (ICC)	0.585* CI [0.44,0.70]			

* $p < 0.01$.

Table 6. Convergent and divergent validity of SOPS IQ.

	Beck Anxiety	Anxiety Control			Penn State Worry		Big five	
		Emotion	Threat	Stress	Neuroticism	Extraversion		
SOPS IQ	0.65**	-0.37**	-.51**	-0.62**	0.60**	0.61**		-0.06

**Correlation is significant at the 0.01 level.

rotation was performed on 29 items from the SOPS IQ for a sample of 406 participants. Five eigen values were greater than 1, indicating there were five potential factors. Together, they explained 37.5% of the total variance. Factor loadings and variance explained by each factor are shown in **Table 7**. To facilitate interpretation, the variables were ordered and grouped by magnitude of factor loading. Factor loadings less than 0.3 were considered as practically not significant and were excluded from **Table 7**. Only one item (“It is seldom necessary to disclose all of one’s options”) did not load on any factor. Two items had minor cross loadings (slightly above 0.3): “More than a few times a day I feel frustrated or upset”, and “At least one of my parents (the person who raised me) may be described as ‘a worrier’”.

The correlations of the EFA factors are presented in **Table 8**.

Factor 1—Harm Avoidance; Factor 2—Trauma Experience; Factor 3—Threat Sensitivity; Factor 4—Worry; Factor 5—Maladaptive Situational Control. For factor 1 to factor 4, they positively correlated with each other at correlation coefficients ranging from 0.34 to 0.61. For factor 5, it has a very weak negative correlation with factor 1 to factor 4 at correlation coefficients ranging from -0.01 to -0.1.

4.4. Study 4

The Effect of Trauma Items on SOPS IQ Performance—To assess the effect of psychological trauma items on other SOPS IQ items, Non-trauma history and Trauma history groups were created based on the scores of each item presented in the first column of **Table 9**. Subjects with scores 0 or 1 were classified as the non-trauma (history) group, and subjects with scores 4 or 5 were classified as the trauma (history) group. Six independent-samples t-tests were conducted to compare the average score of items 1 to 23, which measure the SOPS characteristics.

Table 7. Exploratory factor analysis pattern matrix of SOPSIQ.

Select your response choice to express how you feel or think about each statement.	F1	F2	F3	F4	F5
I look for all the compliments and praise I am due	0.648				
I often say so when it feels like life is unfair or things are not going my way or in my favor	0.638				
It might seem to others that my behavior is opposite to or inconsistent with other behaviors in similar situations	0.545				
I may sometimes react very strongly or “lose it”	0.523				
The things that make a person very defensive or feel offended are always around you	0.471				
It is normal to be unsure that you are safe from being harmed or hurt	0.470				
Most of the time I take almost all statements and actions of others seriously or “as is”	0.430				
“Do things my way” could well be my motto, because that always feels better	0.419				
I often regret things soon after I say or do them	0.336				
Many situations are difficult in a relationship (whether at work, socially, in the family and/or in romantic situations)	0.325				
I have a definite liking or dislike for certain textures, colors, patterns and/or motion	0.324				
At least one of my parents (the person who raised me) had emotional problems when I was growing up	0.592				
I have suffered from the effects of trauma or a difficult emotional life for at least two years	0.579				
I and/or one parent has suffered a serious illness	0.567				
I have been/am being bullied	0.505				
I and/or one parent experienced a dangerous or very threatening personal, political and/or military event/s for an extended period	0.479				
Some of my statements could be (or have been) described as sarcastic humor	0.638				
I probably speak or act in haste at times	0.599				
It is difficult to wait for people or things	0.485				
It is easy for people to hurt others with unfair criticism or blame	0.414				
It is seldom necessary to disclose all of one’s options					
I worry often about many things	0.664				
Very often my mind is full of thoughts that come up again and again	0.504				
More than a few times a day I feel frustrated or upset	0.320	0.485			
It is very uncomfortable whenever others find fault with one’s appearance or image	0.467				
At least one of my parents (the person who raised me) may be described as “a worrier”	0.321	0.338			

Continued

It is always very important to get as much information as there is	0.638
Being on time and using time effectively are always very important	0.621
Order, tidiness and cleanliness are very important	0.525
Variance explained by each factor	22.28% 6.10% 4.55% 2.51% 2.10%

Table 8. Factor correlation matrix of SOPSQ.

	F1	F2	F3	F4	F5
F1	1.00				
F2	0.37	1.00			
F3	0.61	0.34	1.00		
F4	0.60	0.39	0.52	1.00	
F5	-0.1	-0.06	-0.01	-0.06	1.00

As indicated in **Table 9**, when grouping was based on “At least one of my parents (the person who raised me) may be described as ‘a worrier’”, non-trauma subjects ($M = 2.40$, $SD = 0.68$, $N = 96$) scored significantly lower on the SOPS characteristics than trauma subjects ($M = 2.98$, $SD = 0.59$, $N = 145$), $t(239) = -6.96$, $p < 0.001$, two-tailed. The difference of -0.57 scale points was large (Cohen’s $d = 0.91$), and the 95% confidence interval around difference between the group means was relatively precise (-0.74 to -0.41). When grouping was based on “At least one of my parents (the person who raised me) had emotional problems when I was growing up”, non-trauma subjects ($M = 2.59$, $SD = 0.62$, $N = 175$) scored lower on the SOPS characteristics than trauma subjects ($M = 2.94$, $SD = 0.66$, $N = 104$), $t(277) = -4.485$, $p < 0.001$, two-tailed. The difference of -0.35 scale points was medium (Cohen’s $d = 0.55$), and the 95% confidence interval around difference between the group means was relatively precise (-0.51 to -0.20). When grouping was based on “I have suffered from the effects of trauma or a difficult emotional life for at least two years”, non-trauma subjects ($M = 2.53$, $SD = 0.63$, $N = 175$) scored lower on the SOPS characteristics than trauma subjects ($M = 3.01$, $SD = 0.62$, $N = 116$), $t(289) = -6.415$, $p < 0.001$, two-tailed. The difference of -0.48 scale points was large (Cohen’s $d = 0.78$), and the 95% confidence interval around difference between the group means was relatively precise (-0.63 to -0.33). When grouping was based on “I and/or one parent experienced a dangerous or very threatening personal, political and/or military event/s for an extended period”, non-trauma subjects ($M = 2.67$, $SD = 0.62$, $N = 248$) scored lower on the SOPS characteristics than trauma subjects ($M = 2.91$, $SD = 0.68$, $N = 65$), $t(311) = -2.792$, $p < 0.001$, two-tailed. The difference of -0.25 scale points was medium (Cohen’s $d = 0.37$), and the 95% confidence interval around difference between the group means was relatively precise

Table 9. T test results for the effects of trauma on SOPS IQ performance.

Grouping at	Groups	N	Mean	SD	t(df)
At least one of my parents (the person who raised me) may be described as “a worrier”	Non-trauma	96	2.40	0.68	-6.96 (239)
	Trauma	145	2.98	0.59	
At least one of my parents (the person who raised me) had emotional problems when I was growing up	Non-trauma	175	2.59	0.62	-4.49 (277)
	Trauma	104	2.94	0.66	
I have suffered from the effects of trauma or a difficult emotional life for at least two years	Non-trauma	175	2.53	0.63	-6.42 (289)
	Trauma	116	3.01	0.62	
I and/or one parent experienced a dangerous or very threatening personal, political and/or military event/s for an extended period	Non-trauma	248	2.67	0.62	-2.79 (311)
	Trauma	65	2.91	0.68	
I have been/am being bullied	Non-trauma	202	2.57	0.62	-6.80 (276)
	Trauma	76	3.13	0.61	
I and/or one parent has suffered a serious illness	Non-trauma	137	2.64	0.64	-2.42 (307)
	Trauma	172	2.82	0.63	

(-0.42 to -0.07). When grouping was based on “I have been/am being bullied”, non-trauma subjects ($M = 2.56$, $SD = 0.62$, $N = 202$) scored lower on the SOPS characteristics than trauma subjects ($M = 3.12$, $SD = 0.61$, $N = 76$), $t(276) = -6.808$, $p < 0.001$, two-tailed. The difference of -0.56 scale points was large (Cohen’s $d = 0.91$), and the 95% confidence interval around difference between the group means was relatively precise (-0.73 to -0.40). When grouping was based on “I and/or one parent has suffered a serious illness”, non-trauma subjects ($M = 2.64$, $SD = 0.64$, $N = 137$) scored lower on the SOPS characteristics than trauma subjects ($M = 2.82$, $SD = 0.63$, $N = 172$), $t(307) = -2.42$, $p < 0.001$, two-tailed. The difference of -.18 scale points was small (Cohen’s $d = 0.28$), and the 95% confidence interval around difference between the group means was relatively precise (-0.32 to -0.04).

All these six independent t tests revealed that trauma-history subjects showed significantly higher SOPS IQ score than non-trauma history subjects.

5. Discussion

5.1. The Findings of the Study

The aim of this study was to provide empirical evidence that SOPS/PCP, a previously unknown pattern of personality functioning, is an actual personality type even if similar to Big Five Neuroticism and other anxiety conditions. But first the SOPS IQ’s reliability and validity needed to be established, which the pertinent correlation studies did confirm.

That a random sample of people observed the characteristics of SOPS/PCP in their everyday life demonstrates this is not a clinical phenomenon or psychological construct. Because the SOPS items are the same as the SOPS/PCP attributes encountered mostly in the clinical setting, their endorsement in a

structured research context confirms the authenticity of the public occurrence of the same condition. Going unidentified all this time for serendipity to now reveal this whole class of personality is remarkable. It is likely however, that with the introduction and extended success of the DSM (and likewise the Big Five model), researchers have tended to narrow their investigative focus on personality to mainly the behavioral patterns the DSM categories and Big Five domains present. Hopefully the newer trend of viewing personality as dimensional and empirically verifiable has now through the introduction of SOPS/PCP moved the field forward to searching for other personality groups that are neurobiologically grounded and can be tracked etiologically.

Significant correlations in the comparisons with worry and anxiety tests support the proposal that SOPS/PCP is clearly fear-anxiety-based and also back the suggestion that Big 5 Neuroticism and SOPS/PCP are associated. The cohesive factor pattern, which emerged (constituting perception of harm needing to be avoided, experiencing trauma, sensitivity to threats, emersion in worry and a need to control situations) seem to naturally highlight the underlying components in an anxiety-based personality structure. The t-tests clearly show that people with SOPS/PCP are distinguishable from individuals without this condition, in support of the primary point of our research study.

As such the study has produced a positive confirmation of SOPS/PCP's empirical status. With this empirical confirmation of the significant attributes of SOPS/PCP macro-level research may address the national, international and cultural differences of this psychological, self-centered malady; while at a micro-level volunteer samples from groups, such as prison inmates, hate groups, Extremists, immigrant and refugee groups may be studied for the patterns of SOPS/PCP among them. Statistical cutoffs will be needed to establish levels from normal to pathological or clinically significant impairment along a quantitative continuum, to guide the development of treatment protocols.

5.2. Benefits of the Study

The introduction of SOPS/PCP as an emotion-based personality type significantly adds needed empirical legitimacy to the field of personality psychology in its representation of personality and personality disorder. As such SOPS/PCP provides evidence that personality disorder may represent specific identifiable types of emotional disturbance. This finding opens the door to the possibility that SOPS/PCP's clinical utility hopefully will indicate opportunities for effective types of treatment or management that will more accurately target its dysfunctional characteristics. And people in this class/type, their closest associates and mental health professionals will now be better informed as to a common name (SOPS/PCP) for this behavior pattern.

People will now have an explanation for behaviors, which previously were difficult to understand and therefore hard for the perpetrators themselves to accept as well as for loved ones and associates. This point is important for describing and understanding behaviors that were previously attributed to the fault of oth-

ers or to factors other than a mental-emotional condition. Such misattributions are all the more problematic because they give rise to false assessment, wrong conclusions and misguided judgments, especially considering denial and dissimulation also are safety characteristics of SOPS/PCP.

On the basis of the theorized origin of SOPS/PCP, investigations may be done to uncover its neurobiological correlates. In order to obtain correlates as [Patrick and Bernat \(2010\)](#) suggest, instruments, which measure neurophysiological traits, such as operationalized in behavioral terms in the SOPS/PCPIQ, should provide at least a cost-effective method to quickly and more accurately identify individuals considered as exhibiting or are at risk of this psychopathology, who may undergo targeted diagnostic neuroimaging and genetic studies. Moreover in this regard, the fact that the SOPS/PCP construct arose from observed behavior should further emphasize its usefulness for analyzing such findings, since characteristics of this target condition are to a large extent already known.

It may now be possible to compare SOPS/PCP with some DSM personality disorders (PD) on the one hand, with which it seems to share certain characteristics commonly, such as the case with Avoidant, Dependent, Obsessive-Compulsive, Borderline, Paranoid and Narcissistic PD; and on the other hand, with some DSM disorders, such as PTSD, Adult Attention Deficit Disorder (ADD), Attention Deficit-Hyperactivity Disorder (ADHD), Generalized Anxiety Disorder and the Dissociative Disorders to discover their association with SOPS/PCP. As well, such comparisons should clarify how much of the SOPS/PCP construct is in them, which may throw light on the question of etiology and probably on the nosology of DSM-5 categories.

5.3. SOPS/PCP May Help to Explain Certain Socially Troubling Behaviors

Perpetrators of chronic domestic abuse including violence have usually been observed to exhibit behavioral characteristics of Cluster B PD (Antisocial, Borderline and Narcissistic). As such it is difficult to assign this behavior pattern to any one DSM diagnostic category considering the confounding co-morbidities such partial relationships indicate. Seeing domestic abuse perpetrators through the prism of SOPS/PCP however, would seem to provide the best classification fit in view of the range of characteristics attributed to these individuals ([Rakovec-Felser, 2014](#)). Assigning domestic abuse/violence under the SOPS/PCP umbrella puts that behavior on a trajectory of objective research that will make potential perpetrators more accurately identifiable, predictable and treatable within a common paradigm. As with Dementia (Alzheimer's Disease) in connection with the work conducted under the University of Toronto's Alzheimer's Disease Neuroimaging Initiative ([Mah et al., 2015](#)), it is already being confirmed that neuroscientific methods are invaluable in unraveling the connections between anxiety conditions and brain changes. This group of researchers has found an association between the severity of anxiety and risk of developing Alzheimer's Disease, as confirmed by neuro-imaging observations. The more extended description of SOPS/PCP ([Bick-](#)

ersteth, 2015) discusses the likely toll of over-thinking load due to prolonged states of anxiety on the information-processing power of the individual's brain.

SOPS/PCP appears to offer explanation also for behaviors considered representative of an unknown psychological pathology or disorder that have previously remained baffling; but may now be seen as reflecting its characteristics. These behaviors include controlling, autocratic and bullying tendencies, although, on the other hand this type of bully seems also prone to appear wimpy or evasive (almost Jekyll and Hyde) in certain situations. Usually also people exhibiting SOPS/PCP tend to be perfectionists, with a seemingly insatiable need for acknowledgment and admiration by others and may sometimes be prone to antisocial and addictive behaviors (Bickersteth, 2015). The report of observers provides evidence that the characteristics of SOPS/PCP (SOPSOs, **Table 3**) are likely to be encountered in Presidents, Prime Ministers, CEOs, Supervisors, parents, relatives and acquaintances, that is, in practically all domains of life. As such SOPS/PCP may be the explanation for these behaviors when they are frequently exhibited. These ways of responding are expected to also characterize individuals as well as groups, for example, survivors of abuse, hostile revolutions, tragic historical experiences and wars; as well as nationals from countries that have had oppressive or authoritarian leaders using fear as a ruling devise. Also not surprisingly strong opponents of immigration and refugee programs would sometimes be under the influence of fear-motivation and some likely would be exhibiting SOPS/PCP.

Of particular significance in this context is the likely credible solution to the puzzle as to how in the same situation of danger only some people develop an extreme anxiety reaction, (such as PTSD). The likely answer is that at least some of those who are more heavily or seriously affected are most probably demonstrating the accompanying effects of SOPS/PCP. Accordingly SOPS/PCP also indicates the probable prevalence of other affective disorders yet to be identified.

5.4. All Fear States are not the Same: Deconstruction of SOPS/PCP

By definition all fear is an expression of a need for safety. This experience is however not equally distributed among people based on the situations they face, as it is clear that fear and anxiety can be expressed from none to varying greater degrees in the same situation by two or more people. Our reactions are determined not only by the kind of stimulus, which elicits them but also by its properties. A laugh-producing stimulus, for example a joke or a cartoon, may elicit a short vs. long laugh vs. "rolling-on-the-floor" laughter from one but not another person. In the same way the type and properties of the fear stimulus will determine the nature of the fear reaction. The particular way a stimulus is appraised however always involves a mediating agent (thoughts) by which the differing responses may be explained.

Accordingly the disorders that develop in different people would differ based on a variety of stimulus characteristics, particularly those encountered in early life exposures: for example, the personal trauma of being shot at, a near-

drowning, being the target of bullying from siblings, parents or at school would look somewhat or clearly different from those which arise from unexpectedly losing a parent, sibling or romantic partner through “premature” death, severe disability or terminal illness; and different yet if one of them was looked upon as a hero or protector. Again the anxiety reactions that would arise in certain circumstances are expected to vary quite drastically in individuals who apiece were victims of a disaster like a tornado, tsunami, genocide, war or devastating fire. In further distinction, the anxiety disorder produced in someone who was exposed to the anxiety disorder of a modeling parental figure through observation or vicarious suffering (sometime purposefully reinforced by the parent) would show some or major differences to the other sources of anxiety reactions described. In a sense therefore it could be said that the strength of the earliest precipitating, strong fears(s) “sets the rules” for reacting to future fear-evoking events.

Though we are all susceptible to displaying frightened or nervous reactions in certain situations, it would be expected that people who are already fear-prone would react more strongly than most other people under these same conditions depending on the “rules” that govern the elicitation and course of their emotional reaction. As such while the anxiety in SOPS/PCP may be seen as holistic, it is still composed of different types and intensities, as many differing anxiety-eliciting situations would have contributed to its formation (e.g. Anxiety from being bullied vs. Anxiety from exposure to a tsunami). This explanation allows room for the discovery of other types of fear patterns or for that matter of any other emotion-based pattern of reacting.

Along these lines, it is also likely that some learning problems, which are emotion-based have been wrongly identified as intellectually based “Learning Disability” and that the same fear-circuit or limbic system malfunction may be responsible. Considering the likely interference of fear in cognitive task execution further wide-ranging obstruction to learning could arise essentially, from intrusive thinking and rumination related to anxiety. The resulting periodical inattention in the classroom may lead to poor achievement (Polderman et al., 2010) and a series of learning/knowledge gaps that make educational content unintelligible, confusing and therefore sometimes easily forgettable. Such outcome in turn would create additional anxiety and probably by this point compounded by frustration and shame leading to more intrusive and ruminative thoughts. With this process being repeated a recycling or recurring pattern would result. Arguably it is probably a case of the chicken-or-egg as to whether anxiety leads to inattention or vice versa.

Given the inherent dimensional nature of fear-anxiety however, it is reasonable to expect SOPS/PCP to develop through a range of severity as a result of eliciting and aggravating factors. As such the expression of this fear-anxiety condition being disproportionately persistent, ubiquitous and sometimes intense as it is, must be seen as likely presenting a higher or more severe level of the need for safety.

In view of these speculations this study of SOPS/PCP opens the door to a

number of research possibilities that will examine their empirical validity. More notably the unveiling of SOPS/PCP allows for exploring and explaining personality pathology as emotion-based conditions separately from DSM and Big Five typologies.

5.5. Analysis of SOPS/PCP as a Coping Mechanism

How SOPS/PCP became a “go to” response style in most situations may be explained in terms of evolutionary development, as follows: Stimulus-response reactions do not occur in isolation. At the point when any response pattern (as in this case fear) first begins to form, the fear stimulus would be present together with other occurring events in the situation in which fear is evoked. Some of these co-occurring elements may become conditioned as strong or significant fear elicitor(s). As such these “secondary” fear elicitors will elicit fear when encountered in other situations. From both the original and subsequent fear situations various items are likely from repetitive or powerful associations to become classically conditioned to produce similar fear responses in multiple situations. Thus the chain or linkage of potentially fearful stimuli spreads to most environments causing them to become actually or potentially threatening.

Because certain events have deadly or very painful consequences they, and closely resembling or aligned types of stimuli, will remain powerful fear elicitors, sometimes sufficient to require motoric escape whenever present. Perceived as less harming certain stimuli through habituation, will lose the urgent impetus that causes withdrawal, relative to their fear power. This process is seen as a pattern of learning and coping established primarily evolutionally. Adopting the viewpoint of Millon and Grossman (2004) the process of learning and coping could sometimes come under the influence of intense stimulation especially with respect to emotional responsiveness that could disrupt the normal, balanced pattern of personality development causing “overdevelopment in neurobiological substrates that are harmful to effective psychological functioning” (p. 347-348). Based on their discussion of polarities in personologic formation a subclass of personologic polarity seems evident in our evolutionary development. The propensity to maladaptive functioning, which the SOPS/PCP theory reflects in its threat-safety construct could have stemmed from this evolutionary process. Thus further specialization in a repertoire of behavior produces a particular personality pattern, which becomes entrenched, given sufficient time, through unique or specific emotionally impacting experiences. This social-environmental process of behavioral shaping continues to operate; and evolution has made it possible for heredity to pass on such compromised coping styles genetically, as some studies have discussed (for example, Carey & DiLalla, 1994). SOPS/PCP is most likely to develop as a coping method in the life of an individual through hereditary and/or modeling transmission. Without these forms of acquisition, unless faced with powerful and/or frequent fear stimuli, a SOPS/PCP pattern of reacting may or may not start, depending on operant conditioning from the exposure(s).

5.6. DSM Categories Likely Conceal Diagnostically Important Constructs Because of Mislabeling

SOPs/PCP demonstrates a need to similarly deconstruct DSM personality disorders to discover the special kinds of circumstances that would give rise or contribute significantly to their evolution and etiology, as well as their progress from normal to pathological states. It is noted moreover that the DSM personality categories are grouped conceptually, unsupported theoretically or statistically. As such it seems to be within the realm of possibility that apart from the conditions designated as anxiety-related the formative basis of other disorders or their primary constituents could be fear-anxiety, for example those now located under Trauma- and Stressor-Related Disorders, Dissociative Disorders, Disruptive, Impulse-Control and Conduct Disorders; Borderline Personality Disorder, Narcissistic Personality Disorder; hoarding and in particular conditions in patients who meet NOS criteria, as well as those identified as: Other Conditions That May Be a Focus of Clinical Attention. To the extent not described as fear-based and therefore belonging to the “same” category, these DSM conditions may not be recognized as such. It is the very fact of the complexity of the noted conditions that make their etiology important. Even if such deconstruction is possible to the level of etiology however, for some conditions that process likely faces the significant problem of declaring the rule by which to identify the form of behavior that is “normal” in order to distinguish it from the type of what is characterized as a disorder in the DSM classification. In other words that categorical system of identifying diagnostic entities appears to be nomologically challenged. Moreover, from another standpoint of disputation, which [Smith & Combs \(2010\)](#) stated, by collectively assigning one term to describe different psychopathological constructs whose covariance is unproven within that category compromises its construct validity.

It is notable that the current types of psychopathology within the DSM model that are being addressed with moderate success using specific widely accepted treatment protocols appear to be primarily those that arise from a known emotional base: such as PTSD (fear/anxiety-based) and depression (sadness-based). It is conjectured that this treatment success at least in the earlier stages of these conditions is due largely to the “built-in” clarity of their emotional basis and dimensional nature. Outside of these conditions mental health professionals do not appear to have arrived at accepted effective treatment procedures by relying on the DSM depiction of personality. Even in the case of the relative success with above-noted emotional problems treatment of their chronic states tend to be challenging due to recidivism. [Skodol \(2010\)](#) states this problem more elegantly and inclusively:

“...No laboratory marker has been found to be specific for any DSM-defined syndrome. Epidemiological and clinical studies have shown high rates of co-morbidity within and across axes, as well as short-term diagnostic instability. And a lack of treatment specificity for individual disorders has been the rule rather than the exception”. (p. 362).

It is conceivable that like SOPS/PCP, some DSM disorders are emotional states that have “morphed” over time into different chronic forms, due to shaping by internal and external emotion-based pressures, which in the case of SOPS/PCP are fear-directed. Knowing their dimension-based etiology however, would provide a traceable line of sight from defining to treating these emotional problems. Apparently the current DSM “symptoms” do not offer this clear path for their characterization and treatment.

The present study offers such a hope in demonstrating the important potential of being able to link the treatment of chronic personality problems with their dimensional psychological origin. Therefore through this process more work may be done on management techniques and therapies, as is possible with SOPS/PCP that individuals, their family, close associates and therapists will use routinely to at least ameliorate, if not completely treat emotion-based psychopathology (Ritzert et al., 2016; Mayo-Wilson & Montgomery, 2013; Kotov et al., 2010; Abramowitz et al., 2009; Ponniah & Hollon, 2008). In pursuit of easily applied treatment objectives the now ancient and still repeated call for real progress towards representing personality on a dimension, on which movement from normal to pathological is clearly evident (Widiger & Trull, 2007; Widiger & Costa Jr., 1994), is echoed in our study once more.

Indeed stating the severe level of a disorder, as seems to be the case of the conditions presented in the DSM categories, without stating how to identify its mildest form seems artificial. With the fundamental quality of an unbroken continuity in a dimensional model being absent the practicality of determining a start point of the continuum of a DSM condition is removed. As such the ability to tell whether two or more conditions in that categorical system have the same origin or not, is blocked. This greatly limits diagnostic and treatment accuracy. For example SOPS/PCP might indicate an alternate explanation of some co-morbid occurrences in diagnosing mental disorders, which in the case of Generalized Anxiety Disorder in a German study using DSM-IV criteria was said to be as high as 94%. The researchers commented on the rarity of non co-morbid disorders for respondents with a 12-month diagnosis (Jacobi et al., 2004). As such it should be considered whether co-morbid conditions in anxiety disorders, particularly in the case of personality disorders, which are usually the highest represented across all anxiety disorders (Friborg et al., 2013) could just as well indicate that the diagnostic symptom lists for personality disorders in the DSM may together contain other self-contained independent conditions such as SOPS/PCP. In other words the co-morbid conditions may represent behavioral symptoms of “concealed” intact syndromes that show up as “bits and pieces” of symptoms that do not meet the full criteria for the DSM categories under which they are listed. It would be practical to discover these probable “new” types of disorders if in each case the etiology could be determined. This idea may have merit particularly since the groupings in the DSM from which the co-morbid conditions are said to originate have not been seen to have an acceptable delineation of their categorical authenticity. Therefore the problem for the DSM model

goes beyond that of defending the validity of its classification system. A total reconstruction seems indicated.

Even the attempts at presenting the validity of normal-to-pathological transition under the aegis of the Big 5 higher-order traits have been criticized. Apparently studies, which have addressed the relationship between Big 5 traits and DSM categories to demonstrate the continuity from normal Big 5 trait to DSM personality disorder have generally failed to explain the basis on which for e.g. the Big 5 item develops into a disordered trait (Depue & Lenzenweger, 2005).

5.7. Problematic Development of the Big 5 Model

The higher order Big 5 model also is not exempt from questions of the empirical (real-life) legitimacy of its domains, as they do not self-evidently demonstrate their emotional origin. Since all behaviors are caused or triggered by some event it is probably necessary, for example, to show how and which behaviors first emerged and developed in ways that their common characteristics may authentically qualify as an overarching behavioral expression. The same is expected at any sub-domain or facet level, recognizing that the domain and facet names are category titles. For example the Agreeableness domain is a heading for the six facets identified as—trust, straightforwardness, compliance, altruism, modesty, and tender-mindedness. The Domains are not behavior-based expressions that have been empirically shown to develop from or into a pattern, for example, characterized by Agreeableness. The basis for the inclusion of a facet type in a Domain is in contrast, for example, to the reason for including an anxiety problem under an Anxiety Domain.

Essentially the Big 5 model is the result of developing a list of lexically defined personality traits and subjecting it to factor analysis. At one stage a researcher reduced the list of traits from 4500 to 35 (John et al., 2008) thereby "... eliminating more than 99% of the original traits" (p. 118). This kind of list after questionable attempts to smoothen methodological and linguistic problems, was subjectively if not arbitrarily put together, apparently to become the foundation on which the overarching domains of the Big 5 was built. Moreover the model has developed from an uncoordinated research process in which several people over time produced individual "versions", that demonstrated various statistical weaknesses and from which a historical timeline and manner of development of the model is not consistently apparent. (De Raad et al., 2010; Peabody & De Raad, 2002; Matthews, 1997; Goldberg, 1993; John et al., 1991; Digman, 1990).

One type of problem with using linguistic or lexical concepts to denote behavioral manifestations is the likelihood that a similar word in the dictionaries of two languages may not represent the same behavior in real life. For example a statement that describes a young person as being "humble", in the Krio language spoken in Sierra Leone (from this author's personal knowledge), includes an acknowledgement of the socially acceptable tendency of mostly looking downward and not making sustained eye contact when a younger person is speaking with a significantly older adult or one with a much higher status. In many if not

all the Western countries such an attitude is associated with being untrustworthy and having something to hide. The point here is that some lexical terms may not have the same conceptual parallel across languages internationally. One study (Regier et al., 2009), which seemed to pinpoint this very issue, concluded that the lexical approach of assuming cultural universality of the Big 5 domains is questionable, since this classification was derived from the results of studies based on psychological meanings contained in American English as if these were culturally universal. Could this have led to the finding that shows only three personality factors are “fully replicable across languages...” out of 12 different languages? (Larsen & Buss, 2013). In not basing these domains on the cultural understanding of behavioral concepts in each culture studied the burden of proof remains as to whether the Big 5 domains apply to the languages of other non-Western cultural groups.

According to Costa Jr. & McCrae (1995), the facets of the Big 5 were assigned to one and only one domain on the basis only of simplicity. Smith et al. (2009) explain that the factors the facets produce cannot represent theory-based cohesive, homogeneous psychological reality. Accordingly Neuroticism is not a description of intact empirical behavior or personality. Therefore as those writers further advise, this domain cannot be used to make theoretical deductions in psychology.

Potentially a theory-based, empirical model would have produced a very different set of domains. Since, understandably, the model did not flow from behavioral attributes with known etiologies it cannot be expected to truly demonstrate the dimensional nature of each behavioral attribute in its hierarchy. Moreover, because of the non-theoretical basis and non-empirically generated domains on which the Big 5 model was originally built and not representing the actual real life behaviors of people “on the ground”, so to speak these questions arise: Which important behavioral expressions of personality were left out from the “list” including those of a vast number of language groups without indigenous dictionaries and without English equivalences for cognitive, affective and behavioral expressions? How different, from the current Big 5, which is the result of what originally went into the analysis of factors, would the model have looked if the input into those analyses had included the noted omissions? As such the opinion of Matthews (1997) that the Big 5 is a derived “...structural description of various data sets” (p. 5) seems very fitting.

As pointed out regarding the DSM model, not knowing how a condition starts means the basis for separating it from another will be arbitrary. This is important because the etiological origin of a behavior is not always easy to recognize “at maturity”, as for example crying behavior can be from joy or sadness—so unless one knows which emotional expression it represents one will not be able to classify it as happy or sad; and on the other hand behaviors that look very different and therefore unassociated, such as being impulsive, overly secretive and constantly needing praise can all arise from the same fear disposition (Bickersteth, 2015). A case in point may be observed in attempting to determine if

SOPS/PCP is merely a version, for example, of Narcissistic PD (NPD). SOPS/PCP is an aberrant form of an adaptive response: fear. On the other hand it is difficult to specify the adaptive form of NPD. Moreover some attributes of SOPS/PCP, which are clearly fear-based, are not obviously consistent with the “hog-the-centre-stage” or exaggerated self-love characteristics of narcissism or NPD. For that reason, knowledge of NPD’s emotion-based etiology is necessary to determine its emotional or functional origin, so as to compare with that of SOPS/PCP. This, the DSM cannot provide.

This problem of indicating the real-life source of the “symptoms” that constitute a personality disorder is one that both the Big 5 dimensional and DSM diagnostic models face. In their present format these models do not appear capable of methodically answering the practical question: How did this person come to be this way?

Consequently, observing the start point of Big 5 personality groups may not be possible without first dismantling the current behavior groupings to “reconfigure” each “symptom” in each category or domain so as to describe how they happen in nature (that is, empirically demonstrate their behavioral category), including their trajectory on a continuum that starts at a very low, minimal or normal level of expression to their very severe or complex form.

From this viewpoint certain behavioral attributes expressed in negative affect, such as disagreeableness, need to control, extreme defensiveness and unpredictability tendencies in some individuals, particularly those in sensitive or important leadership positions may signal a safety-oriented style, which may be addressed more effectively with methods that minimize fear and/or provide a sense of security in order to meaningfully engage the positive reactions of the individuals who display them.

5.8. Probable Hidden Errors in Current Personality Research Findings Based on DSM and Big 5 Models

The lack of proof that the manifestations described in the DSM and Big 5 models reflect the actual, traceable, emotional states in people probably now hides classification errors, which behavior-based empirical studies will likely help to identify. Until then the best to go on is the promise by the DSM model of a future dimensional representation of personality (in Section III: Emerging Measures and Models); one nonetheless, that apparently is to be based on a categorical foundation, which is truly unworkable as argued above. An attempt at a dimensionalized form of DSM categories (which DSM-V seems to promise) was seen to be more effective than its current category-based form; but the Schedule for Non-adaptive and Adaptive Personality (SNAP), a true or ‘pure’ dimensional instrument outperformed the improved DSM format in critical diagnostic and clinical areas. The comparisons in that study support the argument that revision is required before imposing dimensional characteristics on the DSM categories because to do so “as is”, does not give them the power of a true dimension-based system (Skodol, 2010).

The other “giant”, the Big 5 model, presents artificially obtained, factor-analyzed hierarchical dimensions, lacking theoretical cohesion and a critical element: analysis of people’s everyday behaviors. Until empirical evidence of observable examples are provided in natural situations however, theoretical or non-theoretical proposals remain abstractions regardless of the sophistication of the psychometric process to arrive at their derivatives.

For example let’s agree on the theory that anywhere you find them Extroverts (Extraverts) will be the first to enter the water at the beach and that Introverts will stay back. Indeed we measure the people at a popular local beach and find those who entered score high on Extroversion; whereas those who did not, loaded high on Intraversion. It may turn out simply that the “Extroverts” were swimmers and the “Introverts” were scared of water. It may not matter how well randomized and representative the sample, when applying that theory at a beach; swimmers will always be the Extroverts and non-swimmers the Introverts, which may not be true. That is because Extroversion and Intraversion are not natural entities but constructs. As such no real Extroverts were observed in a natural setting from which a theory was formulated as to their behavioral characteristics and then tested on various samples.

In that case an error such as shown above in explaining behavior can occur; whereas starting from the natural occurrence to formulate the theory, will base it in the real world. Let’s say in trying again at a different beach (since the theory needs to be tested against some social phenomenon), this time we control for ability to swim and have the same result. Now however we later find out that the “Extroverts” were really visitors from out of town who were not held back by the local superstition that demons lived in that body of water and the “Introverts” who were not in the water were locals. Cutting to the chase, a theory (or construct)-to-behavior process (TTB) may always present possibilities that may “hide” unknown factors to be controlled for; and the fact that these confounding elements do not surface does not mean they are not present, especially so in a cross-cultural study. As such the explanations researchers offer to support the conclusiveness of their results within the Big 5 model are not necessarily valid either. Therefore the question remains as to what phenomenon is in fact being uncovered in those findings. So then from the hypothetical cases above, the TTB approach is vulnerable to “hidden” confounding probabilities even though empirical data are used to “prove” the validity of the model. Despite such models as the Big 5 being very useful and relevant in elucidating the structure of personality there is much need for research that shows how a theoretical structure manifests in an individual’s real life behaviors.

The behavior-to-theory approach (BTT) on the other hand uses theory to explain observed behavior. This study of SOPS/PCP has used neurobiological systems to explain the underlying process of the observed psychological expressions of fear, arrived at by dissecting observed behaviors. It is probably impossible to encounter a situation or culture in which neural processes do not control emotional behavior within the socio-cultural context. In that regard it is believed that

theories of personality indeed may need to demonstrate neurobiological representation in their theoretical formulation (Larsen & Buss, 2013; Patrick & Bernat, 2010; Depue & Lenzenweger, 2005). Hopefully our study has not only explained its own neural foundation but also makes the point that it is feasible to unearth other natural biologically based dimensional patterns of behavior. When this is the case it will be possible to structure management/treatment protocols that are applicable to the continuum because the same emotion (in this case, fear) is always at the core of the dysfunction.

5.9. SOPS/PCP-Like Conceptualization of Treatment Protocol Development Exemplified by the Transdiagnostic Model

From the viewpoint of the transdiagnostic approach Linton (2013) has suggested that the poor outcomes in treating co-occurring pain and emotional problems may be due to a lack of understanding of the underlying mechanisms involved in these conditions. The transdiagnostic approach has aimed at resolving this deficiency. He further proposed that the transdiagnostic process could use the function of emotion and of pain (particularly avoidance, catastrophic worry, and thought suppression) as its potential theoretical undergirding by which to enhance the treatment efficacy of co-morbid emotion and pain problems. This proposed transdiagnostic mechanism appears however to come with problems of its own. For example it seems that determining how the emotion and pain affect each other has been impractical. As such the desire to improve treatment effectiveness with this mechanism is only partially addressed. It would be much more elegant if the treatment protocol for a cluster of transdiagnostic conditions is centered on a BTT approach. A uniting theoretical framework will be helpful, considering the multi-faceted character of emotional states, independent yet of those of physical pain. On the basis of its neurobiological driving force (for example: a perception of vulnerability to harm) such a theory would then guide protocol development regardless of the purpose or external context (which could be multifarious) in which the psychological condition is experienced. Identifying the underlying emotion as the universal unifier of several similar conditions would circumvent the necessity of preparing (probably prohibitive) multiple context- and function-based transdiagnostic protocols. The validity of this suggestion seems to be reflected in a study by McEvoy and Erceg-Hurn (2016), in which therapy changes associated Social Anxiety Disorder (SAD) and General Anxiety Disorder (GAD) both of which are anxiety-based but Depression was not seen as related. As such it seems plain that fear is the underlying emotion. If so, the “transdiagnostic” purview of these findings stretch much further than IU, allowing the success of the search for theoretical universality to be anchored more securely on fear than IU to which those authors attribute the transdiagnostic linkage. Pinpointing fear-anxiety as the disordered emotion (misperception of vulnerability to harm), consistently underlying SOPS/PCP appears to suggest that formulation of a treatment plan for this condition may be much more

straightforward and therefore arguably more efficacious.

In effect the view, that common etiology and underlying structure among emotional disorders in general, which the SOPS/PCP approach exemplifies (and which McEnvoy's findings show) is indirectly acknowledged as preferable to basing remedial solutions on differences, as proposed by the transdiagnostic model. Of course, switching to this alternate theoretical position would be workable within a transdiagnostic approach if the frame of reference for seeking commonalities were not primarily DSM-based, because of its non-theoretical, categorical structure. Nonetheless it is gratifying that their current view has led researchers to treatment protocols like the Unified Protocol (UP) pioneered within the transdiagnostic model (Wilamowska et al., 2010; Norton, 2008), which include mostly strategies that have been recommended for SOPS/PCP symptom management (Bickersteth, 2015).

5.10. Mutual Benefits of SOPS/PCP's Theory and Other Research

The delineation of SOPS/PCP seems important beyond the categorical-dimensional controversy, the achievement of greater diagnostic accuracy or beyond the parallel need for etiology-based strategies related to the management of and therapy for associated emotional disturbance. Disregarding its apparent weaknesses, Big 5 may derive benefit from SOPS/PCP in that the latter contributes to a theoretical base for Big 5-Neuroticism, as it appears to share similarities with Neuroticism in the key emotional areas that typify this domain as well as in regard to certain consequential factors. For example in considering their typical qualities, both SOPS/PCP and Neuroticism share important similarities. The role of Neuroticism in Common Mental Disorders (Ormel et al., 2013b) and Internalizing Disorders (Griffith et al., 2010) seems to confirm the consideration of SOPS/PCP as a type of robust general anxiety condition which the scientific caption: phobicentric psychopathology (PCP) represents. The SOPS/PCP tendency of excessive rumination seems reflected in the occurrence of Self-Generated Thoughts in association with Neuroticism (Perkins et al., 2015). The similarity between SOPS/PCP and Neuroticism is also seen in the likelihood that SOPS/PCP might be playing the same, though yet to be discovered role in public policy, in relation to its high probability of indicating a relatively high health risk factor as well as of contributing to a substantial increase in the financial cost of healthcare as is suggested of Neuroticism (Lahey, 2009; Friedman et al., 2013; Cuijpers et al., 2010). The tendency in people with SOPS/PCP towards inattention due to distracting thoughts seems to parallel intrusive thoughts identified as a function of Neuroticism (Muñoz et al., 2013). In addition to a relatively high level of dissatisfaction in general, somatic complaints seem to be a common report of people with SOPS/PCP as is apparently the case in Neuroticism. In attempting to dispel the misconception that people high in Neuroticism are hypochondriacs, Costa Jr. & McCrea (1985) showed that neuroticism is associated with increase in symptom reporting even among normal, non-hypochondriacal individuals, which is consistent with SOPS/PCP.

Some Big 5 studies have provided direct confirmation for certain aspects of SOPS/PCP and its assessment tool, SOPS/PCPIQ. For example, in line with SOPS/PCP's theory of its transmission through parental and personal experiential sources it is confirmed that children exposed to parental emotional problems were at high risk of Neuroticism (Rosenman & Rodgers, 2006). The main finding of that study however was that the greater the amount of parental problems the higher the level of Neuroticism; as well as that its lifespan duration in men and women (also anecdotally observed in SOPS/PCP) is a result of childhood adversity. Poorly adapted emotional skills largely due to negative cognitive appraisals have been observed to result in higher levels of daily distress. Additionally as the authors suggested, these findings appear to explain the oft-noted negative affectivity that tends to typify Neuroticism (Gunthert et al., 1999). One of the characteristics of a person with SOPS/PCP (**Table 2**) is the tendency to be moody or irritable. The finding in a study that showed criminals were higher in neuroticism and immoral judgment than control participants provides support for another attribute of SOPS/PCP (Bickersteth, 2015) indicating that individuals in this group tend to engage in antisocial behavior (Addad & Leslau, 1989). The report that those high in Neuroticism tended to adopt a strategy of surface acting (that is pretending outwardly to conform whereas inwardly their reaction is the opposite) in the organizations they work (Kiffin-Petersen et al., 2010) apparently reflects how SOPS/PCP is observed to work in people. The study also seemed to confirm the neural correlates, theorized for SOPS/PCP. Students high in Neuroticism reportedly encountered relationship problems in the form of dependency and conflict (Zee et al., 2013), which confirms this attribute of SOPS/PCP (**Table 2**).

Impulsivity is presented as an expression of SOPS/PCP and reflected in SOPS/PCPIQ (**Table 4**). Interestingly it appeared as a facet of Neuroticism in a later development of the NEO (Costa Jr. & McCrae, 1992a) and was seen to also correlate with Extraversion. In another study, it is noted that impulsivity is related to Neuroticism, Extraversion, and Conscientiousness. Indeed despite that study's limitations impulsivity is shown to consist of four separate traits identified as: urgency, (lack of) premeditation, (lack of) perseverance, and sensation seeking that are seen as independent and not variations of impulsiveness (Whiteside & Lynam, 2001). Of course, identifying these four facets items that are from multiple domains of the Big 5 still leaves unsolved the basic problem that assigning behavioral status to extracted factors, which are then treated as actual behaviors, is subjective. In other words, as a concept of impulsivity the four factors do not identify actual consistently observed behaviors. It is suggested that if investigated as a product of fear, which is the case within the SOPS/PCP paradigm impulsivity would very likely emerge with stable factors. The current four-factor picture arises out of disparate Domains probably from using a TTB process rather than BTT.

One "upside" attributed to functioning with SOPS/PCP is the individual's predisposition to follow instructions and keep to established expectations (even

if situation-dependent and not necessarily consistently). Attributes similar to this quality are described in a study as a manifestation of Neuroticism within the context of that study (Zhang & Huang, 2001). The description of SOPS/PCP as predisposing people to see threats as ubiquitous and as such become 'tuned in' to negative stimuli such that a pattern of internalized fear has resulted in a characteristic fear response pattern to most situations (Bickersteth, 2015) is also backed by research. For example high-anxiety children tended to show a bias towards threatening stimuli, and were more likely than non-anxious children to interpret ambiguous stimuli as threatening (Murisa et al., 2000). Authors in another study showed that children high in Neuroticism tended to respond with apprehension to low level threat in the experimental stimuli to ensure potential harm was avoided, indicating a response style of: Better safe than sorry, whether or not safety is imperiled (Lommen et al., 2010). In some studies fMRI results showed that people who scored high in Neuroticism had greater difficulty directing control of attention and so were less efficient in cognitive task performance as they were vulnerable to slower neural connections (Ochsner & Gross, 2005; Dima et al., 2015). Also stronger neural activation (greater processing effort) for goal-directed control of attention was shown to result from the trait-anxiety in individuals with high levels of anxiety during the mental manipulation of information while performing a memory task that did not include threatening stimuli (Basten et al., 2012). In that study brain centers associated with executive functions were implicated in the mental processing exertion. Again evidence for thinking load postulated for individuals with SOPS/PCP is provided. The characteristic of impatience in individuals with SOPS/PCP is confirmed as the underlying impetus in the Neuroticism factor contributing to work-family conflict (Bruck & Allen, 2003). Together these studies seem to indicate that Neuroticism and a high level of anxiety tend to impair efficient mental activity in brain areas responsible for the direction of overall cognitive functioning due to the load from or effort in processing even non-threatening information. In parallel the description of people with SOPS/PCP indicates that they carry a heavy thinking load and perceive threat in many situations whether there is threat or not and that overall, this creates a drain on mental resources, which also impairs memory.

The attributes generally classed as perfectionism including those within the DSM that are represented in SOPS/PCP have also received support from research. Investigators of perfectionism generally indicate it is complex and multi-dimensional, comprising adaptive and mal-adaptive components, the driver of the latter being a disposition to show psychological distress especially anxiety, depression and stress. Self-handicapping responses have also been seen as an outcome of maladaptive perfectionism, which include making excuses, self-exoneration; and may also involve self-deprecation aimed at eliciting understanding or sympathy as well as other forms of alibi for poor performance. Research appears to positively associate all these characteristics, in addition to anxiety-sensitivity and the fear-instigated sense that certain bodily sensations are predicting physical and/or psychosocial catastrophe. The evidence seems to show that elevated

levels of pathological perfectionism may underlie a variety of co-morbid anxiety psychopathology. It is remarkable that the attributes that pertain to SOPS/PCP include all of the above characteristics ascribed to mal-adaptive perfectionism, self-handicapping and anxiety sensitivity (Erozkan, 2016; Levinson et al., 2015; Gnilka et al., 2012; Egan et al., 2011; Kearns et al., 2008; Schweitzer & Hamilton, 2002; Frost et al., 1990).

Individuals with SOPS/PCP are described as having a tendency to select behaviors to display in certain contexts, based on fear of being rejected, criticized or punished. In confirmation researchers have found that individuals may be scared of exposing the symptoms of their anxiety to the public because of the risk of negative evaluation or backlash (Rapee & Heimberg, 1997), (Leary et al., 1988). In agreement with SOPS/PCP's claim, research supports not only that the tendency to being over-controlling is a symptom of an anxiety-related disorder (OCD), as well it associates the development of this attribute with the rearing style of anxious parents (Chorpita & Barlow, 1998).

The abundant research and theory support for the various elements of SOPS/PCP and SOPS/PCPIQ in turn provides empirical confirmation for Big 5-Neuroticism in view of the positive relationship with SOPS/PCP, which is an actual personality type rather than an extrapolation. In this sense, Big 5 Neuroticism appears to gain further elucidation. For example, in a study using Eysenck's questionnaire the researchers seem to conclude that the broadness of Neuroticism is a barrier to understanding its real emotional, environmental and genetic impacts and that it therefore requires to be translated in a manner that will allow its properties to be measured within the contexts in which it influences the actual behaviors of people. In undergoing such a process, they suggest, its instructive qualities will become more valued in explaining psychopathology (Jacobs et al., 2011). For different reasons Ormel et al. (2004) had reached a similar conclusion. The current study provides the answers to the challenging questions posed by Ormel et al. (2004) namely: new knowledge is needed to explain the mechanisms underlying high neuroticism scores that determine psychopathology and its neurobiological basis needs to be established. Supported by a neurobiological theory SOPS/ PCP provides empirical evidence of real life personality characteristics, potentially in exemplification of the purely statistical presentation of Big 5 Neuroticism. By basing the core of personality on an emotion, in this case fear-anxiety, this study of SOPS/PCP confirms the claim (especially considering the problems attributed to the use of a lexical method in developing the Big 5) that personality investigation is at least appropriately if not better served through the direct emotional, neurobiological route.

5.11. The Capability of Contemporary Integrative Interpersonal Theory as a Unifying Agent in Personality Psychology

Pincus et al. (2010) who have used H. S. Sullivan's framework as the "official" representation of Contemporary interpersonal theory (CIT) describe the nature of the origin and continued expression of the range of personality characteristics

(normal and disordered) through a lifetime as due to the interaction of a person with at least one other person in a reciprocal relationship called an interpersonal situation. They state: "Contemporary interpersonal theory thus begins with the assumption that the most important expressions of personality and psychopathology occur in phenomena involving more than one person" (pg. 526).

CIT, which was later extended into Contemporary Integrative Interpersonal Theory (CIIT) is reportedly popular among some theorists who espouse it as constituting the core of personality. Pincus et al. (2010) have described the interpersonal situation as an integrative nexus for personality theorizing because: "Virtually all theories of psychopathology touch upon interpersonal functioning..." (p. 526). SOPS/PCP however, provides evidence that an interpersonal context per se could not function as a necessary basis for the formation or development of all personality types. In the case of SOPS/PCP, psychopathology may develop in the context of internal, perceptual appraisal or due to a maladaptive response to a threatening situation, such as a natural disaster, without the involvement of another person, which means an interpersonal situation as defined by CIIT is absent. The formation of SOPS/PCP does not depend necessarily on learning in an interpersonal situation. Rather than the interpersonal circumstance shaping the individual's learning, it is the SOPS/PCP individual's perception, controlled by the fear-anxiety emotion alone that determines their behavior. In other words in the case of SOPS/PCP the causal basis of personality development is primarily the fear-anxiety emotion. In view of this explanation of SOPS/PCP it is difficult to accept as valid that it is the "interpersonal situation" or a component aspect that always "...underlies genesis, development, maintenance, and mutability of personality..." (Pincus, 2005: p. 294). Due in part to the conceptual description of CIIT it cannot be seen as universal, which then limits its generality. As such CIIT is not totally helpful in explaining the developmental origin of personality or its disorder, which therefore makes it dubious as a representative integrative mechanism or nexus among personality theories.

In further questioning of CIIT being the theoretical glue for describing behavior an issue arises regarding possible limitations or obstacles to learning from an interpersonal interaction. Based on that theory, which proposes personality develops only within an interpersonal situation, one wonders about the personality status of a developmentally delayed, intellectually challenged or handicapped individual with a very severe learning disability. What if the severe disability precludes in that individual the observing and/or interpreting of interpersonally meaningful interactions necessary for personality formation? In other words if interpersonal awareness is a necessary aspect of the personality (or "personness") of such individuals, is personality development impossible in its absence?

Another research tradition similar to CIIT, if not interconnected is the Interpersonal Relatedness & Self-Definition (IR) theory, which has serious weaknesses disqualifying it, too, from a leadership role in demonstrating personality integration. The psychometric instrument on which the IR approach apparently originally depended for empirical validation was derived from clinical informa-

tion, which Blatt and colleagues, the foremost proponents, used to extract 150 descriptions of common ailments usually expected among depressed people rather than their actual complaints. From this list judges selected 66 statements that became the original version of the Depressive Experiences Questionnaire (DEQ) used to test the theory's validity (Blatt et al., 1976). Methodological and psychometric shortcomings however, have been pointed out with respect to the DEQ not demonstrating proven applicability to clinical samples and needing to explain gender differences and unexpected, inconsistent findings (Fuhr & Shean, 1992; Viglione Jr. et al., 1990; Riley & McCranie, 1990; Zuroff et al., 1983). In his review of Blatt's book (Blatt, 2004), Parker (2005) pointed to methodological deficiencies in establishing the IR theory itself, which he reported as likely being the result of Blatt relying on the theory's supposed self-evident validity rather than by actively establishing this.

So then despite its apparent popularity IR remains virtually a representational, factors-derived explanation of personality development seeming to still require adequate validation. Moreover the process of building IR apparently started from an integration or amalgamation of at least five other theoretical formulations. In other words it is also an abstracted theory from other abstractions (Luyten & Blatt, 2011) and as such that much farther removed from real life. On the other hand SOPS/PCP is based on natural reactions of people, as any other group of emotion-produced attributes would be. As such SOPS/PCP seems to suggest that confirming a direct link between theory and each observable behavior in the personality type provides a more secure foundation on which to build a theory and by which to understand personality development. IR does not rest on the responses of people or on a secure theoretical base.

5.12. SOPS/PCP's Relationships in Personality Theory and Research Addressing Emotion-Based Functioning

Much support for SOPS/PCP and its theory is garnered from Eysenck's theory of personality in that both agree on the biological, genetic and environmental foundations of personality development. In particular, certain descriptive statements of Eysenck's theory seem to be in close parallel with SOPS/PCP's. For example he states (Eysenck, 1967): "Biological causes act in such a way as to predispose an individual in certain ways to stimulation; this stimulation may or may not occur, depending on circumstances which are entirely under environmental control" (p. 222). According to the SOPS/PCP theory the individual's perception of these environmental circumstances is critical. As a further example of the agreement between these two formulations, Eysenck's theory sees high scorers in neuroticism as very easily emotionally reactive and vulnerable to stress (Eysenck, 1991), which interfaces with the description of people with SOPS/PCP as being prone to be complaining, generally dissatisfied and intolerant of even low levels of discomfort or stress (Table 4). It needs to be acknowledged however that a number of other studies have also addressed the higher degree of stress sensitivity, overly strong reaction to criticism from others and emotional reactivity, par-

ticularly in negative situations of subjects scoring high on Neuroticism, (for example Ormel et al., 2013a; Suls & Martin, 2005; Watson et al., 1994). In another study it is of note that the six facets of Neuroticism, as defined by Costa Jr. & McCrae (1992b) are represented in the description of SOPS/PCP. In accord with SOPS/PCP, personality development has also been seen as built on specific organizations of emotional experience starting from childhood family experience (Morris et al., 2007) and that people with severe personality disorders did report a history of childhood trauma are conclusions from a study by Paris (1998). A comprehensive study by the National Scientific Council on the Developing Child (2010) showed that traumatic early life experience causes brain changes, which can lead to lifelong psychological problems.

The theoretical position of SOPS/PCP that describes parental or familial anxiety histories as playing a causal role in the expression of SOPS/PCP is reflected in other studies. For example, Biederman et al. (2006) showed that anxiety disorders are transmittable between parents and high-risk offspring and may be accounted for by the fact that the children had the same disorders as their parent. Evidence from functional neuroimaging studies by Etkin and Wager (2007) showed that the same brain mechanisms were responsible for normal fear as well as for anxiety disorders in support of the claim of SOPS/PCP theory.

That Big 5 Neuroticism or anxiety disorders as defined in the DSM do not totally overlap with SOPS/PCP is indirectly demonstrated in the literature. For example externalizing symptoms, surface-acting behaviors, anxiety sensitivity and secrecy about symptoms, which are encountered in a variety of studies in connection with Neuroticism, are observed as also constituting SOPS/PCP attributes. Some attributes related to perfectionism and precision-type responses of an OCD pattern featured in the DSM may reflect the tendency of being time conscious in some people with SOPS/PCP who overly emphasize punctuality, place great importance on using time efficiently or who seem without obvious reason to be under the strain of time urgency or limitation.

Nonetheless two other tendencies appear to be peculiar to SOPS/PCP, as no one type of disorder in the other formulations presents the same attributes as SOPS/PCP namely, a disposition of secretiveness (e.g. about intentions) though needing all available information, which is exhibited to an increasingly extreme degree and the tendency. Also, the description of SOPS/PCP includes a tendency to act or react as prompted by the fear-based emotion of the moment, which characteristically leads to the use of emotional and subjective (as against objective logical) reasoning, which tends often, to instigate fear-derived anger and shame (Bickersteth, 2015). This also means that while non-SOPS people may respond for the most part by switching channels from an initial emotional trigger to logical reasoning (sometimes vice versa) SOPS individuals mostly tend to use only emotion to react with the result that they may appear inconsistent, unpredictable and divorced from objective reality due to shifting emotion-based appraisals. These characteristics are not explicitly encountered in the literature relating to Neuroticism.

The absence of these patterns from the descriptions of anxiety disorder symptoms in the DSM or in Big 5 Neuroticism is evidence that SOPS/PCP is a specific or unique type of anxiety disorder, unpresented in a DSM category or the Neuroticism domain in the way these have been traditionally denoted. Most supportive of this lack of overlap however is evidence that researchers have not uniformly identified the same attributes of Neuroticism (Ormel et al., 2012) resulting from a lack of consistent delineation of its construct, which Ormel et al. explain as follows:

“...The difficulties in defining the construct of neuroticism are largely due to a lack of consistent evidence on the neurobiological bases and determinants of N-scores.” (p. 73)

The SOPS/PCP construct on the other hand is clearly unified on a neurobiological foundation and the condition incorporates practically all the characteristics noted in the differential definitions of Neuroticism provided by various research descriptions. The explanation for the divergence in the representations of SOPS/PCP and Neuroticism may also lie in the difference of approaches, namely: This SOPS/PCP study is from a BTT perspective whereas research in behavior and personality disorder within the DSM and Big 5 environments has been based for the most part on an approach akin to TTB.

Anecdotal observation of people with SOPS/PCP indicates a tendency in them to have difficulty performing certain cognitive problem solving tasks and sometimes to seem lacking in the required logical reasoning ability. This apparent thinking deficiency may appear intellectually based; but may instead be due to the interfering role of fear-anxiety in concentration. Fear-anxiety seems to lead to over-thinking, misdirecting attention and stress due to harm expectation. As such very fearful people seem plagued by distraction, inattention and uncertainty in the course of assessing, predicting and avoiding danger. Research studies do back the claim that fear-anxiety tends to negatively influence thinking and performance (for example: Park et al., 2016; Browning et al., 2015; Derakshan & Eysenck 2009; Eysenck et al., 2007; McDonald, 2001; Freeston et al., 1994; Sarason, 1984; Eysenck, 1979).

In connection with the role of fear in diminishing cognitive efficiency it is noteworthy that this deficiency could further refocus the fear response and allow its entrenchment in fear situations during their appraisal, as described by Britton et al. (2011) in their review. For our purposes it means that cognitively inspired learning-related and threat appraisal-based biases are present both as result and instigator of threat-safety processing; and can sometimes therefore further worsen the excessively fearful person’s ability to successfully execute cognitive tasks. As such the power of fear to inform and direct cognition may go unrecognized and the resulting disabilities may be mistaken for intellectual deficiency though in reality are due to safety-directed, emotional rather than logical reasoning. The strong effect of emotion on cognition is noted in Franks’ (1999) quotation (of LeDoux):

“Emotional arousal has powerful influences over cognitive processing. Attention, perception, memory, decision-making and the conscious concomitants of each are all swayed in emotional states. The reason for this is simple: emotional arousal organizes and coordinates brain activity” (p. 40).

Furthermore anecdotal observation of the apparent deficiency in perceptual ability has been reported, as in the case of becoming easily confused imagining driving a fairly straightforward route. People with SOPS/PCP have also seemed greatly challenged in determining the correct positioning of oneself to facilitate manipulating an object from an unfamiliar angle. While in complex situations this deficiency is understandable, people with SOPS/PCP seem particularly vulnerable to error in many easier contexts and therefore show a tendency to avoid such tasks. Rumination, inability to concentrate or direct attention, appraisal errors, interference and/or impatience appear implicated in these apparent perceptual impairment cases. Thus these response patterns, noted by naïve observation, are both complex and pervasive in the behavioral repertoire of people with SOPS/PCP. Further research will be needed to confirm these casual observations.

5.13. Methodological Issues

Likert-style scale—Used throughout the current study, this format is supported as being in line with instruments used to investigate dimensional personality attributes and currently strongly recommended for achieving improved construct validity, discussed below. How data obtained through this scale is analyzed and interpreted is of critical importance to the robustness of the results (Sullivan & Artino Jr., 2013); advice this study heeded.

Internet use—The benefits and reliability of Internet use in psychological research is well represented in the literature. This method has proved to give valid data comparable to traditional pen-and-paper administration (example, Carlbring et al., 2007); and the effectiveness of internet-delivery of more complex interactive research has been demonstrated (El Alaoui et al., 2015). This type of test instruments used in our study conforms to the explanation provided by Gosling et al. (2004), which stated (p. 93): “We use the term questionnaire to refer to the self-report surveys, tests, and assessments widely used in psychology (e.g., personality tests)”. They conclude: “Our analyses also suggest that the data provided by Internet methods are of at least as good quality as those provided by traditional paper-and-pencil methods. This is evidenced by the finding that Web-questionnaire results generalize across presentation formats, do not appear to be tainted by false data or repeat responders, and are, so far, consistent with results from traditional methods” (p. 102). Accordingly we feel well defended in using research data collected via the Internet.

Construct validity—Many have presented very convincing arguments for using unidimensional, homogeneous constructs because these permit accurate validity testing of the proposed theory and construct, are capable of being linked with a common etiology and signify improvement in the underlying theoretical power of psychopathological diagnoses. These construct qualities further facil-

tate desired symptom-level hypothesis testing that would make the imprecise process of disaggregation of category constructs, though useful to expose their specific contributions to psychological dysfunctionality, nonetheless unnecessary (e.g. [Smith & Combs, 2010](#)). Derived as it is from normal behavioral functioning the delineation of the SOPS/PCP construct as dimensional and homogeneous therefore provides this personality type with added methodological credibility; and contributes, even if in a very small way, to shifting the field more definitively away from the problematic category-style presentation to a dimensional depiction of psychopathology.

At least some of the potential problems of a disruptive result in replacing a category-based system with one that is homogeneous and unidimensional ([First, 2005](#)) may indeed arise though further exacerbated mainly because of our familiarity with describing psychological disorder almost exclusively using DSM constructs and nomenclature. Moreover, within a dimensional system the user-friendliness in the applying and managing psychopathology may not be difficult to prove. The question addressed by [Smith et al. \(2009\)](#) of what this alternate representation of personality using dimensional constructs would include would seem much less daunting if now that SOPS/PCP has been introduced the problem is phrased as: What would a fear-based taxonomy look like? The psychology of fear has been studied extensively with straightforward information available on its constituents. Future research will answer such questions. New findings sometimes necessitate adjustment to a construct's delineation. For example before now and outside of the DSM description of "psychopathy", this construct has been explained historically with different concepts such as: "insanity without delirium", "moral insanity", "psychopathic inferiority" and most recently "malignant narcissism" by Otto [Kernberg \(1989\)](#). In other words the constructs these terms represent have been revised or changed a few times over many years. The validity of new constructs (that are independent of the mostly indefensible DSM or abstracted Big 5) will eventually make their use universal.

6. Conclusion

This study has for the first time revealed a condition known as SOPS/PCP, which encompasses a personality disorder developed from and sustained by out-of-control fear. It has further demonstrated the likelihood that this behavioral pattern may represent the real-life, day-to-day mechanism by which Big 5 Neuroticism operates as an actual personality entity. Given the critique of the Big 5, the leading formulation of personality structure, especially of its Neuroticism Domain cited here, SOPS/PCP should be seen as welcome redemption from the atheoretical psychological quandary the Big 5 otherwise poses. Also, useful though the DSM has been, its own lack of theory has hampered the credibility of its category-style presentation of personality psychopathology. This paper should in some way help a re-vamping process in either camp, provided a neurobiological theme as exemplified by SOPS/PCP is applicable. In short problems

inherent in influential descriptions of personality disorder have presented gaps, which the unveiling of SOPS/PCP has contributed to mending. Against the previously prevailing TTB trend considered a major drawback in personality research, the BTT approach used in this research seems much less problematic. However, empirical evidence is needed to establish, as hypothesized, that SOPS/PCP has an identifiable neural signature. To that end brain functioning profiles of demographically matched scorers on SOPS/PCPIQ will contribute to determining its neurobiological correlates. On the whole, our study does appear to provide not only food but also food for thought for researchers in the field of personality psychology.

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Ethics

All participants indicated willing consent at the end of a special Research Consent Letter placed at the very beginning of the questionnaire package and requesting an "Agree" or "Disagree" response. Those who agreed were allowed to continue whereas "Disagree" responses led to being blocked from continuing. The Research Ethics Board of Concordia University Edmonton gave approval of the research.

Conflict of Interest

The authors have no conflict of interest issues involving this research.

Author Contributions

Patrick Bickersteth: Discovered the personality type, conceived and developed the study's approach, wrote the sections not dealing with data analysis and results and coordinated the research; **Xinxin Zhang:** Performed data analysis and drafted results sections; **Qi Guo:** Supervised data analysis and drafted results sections.

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