ISSN 0971-6610

SIS

Journal of Projective Psychology & Mental Health

Volume: 29 Number: 01 Jan 2022

Projective Techniques in Research: A Brief History and Current Update 01 - 03

Chris Piotrowski

Some Comments on the Idiographic Interpretation of Rorschach Findings 04 - 14

Carl B. Gacono & Jason M. Smith

The Case for Projective Techniques in the Clinical Study of the Adult Bully 15 - 18

Chris Piotrowski

An Alternative Interpretation Hypothesis Regarding Color Projection 19 - 28

Sanae Aoki & Nobuo Kogayu

The Effect of Boredom Proneness on Job Satisfaction: An Empirical Analysis 29 - 38

John D. Watt

Trading Halls, Psychological Features, and Fund Manager Performance 39 - 50

Joachim Von Weissenberg

Intervention using Somatic Inkblot Test in Sexual Deviance - A Case Study 51 - 56

Shubhika Singh & B. L. Dubey

Official Publication of the Somatic Inkblot Society
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SIS J. Proj. Psy. & Ment. Health (2022) 29: 01-03

EDITORIAL

Projective Techniques in Research: A Brief History and Current Update

It is an interesting observation that of all the assessment methods, Projective Techniques seem to attract the predominance of rather heated criticism from the academic community (see Lilienfeld, 2000, for review). These criticisms center on lack of psychometric credibility, with the conclusion that such measures should not be used in clinical practice or in graduate training (Benson et al., 2019). In order to provide an objective evaluation regarding this onslaught of scholarly attacks, it would be informative to study the issue based on an objective analysis backed by data from scientific publications. One avenue to such an analysis is to conduct an empirically based bibliometric review of the extant literature (not on pro or con arguments) with a focus on actual use of and reliance on measures/tests by researchers which comprise investigatory designs reported in scholarly research. Such a study of the extant literature should provide a lucid picture regarding the utility of projective measures/assessment in the mental health field, across both basic and applied research.

Historically, several studies have reported on research trends regarding select projective techniques. Sundberg (1954), in an analysis of ***references*** citations in the Buros Mental Measurements Yearbook (MMY), found that the Rorschach and TAT ranked among the top 4 cited psychological tests from 1937-1951. Reynolds and Sundberg (1976) extended this analysis of the MMY through 1971 and reported that references for the Rorschach and TAT were actually increasing from 1940-1971. However, Polyson and colleagues (1985, 1986), in a bibliometric analysis of *PsycINFO*, found that through the mid-1980s, the volume of references on the TAT was declining whereas citations for the Rorschach saw a resurgence in the published research literature. Thus, a more updated bibliographic analysis of projective tests seems prudent.

To that end, I report the results of a bibliometric exercise based on a 'Keyword' search of specific projective tests noted in the 'Abstracts' of references in the database PsycINFO. In order to gauge usage of the contemporary literature, the search was limited to research indexed over the past decade (2011-2021). Hence, this approach reflects the recent body of scholarship. (Noteworthy, the general terms '*Projective Techniques or Projective Tests*', during this time frame, produced the following bibliographic output: 238 journal articles, 57 books, and 22 dissertations).

The results of this analysis are reported in Table 1. Although research attention on the Rorschach is rather evident, all the other major projective measures seem well represented in the literature. Moreover, books and textbooks, as well as book chapters, on almost all of these tests are readily available. Noteworthy, current academic and clinical interest in projective techniques is evident based on the production of primary research conducted and reported in dissertations. In addition to clinical case studies, research designs represent methodologies found in most scientific fields, i.e., quantitative, qualitative, literature reviews, and longitudinal approaches.

Based on the results of this bibliometric exercise, one can conclude that although projective measures are not as prominent in the research literature as objective, self-report evaluation methods, projective tests have been and continue to be acceptable assessment methods based on usage by researchers in scientific investigations. Thus, I would argue that projective tests are not moribund (see Piotrowski, 2019), although these methods have admittedly fallen in stature from their high perch of clinical prominence decades ago (see Kennedy et al., 1994; Louttit & Browne, 1947; Lubin et al., 1984, 1986; Piotrowski & Keller, 1984, 1989; Sundberg, 1961). Moreover, projective techniques have always had a presence overseas (see Piotrowski, 2015a; Piotrowski et al., 1993), and their international popularity in the research literature is evident to this present day, particularly in countries such as India, Japan, South Korea, Brazil, and China (e.g., Aoki & Kogayu, 2022; Kato & Suzuki, 2015; Khromov & Dubey, 2016; Navarro et al., 2020; Verdon

et al., 2014; Zhao et al., 2015). Undoubtedly, the continued presence of projective techniques in scholarly research serves as an impetus for their continued use not only in clinical practice (e.g., Frauenhoffer et al., 1998; Wright et al., 2017), but also in professional training (Piotrowski, 2015b).

Table 1. Number of References in *PsycINFO* database (2011-2021)

Rorschach	**n**	**TAT**	**n**
Journals	539	Journals	107
Books/Chapters	109	Books/Chapters	25
Dissertations	159	Dissertations	40
---		---	
Quantitative study	440	Quantitative study	117
Qualitative study	42	Qualitative study	18
Clinical case study	66	Clinical case study	8
Literature review	18	Longitudinal study	3
Human Figure Drawings		**House-Tree-Person**	
Journals	43	Journals	21
Dissertations	3	Books/Chapters	4
---		Dissertations	4
Quantitative study	40	---	
Qualitative study	2	Quantitative study	19
Clinical case study	1	Qualitative study	4
Longitudinal study	1	Clinical case study	2
		Literature review	1
Draw-A-Person		**Kinetic Family Drawings**	
Journals	58	Journals	8
Books/Chapters	10	Books/Chapters	6
Dissertations	7	Dissertations	1
---		---	
Quantitative study	52	Quantitative study	7
Qualitative study	6	Qualitative study	2
Literature review	3	Clinical case study	1
Longitudinal study	1		
Sentence Completion Tests		**Somatic Inkblot Test (Series)**	
Journals	272	Journals	31
Books/Chapters	17	Books/Chapters	1
Dissertations	51	Dissertations	2
---		---	
Quantitative study	280	Quantitative study	11
Qualitative study	24	Qualitative study	2
Clinical case study	9	Clinical case study	16
Longitudinal study	5		

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Chris Piotrowski, Ph.D., Senior Editor, University of West Florida, USA,
Email: piotrowskichris@hotmail.com

SIS J. Proj. Psy. & Ment. Health (2022) 29: 04-14

Some Comments on the Idiographic Interpretation of Rorschach Findings

Carl B. Gacono & Jason M. Smith

The utility of the Comprehensive System Rorschach rests in the proven relationships between its variables/indices, personality functioning, and real-world behaviors. While the reliability and validity of Comprehensive System data (CS; Exner, 2003; also CS-R; Fontan & Andronikof, 2022) is well established (Gacono & Evans, 2008), other supplemental Rorschach scoring systems also add to understanding our patients (Meloy, Acklin, Gacono, Murray, & Peterson, 1997). Previously, we discussed the importance of anchoring all Rorschach data within a nomothetic context (Gacono & Smith, 2021b). In this article, we discuss a strategy for interpreting the individual protocol.

Introduction:

Consistent with Rorschach's (1921/1942) intent, "an attempt is made to get at least one answer to every plate, though suggestion in any form is, of course, avoided" [p.16]), the Comprehensive System (CS; Exner, 2003; Comprehensive System-Revised [CS-R]; Fontan & Andronikof, 2022) administration procedures are ideally suited for allowing the natural variation in R needed for interpretation (Gacono, 2019). While most responses are scored during the administration, the final scoring may require comparison with data in the CS Workbook (Exner, 2001). The CS coding is used to generate a sequence of scores and structural summary[1] that provide patterns for understanding the patient's personality functioning.

Various core indices such as R, Lambda, and EB aid in understanding the personality of the patient, provide a template for interpreting other variables, and establish the limits of a protocol's validity. Elevated R is expected in several sexually deviant samples where internal dysphoria presses for expression. High Lambda (mostly Pure F) may reflect characterological constriction, emotional impoverishment or even defensiveness (Gacono & Gacono, 2008). An ambitent EB style predicts that the patient will become overwhelmed when confronted with internal or external stressors. In-depth analysis begins after variations in R and Lambda are understood and fully explained.

While all CS and other supplemental systems have been validated with external criteria (real world behavior; Exner, 2003) many also contain a certain amount of "face" or "mathematical" validity. For example, the relationship between reflections/egocentricity ratio and self-focus was validated through several studies (Exner, 2003; Gacono, 1988, 1990). Subjects who produced greater numbers of reflection responses produced higher scores on the Self-Focus Sentence Completion test, tended to look at themselves in the mirror more often, and belonged to groups where narcissism was evident (Exner, 2003; see also Gacono & Meloy, 1994; Smith, Gacono, & Cunliffe, 2019). Face validity linking reflections (mirroring) to self-focus is found in the myth of narcissus who languished by a pool of water unable to pull himself away from his own reflection (see Gacono & Meloy, 1994). Some Vistas being associated, in certain clinical groups, with failed narcissism (Gacono, Meloy, & Heaven, 1990) is also apparent. The Vista (shading with

Carl B. Gacono, PhD, ABAP, Maverick Psychology Training and Consultation PLLC, Asheville, NC, drcarl14@aol.com;
Jason M. Smith, PsyD, ABPP, Maverick Psychology Training and Consultation PLLC, WV.
Key Words: Rorschach, interpretation, nomothetic, Comprehensive System

[1] Supplemental systems have included object relations (Blatt & Lerner, 1983; Fisher & Cleveland, 1958; Kwawer, 1980), defenses (Cooper, Perry, & Arnow, 1988; Lerner & Lerner, 1980), developmental psychopathology (Urist, 1977), dependency (Bornstein & Masling, 2005; Masling et al., 1967), trauma (Armstrong & Loewenstein, 1990), aggressive drive derivatives (Gacono & Meloy, 1994; Gacono, Gacono, Meloy, & Baity, 2008; Gacono & Smith, in press), and thought organization (Athey, 1974; Meloy & Singer, 1991). Also see Bornstein and Masling (2005), Kissen (1986), Kwawer, Lerner, Lerner, and Sugarman (1980), Lerner and Lerner (1988), and Lerner (1991).

depth) involves an internal self-focus, albeit an unpleasant one--gazing inward in a painful manner. It is less expected in personalities with normal self-esteem regulation or in those whose grandiosity is effective in warding off threats to esteem. It is not a stretch to conceptualize MOR content responses as being associated with something unpleasant, such as depression, and from an object relations perspective, in some cases, representing a damaged sense of self.

The critical Lambda variable contains both face and mathematical validity (Gacono, 2019). Lambda is computed as L = F/(R-F). Consequently, the higher the Lambda the lower the occurrence of determinants other than Pure F (simple math). While many interpretations have been offered for high Lambda (Gacono, & Gacono, 2008), other than conscious defensiveness, most can all be couched in terms of difficulties with and/absence of/or avoidance of emotion. Face validity is also present in the Pure F response as representing perceptual accuracy minus affect. Note that historically, the F+% (no longer provided in the CS or CS-R; see Table 2) offers a variable where perceptual accuracy without emotions can be quickly compared to perceptual accuracy with affect (X+%).

All idiographic findings are anchored within a nomothetic context (comparison with relevant clinical and non-clinical groups; Exner, 2003; Gacono & Evans, 2008; Gacono & Smith, 2021b). For example, how does this "depressed" patient compare to inpatient depressives (DEPI)? To non-patients? What does the protocol data reveal about this patient's uniqueness within various clinical groups? This comparison with both clinical and non-patient groups allows for hypotheses concerning both the nature and position of the patient's personality issues. As Rorschach wrote, "It must be noted that there has been constant checking of the observations on normal subjects against observations of patients and vice versa." (p.13). In this regard, the CS/CS-R, unlike the R-PAS, has both an extensive research base and more than adequate normative, clinical[2], and forensic comparative data[3] (Exner, 2001, 2003, 2007; Gacono & Evans, 2008; Smith et al., 2021). The CS has also been widely used in clinical and forensic practice, meeting the standards of admissibility and acceptance in court (Gacono et al., 2008; McCann & Evans, 2008; Meloy, 2008; Piotrowski, 1996a, 1996b, 2007, 2015) as compared to any other Rorschach system.

In this article, we discuss how one interprets the Rorschach.

Underlying Scientific Principles of Interpretation:

In order to integrate Rorschach data into the evaluation process, the examiner must determine which variables and indices are associated with the personality issues relevant to a referral question or clinical issue. Will the nature of thinking difficulties (X-%; WSum6) aid in diagnosis and treatment? Does impulsivity or poor affect modulation (FC:CF+C; Pure C) contribute to the patient's behaviors? Is depression present (DEPI) and indicate the need for a psychiatric consultation? The examination of Rorschach data continues the process of hypothesis formation begun during record review and clinical interview. In a reciprocal fashion, confirmation of the Rorschach findings is found within the history of the patient and statements during the clinical interview. The relationship between Rorschach data and real-

[2] The CS Workbooks (4th & 5th edition; Exner, 1995, 2001) include descriptive CS data for non-patient adults (*N* = 600-700; also listed by high Lambda, introversive, extratensives, and ambitents), non-patient children and adolescents (*N* = 1390; also listed by age), adult outpatients (*N* = 535), inpatient schizophrenics (*N* = 320), inpatient depressives (*N* = 315), and character disorders (*N* = 180). A new sample of 450 non-patients is also available (Exner, 2007). Descriptive group data is available for over **2061** CS administered forensic protocols (Gacono & Evans, 2008; Gacono & Meloy, 1994; Gacono & Smith, 2021a; Smith et al., 2021).

[3] The CS is the only Rorschach System with adequate nomothetic data for applied usage. The development of newer alternate systems, such as the R-PAS (Meyer, Viglione, Mihura, Erard, & Erdberg, 2011) must have similar data acquired with their respective administration instructions prior to being considered appropriate for applied use.

world behavior becomes uniquely apparent when providing test feedback during a process like Therapeutic Assessment (Finn, 2020).

Essential caveats for Rorschach interpretation include:

1) All disorders are inherently dimensional (comprised of cluster[s] of specific traits). When present in sufficient quantities and the proper combinations these traits reach a threshold that constitute a category (syndrome or disorder; diagnosis). *For the most part, Rorschach variables measure traits, not disorders or diagnoses (i.e., Reflection responses do not equal psychopathy but rather self-focus)*. Specific disorders emerge from a composite of Rorschach variables[4].

2) The interpretation of Rorschach variables must be considered relative to frequencies and mean numbers found in non-patients or other groups that either ***contain the same trait or are hypothesized to lack the trait*** (i.e., non-patients; lacking or low levels of the trait, Gacono & Smith, 2021).

3) Rorschach data means what it means (Weiner, 2003), it does not lie. However, the relative health or pathology of a variable must be assessed within the context of the entire protocol with considerations for gender and developmental issues. For example, FD (introspection) produced with FQ- and an accompanying ALOG in a protocol with poor reality testing and thinking difficulties, would not suggest healthy introspection. In the same fashion, a FC:CF+C of 1:5, while normative for a 5-year-old, is not for an adult. Yet in both cases the ratio, it suggests poor affect modulation.

4) Rorschach patterns aid in ferreting out sub-groups within any clinical syndrome. For example, while reflection responses may be present in one sub-group of male psychopaths (all of which are narcissistic as measured by PCL-R Factor 1), not all psychopaths produce reflections (Gacono & Meloy, 1994; Gacono, Meloy, & Bridges, 2008; Gacono & Smith, 2021a).

5) The accuracy of Rorschach findings is dependent on proper administration (Gacono, Evans, & Viglione, 2008; Gacono & Smith, 2021a). Poor administration, particularly inquiry, can result in reliable scoring within a compromised protocol. Poor inquiry is particularly impactful on the production of shading variables, tending to reduce their frequency (see also Gacono, Evans, et al., 2008; Ritzler & Nalesnik, 1990).

Interpreting the Individual Protocol: Where to Start?

While various search strategies have been offered (Exner, 2003; Weiner, 2003), the most efficient is guided by the referral question or clinical/forensic issue. These vary dependent on the assessment context. Clinical contexts include issues such as the presence of a thought disorder, affective issues (including depression), interpersonal functioning, treatment planning, and so forth. Forensic contexts seek information related to psycho-legal issues occur within a forensic context (criminal or civil) to aid the trier of fact in determining a

[4] A recent article demonstrates the importance of anchoring findings within comparative non-patient data (Gacono & Smith, 2021c). MPs (male psychopaths) had less indices of affect then FPs (female psychopaths). Both groups were found to be emotionally explosive (Pure C, MP, *M* = 0.70; FP, *M* = 1.07; non-patients, *M* = 0.17; CD, *M* = 0.47). Three variables (AB, Hx, & IMP [Impressionistic response], Gacono, 1988), representing the core of the hysterical, impressionistic style (Shapiro, 1965), along with a constellation of hysterical defenses, differentiated between the groups. The FPs also produced AB and Hx in greater quantities than non-patients (Hx, FP = 39%, NP = 10%; AB, FP = 44%; NP = 15%) supporting the "malignant aspect" of the hysteria.

specific outcome. The Rorschach has been used extensively with issues such as competency to stand trial (Gray & Acklin, 2008), mental state at the time of the offense (Acklin, 2008), violence risk assessment (Gray, Meloy, & Jumes, 2008), tort and employment litigation (Smith, 2008), death penalty mitigation (Kaser-Boyd, 2008), professional fitness to practice (Stacy, Graham, & Athey, 2008), personality functioning related to parenting (Evans & Schutz, 2008; Singer, Hoppe, Lee, Olesen, & Walters, 2008), and aiding the attorney in the case presentation. Regardless of the context, the examiner determines what personality issues are relevant to the referral question and then, examines those Rorschach variables and patterns that provide information relevant to personality issues.

When a parole board requests an assessment of violence risk, after examining records, administering a Hare Psychopathy Checklist-Revised (PCL-R, Hare, 2003), and conducting a clinical interview, which includes a thorough analysis of past behavioral patterns, what might the Rorschach contribute? A glance at R and Lambda will provide some clues as to whether overcontrol or under control are issues. R can also provide an indication that affect is creating an internal press toward acting out. An analysis of es, blends, and the sequence patterns elucidate the nature of the stressors that facilitate a loss of control. Low Lambda suggests poor boundaries and a propensity to be sucked into emotionally charged situations.

Examining EA, D, and Adj D will provide an indication of the psychological resources available, the degree of control, and the chronicity of the Rorschach patterns. Should the EB be ambitent the patient is prone to feeling overwhelmed and exhibits problem solving skills that shut down when confronted with internal and external stress--a precursor to impulsivity. Introversiveness and Extratensiveness styles will guide other fine-tuned hypotheses.

Additional information relative to the referral question might include an assessment of thinking difficulties (X+%, X-%; WSum6), ability to tolerate and modulate affect (FC:CF+C, Afr), presence of internal stressors (blends, C', Sum Shading), aggression prevalence (AG, S, S-%, AgC, AgPot, AgPast), impulsivity (C), while other supplemental scores will aid in understanding level of personality organization and primary defense utilized (Acklin, 1997). When integrated with the history and other assessment data, the Rorschach data enhances our understanding of the patient's ability or inability to delay/avoid actions, suggests possible intervention strategies (Relapse Prevention), and adds to the identification of circumstances that are of high risk.

CS Structural Summary

The CS Structural Summary (CSSS) provides a portrait of the patient's personality functioning. As noted by Fontan et al. (2013), we consider that the Structural Summary provides a visual and dynamic representation of the psychological functioning of a person. This is the same kind of experience that the engineer has when looking at mechanical designs and "seeing" the pieces moving together, or when the architect looks at blueprints and "sees" people living and working in the building, or the musician when looking at multiple instruments scores and "hearing and feeling" the movements of a piece of music. One of the major purposes of CHESSSS is to promote this experience of the Structural Summary (p. 62).

The CSSS allows for the perusal of the entire personality without having to search through pages of individual data points, organize the data, and then interpret them. It allows the examiner to view Rorschach patterns of great interpretative value.

In a patient prone to impulsively, one might quickly scan the CSSS finding a low Lambda, high number of dysphoric blends, in an extratensive style. This patient experiences a push (blends) and pulls (low Lambda) and is wired for environmental engagement. They are unable to separate from emotionally stimulating situations. Combined with poor reality testing, cognitive issues, problems with affect modulation, and

interpersonal deficits this pattern is a template for real-world boundary issues, impulsivity, and interpersonal misjudgments. This rapid glimpse into personality functioning is not possible in systems where individual data points must be searched, and then organized into essential patterns.

Variations in Lambda provide clues into impulsivity related to aggressive acting out (Exner, 2003; Weiner, 2003). High Lambda individuals (constricted) are susceptible to experiencing difficulties with affect. When overwhelmed their limited resources (EA) may result in explosive behavior when considered in the context of other variables such as Pure C, X-%, FC:CF+C and the various indices of aggression. The low lambda subject may have the tendency to find themselves too easily ensnared within affectively charged situations where they become overwhelmed and act out. The examiner can readily scan the CSSS to fine tune hypotheses generated by Lambda.

Readily identifiable patterns occur related to other areas of personality functioning such as self-esteem regulation. An EGOI elevated by reflections combined with MORs, Vistas and PERs, suggests the defensive use of grandiosity to compensate for a damaged inner self. In female psychopaths the defensive nature of Hx, AB etc. highlight the way hysteria is integral to self-esteem regulation. Interpersonal variables such as spoiled COP will reveal the impact of poor affect modulation and a damaged self-image on interpersonal functioning.

The following structural summary produced by Brinkley, a 31-year-old, male Caucasian sexual murderer provides some intriguing interpretative issues. This reduced response protocol (R = 13) may not provide a full presentation of the patient's personality functioning and is likely not completely valid related to some of the constellations (see Table 1). However, is it clinical useful? RIAP-5, in misguided fashion, does not generate the ratios, percentages and derivatives for a 13-response protocol. Consequently, the Structural Summary from the original RIAP is presented (some minor inconsistencies between the CSSSs may result as we could not update the scoring for the original RIAP).

Table 1: Brinkley Structural Summary from RIAP-5.

Location Features

Zf	=	10
ZSum	=	36.5
ZEst	=	31.0
W	=	8
(Wv	=	0)
D	=	5
W+D	=	13
Dd	=	0
S	=	3

DQ

			(FQ-)
+	=	7	(0)
o	=	6	(0)
v/+	=	0	(0)
v	=	0	(0)

Form Quality

		FQx	MQual	W+D
+	=	1	0	1
o	=	9	1	9
u	=	3	2	3
-	=	0	0	0
none	=	0	0	0

Determinants

Blends	Single		
M.C	M	=	0
FM.Fr	FM	=	1
M.Fr.CF	m	=	1
M.Fr	FC	=	1
FM.CF	CF	=	0
FM.FC	C	=	0
	Cn	=	0
	FC'	=	0
	C'F	=	0
	C'	=	0
	FT	=	0
	TF	=	0
	T	=	0
	FV	=	1
	VF	=	0
	V	=	0
	FY	=	0
	YF	=	0
	Y	=	0
	Fr	=	0
	rF	=	0
	FD	=	1
	F	=	2
	(2)	=	5

Contents

H	=	4
(H)	=	0
Hd	=	0
(Hd)	=	1
Hx	=	0
A	=	3
(A)	=	4
Ad	=	1
(Ad)	=	0
An	=	0
Art	=	1
Ay	=	2
Bl	=	1
Bt	=	1
Cg	=	1
Cl	=	0
Ex	=	0
Fd	=	1
Fi	=	0
Ge	=	0
Hh	=	0
Ls	=	0
Na	=	1
Sc	=	0
Sx	=	3
Xy	=	0
Idio	=	0

S-Constellation

☐	FV+VF+V+FD > 2
☐	Col-Shd Blends > 0
☑	Ego < .31 or > .44
☐	MOR > 3
☑	Zd > ±3.5
☐	es > EA
☑	CF + C > FC
☐	X+% < .70
☐	S > 3
☐	P < 3 or > 8
☐	Pure H < 2
☑	R < 17
4	Total

Special Scores

		Lvl-1	Lvl-2
DV	=	0 x1	0 x2
INC	=	0 x2	2 x4
DR	=	5 x3	8 x6
FAB	=	0 x4	0 x7
ALOG	=	0 x5	
CON	=	0 x7	

Raw Sum6 = 15
Wgtd Sum6 = 71

AB	= 1	GHR	= 2
AG	= 1	PHR	= 6
COP	= 3	MOR	= 2
CP	= 1	PER	= 9
		PSV	= 0

Does this 13-response protocol accurately describe an individual who committed a sexual homicide? How does one interpret the low R and Lambda (in Table 2)? Given the patient was evaluated over several days, the protocol was administered by the CBG, and cooperation was listed as excellent (patient fully engaged & rapport established) conscious defensiveness can be ruled out. High task engagement is supported by the low Lambda (0.18; Table 2) and abundant DRs (13), suggesting an over-engagement in the task. Of note since only experienced examiners have administered our research protocols only 4% or less of the cases constitute abbreviated protocols (Gacono & Evans, 2008; Gacono & Meloy, 1994; Smith et al., 2021).

Low R in a protocol with very low Lambda and a plethora of blends represents characterological constriction (Gacono & Gacono, 2008; Gacono & Meloy, 1994). Not due to defensiveness, it accurately reflects some aspect of the patient's functioning and therefore warrants interpretation. Comparing the W: D and W:R ratio in nonpatient adults (Exner, 2007) is 8.28/12.88 (64%) and 8.28/22.32 (37%), with Brinkley's ratios (8:5 (1.6) & 8:13 (61%)) one discovers an overproduction of Ws. What does an elevated W mean in the case of a psychopathic sexual murderer? The original CS structural summary is included here (see Table 2).

Table 2: Structural Summary for Brinkley from RIAP

LOCATION FEATURES		DETERMINANTS BLENDS		SINGLE		CONTENTS		S-CONSTELLATION	
						H = 4, 0		NO..FV+VF+V+FD>2	
Zf	= 10	M.C		M = 0		(H) = 0, 0		NO..Col-Shd Bl>0	
ZSum	= 35.0	FM.Fr		FM = 1		Hd = 0, 0		YES..Ego<.31,>.44	
ZEst	= 31.0	M.Fr.CF		m = 1		(Hd) = 0, 0		NO..MOR > 3	
		M.Fr		FC = 0		Hx = 0, 0		YES..Zd > +- 3.5	
W	= 8	FM.C		CF = 1		A = 4, 0		NO..es > EA	
(Wv	= 0)	FM.FC		C = 0		(A) = 3, 0		YES..CF+C > FC	
D	= 5			Cn = 0		Ad = 0, 1		NO..X+% < .70	
Dd	= 0			FC' = 0		(Ad) = 0, 0		NO..S > 3	
S	= 1			C'F = 0		An = 0, 0		NO..P < 3 or > 8	
				C' = 0		Art = 1, 0		NO..Pure H < 2	
DQ				FT = 0		Ay = 1, 1		YES..R < 17	
.....(FQ-)				TF = 0		Bl = 0, 1		4.....TOTAL	
+ = 7	(0)			T = 0		Bt = 0, 1			
o = 6	(0)			FV = 1		Cg = 0, 0		SPECIAL SCORINGS	
v/+ = 0	(0)			VF = 0		Cl = 0, 0			Lv1 Lv2
v = 0	(0)			V = 0		Ex = 0, 0		DV =	0x1 0x2
				FY = 0		Fd = 0, 1		INC =	0x2 2x4
				YF = 0		Fi = 0, 0		DR =	5x3 8x6
				Y = 0		Ge = 0, 0		FAB =	0x4 0x7
FORM QUALITY				Fr = 0		Hh = 0, 0		ALOG =	0x5
				rF = 0		Ls = 0, 0		CON =	0x7
FQx	FQf MQual SQx			FD = 1		Na = 0, 1		Raw Sum6 =	15
+ = 0	0 0 0			F = 2		Sc = 0, 0		Wgtd Sum6 =	71
o = 11	2 2 1					Sx = 0, 3			
u = 2	0 1 0					Xy = 0, 0		AB = 1	CP = 1
- = 0	0 0 0					Id = 0, 0		AG = 1	MOR = 3
none= 0	-- 0 0			(2) = 5				CFB = 0	PER = 9
								COP = 3	PSV = 0

This is a short record and may not be interpretively valid.

RATIOS, PERCENTAGES, AND DERIVATIONS

R = 13	L = 0.18		FC:CF+C = 1: 4		COP = 3	AG = 1	
			Pure C = 2		Food = 1		
EB = 3: 5.5	EA = 8.5	EBPer= 1.8	SumC':WSumC= 0:5.5		Isolate/R =0.23		
eb = 5: 1	es = 6	D = 0	Afr =0.30		H:(H)Hd(Hd)= 4: 0		
Adj es = 6	Adj D = 0		S = 1		(HHd):(AAd)= 0: 3		
			Blends:R= 6:13		H+A:Hd+Ad =11: 1		
FM = 4 : C' = 0	T = 0		CP = 1				
m = 1 : V = 1	Y = 0						
		P = 3	Zf =10		3r+(2)/R=1.08		
a:p = 3: 5	Sum6 = 15	X+% =0.85	Zd = +4.0		Fr+rF = 3		
Ma:Mp = 1: 2	Lv2 = 10	F+% =1.00	W:D:Dd = 8: 5: 0		FD = 1		
2AB+Art+Ay= 5	WSum6 = 71	X-% =0.00	W:M = 8: 3		An+Xy = 0		
M- = 0	Mnone = 0	S-% =0.00	DQ+ = 7		MOR = 3		
		Xu% =0.15	DQv = 0				

SCZI = 1 DEPI = 3 CDI = 3 S-CON = 4 HVI = No OBS = No

The presence of 3 reflections (elevated EGOI) in this abbreviated protocol is telling. Whenever a low base rate variable (T, Fr, etc.) is produced in a low R protocol, attributing its clinical meaning to the patient rests on safe grounds. Conversely, the absence of a variable in a short protocol may constitute a false negative. In this case the W:M being near the 3:1 ratio, which indicates the presence of aspirations that exceed real world abilities (Weiner, 2003), supports the presence of grandiosity. Given the 3 MORs and 9 PERs (associated with omnipotence in male psychopaths; Gacono & Meloy, 1994) the hypothesis that this individual manifest a malignant narcissism where grandiosity compensates for inner damage is justified. His grandiosity was also evident throughout the assessment. It began at the onset when after a formal introduction of the examiners, the patient stated, "Carl, you can call me [Brinkley]", and then sat down and propped his feet up on the examination table. While the EB may or may not be valid due to the low R, the extratensive style is consistent with an individual who has great difficulty disengaging from stimulating environmental stimuli in this case idealized women who fit his victim fantasy (note his Mp > Ma suggesting an abuse of fantasy). The sexual murder itself becomes a component of the offender's self-esteem regulation.

Extensive verbiage is evident (DRs). Disordered thinking (WSum6 = 71) lies beneath Brinkley's mask of sanity (adequate perceptual accuracy, X+% & F+%). In a grandiose fashion, Brinkley expends much energy producing each perfect response. Not likely evidence of insightfulness on his part, he states on Card X response 13, "That's a Rorschach original." The fact that his protocol continues to be used for educational purposes suggests, however, that indeed his protocol continues to be "a Rorschach original." In predatory fashion, Brinkley scans the entire blot (W), a correlate of his perpetual environmental scanning as he searches for prey while in a paranoid fashion, he identifies potential predators. These latter interpretations are supported by plethora of extended Ag scores (including SM, AgC, AgPot, AgPast; Gacono & Meloy, 1994) and indices indicating an underlying paranoid personality structure (PERs).

Sequence of Scores:

At times individual responses provide rich imagery that provide a microcosm of the patient's personality functioning. In Card 1, response 1 offered by a Karen a psychopathic female serial killer (Gacono & Meloy, 1994; Smith & Gacono, 2021) one is struck by abundance of aggressive imagery, primitive defenses, an admixture of sexual and aggressive content, and a hysterical-paranoid style the hallmark of psychopathic women (Smith et al., 2021).

Karen stated,

> (FA) A Wiley coyote in an aggressive mode (AgC, AG). Wiley coyote is the one that chases the road runner on the cartoons. My initial impression is a carnivore (AgC). Is that an unusual response? He needs eyeballs." (Inquiry) S: These look like eyes that are hostile, angry, white orbs (white space). These look like pupils, appear to be ears. E: (Hostile?) S: Without going into details of cartoons (denial), there is a way of drawing the eyes that looks angry. My first impression was aggression. Wiley coyote about to attack the road runner (AgPot). Yes, there is a large aggressive part of me (PER). He looks like a carnivore ready to strike (AgPot, projective identification). All I see is the eyes and a hostile mouth, what else is there to see? I wish I could see doves mating (splitting). Something soft and gentle. Something that's not hostile (Gacono & Meloy, 1994, p. 129).

At other times the imagery may include deeply cathected images of aggression of personal, albeit unconscious, meaning to the patient (Gacono & Meloy, 1994).

Card VI, response 11 (second response to Card VI),

> (FA) Or a filet of fish ready to put on a frying pan" (Inquiry) S: I'm not seeing the tail with Indian feathers. Just the filet of fish. E: (Filet?) S: Side by side. It's been deboned, (SM, AgPast; Laughs) sorry I shouldn't have said that term. He'll be ready to go into the frying pan or perhaps is already in the pan. E: (Deboned?) S: I knew you were going to hit me on that. No spine, no substance, no form, a blob! A piece of fish to be cooked. Or perhaps a fudgsicle that's been allowed to set in the sun and melt." Of note is that Karen beheaded one of her victims with fish deboning knife (note food imagery with aggressive & sexual contamination in this unconsciously chosen phrase) (p. 132).

Beyond content analysis essential information is provided when examing the responses in their CS/CS-R generated sequence. Basic to sequence analysis is the understanding of impulses (poor form, special scores) and defenses (good form; Meloy et al., 1997; Rapaport, Gill, & Schafer, 1946; Schafer, 1954). The following can be obtained from sequence analysis.

1) How does the patient react to an unstructured stimulus (Card 1) or affect (color shock)?
2) What dynamic issues cause disruptions? Analysis of the determinants and content proceeding and occurring on responses with minus, unusual form, and special scores should provide answers.
3) What is the nature of the disruption? Examine determinants/content occurring with cognitive slippage, perceptual inaccuracy, affect based disturbance.
4) How does the patient react to disruptions? Do they recover in subsequent response with good form absent special scores or do they continue to remain disorganized? If they recover, how do they do so? (i.e., do they produce a popular [conventionality]?)
5) How does the patient hold up during the administration from response 1 to the final response? Are they consistent with good form throughout? Do they demonstrate disruptions and recover by the end of Card X? Do they regress and never recover? These patterns are likely a microcosm of their real-world resiliency in difficult or complex situations.

Conclusion:

The CS/CS-R Rorschach provides a completed portrait--sometimes bland and colorless, sometimes rich and colorful--of a patient's personality functioning. While supplemental scoring significantly enriches the clinical yield of the canvass, much is provided by the Structural Summary and Sequence of scores. R, Lambda, and EB are particularly useful in establishing the protocol's validity and providing a basis for interpreting other Rorschach data.

The variations in R allowed by CS administration are not only sufficient but ideal, allowing R to be treated as a dependent measure of the populations studied or patient assessed. Allowing for variations in R is not only ideal but consistent with Rorschach's intentions. Abbreviated CS protocols are rare (< 4%) when the CS is administered by experienced raters who are patient, astute and able to establish rapport. Claims to the contrary are not justified or scientific. As noted by Gacono and Meloy (1994) related to assessing antisocial and psychopathic subjects:

"We have found, contrary to our expectations, that psychopaths generally produce a normative amount of Rorschach responses, at least in a research setting. We have purged our group samples of protocols with less than 14 responses without great heartache, because they were few in number. (p. 5)."

Patience has limits, however, and should be anchored in clinical judgement. This is in contrast to one case where a schizophrenic patient fell asleep sitting next to the examiner who exercised extraordinary restraint, remaining client centered, and non-directive, as he, unfortunately, was not being able to see the patient's

closed eyes. As with criticisms of administration time being too lengthy for the Rorschach and PCL-R (not justified), there is a repeated pattern in psychology to reframe problems with incompetent or inexperienced examiners as negative attributes of the test itself, confusing poor clinical practice with test psychometrics (i.e., statements concerning a 10% production rate of shortened protocols are most likely an attribute of the examiners). This difficulty acknowledging limitations is left to the interpretation of the reader.

Encouraging for psychologists and Rorschach enthusiasts is the fact that the CS/CS-R Rorschach is alive and evolving, not frozen in time (Kivisto, Gacono, & Medoff, 2013). It continues to undergo creative adjustments and improvements (see Fontan et al., 2013). Well trained examiners should not fear using the

CS, when appropriate to the referral question or clinical issue, in applied contexts. In this regard, we refer users and potential users to the *Handbook of Forensic Rorschach Assessment* (Gacono & Evans, 2008) and offer this brief overview as a resource for competent Rorschach usage.

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SIS J. Proj. Psy. & Ment. Health (2022) 29: 15-18

The Case for Projective Techniques in the Clinical Study of the Adult Bully

Chris Piotrowski

A search of the mental health literature confirms the fact that while there is extensive extant research on children or adolescents who bully, there is limited investigatory focus on the adult bully. Two diagnostic domains that shed some light on adults who bully are the Dark Triad and the Adult Bully Syndrome, where personality features such as narcissism, Machiavellianism, sub-clinical psychopathy, callousness, and dominance inform the clinical profile. Based on this conceptualization, the current article proffers that projective measures are ideally suited in the assessment of intrapsychic dynamics and overt behaviors of adults who harbor bullying tendencies. The author presents bibliometric evidence and cites research studies which show that projective tests have the potential to tap the key personality features of adult bullies. Hence, projective assessment can guide both clinical research or psychological evaluation/treatment of the adult bully.

Introduction:

While there has been an extensive research focus on the effects of bullying and cyberbullying on victims (Kerzner, 2013; Piotrowski, 2012; Roland & Munthe, 1989; Sourander et al., 2007), there has been diminutive investigatory interest on the psychological characteristics of bullies per se. This has been particularly evident for the study of the adult bully, although research on latent psychological features and overt behaviors of adults who bully has been reported in the recent literature (Glaso et al., 2009; Vaughn et al., 2010). In the area of organizational psychology, workplace bullying by adults has been an active area of research over the past decade (Kowalski et al., 2018; Paludi, 2015; Piotrowski, 2012). Interestingly, there has been academic interest in understanding the dynamics of bullying of faculty and staff by administrators in higher education (see King & Piotrowski, 2015; Piotrowski & King, 2016).

In order to advance our understanding of the psychological nature of the adult bully, researchers have focused on the study of *personality* characteristics of adult bullies (e.g., Fossati et al., 2012; Gini et al., 2011; Goodboy & Martin, 2015; Linton & Power, 2013). Moreover, several prominent characteristics of adult bullies are concordant with the central dynamism of the 'Dark Triad' (i.e., Machiavellianism, narcissism, and sub-clinical psychopathy; see Lyons, 2019 for a review). Indeed, prior research has shown that 'Dark Triad' personality traits are linked to bullying styles in adults (Baughman et al., 2012; Piotrowski, 2018; van Geel et al., 2017). Recently, Balakrishnan et al. (2019) found strong empirical support on the association between personality traits such as the Dark Triad and cyberbullying.

In this conceptual framework, Piotrowski (2015) synthesized research findings from the scholarly literature on breadth of mental health aspects in relation to bullying behavior and introduced the term 'Adult Bully Syndrome' to reflect the pervasive constellation of pathological traits that depicts bullying behavior in adulthood. This designation features several salient and key clinical aspects that are concordant with common personality disorder traits, such as Machiavellianism, narcissism, dominance, self-centeredness, and lack of empathy.

The central thesis of the current study proposes that projective techniques could play a key diagnostic role regarding the propensity to bully by adults via the identification of the constellation of personality features noted in the Adult Bully Syndrome. To that end, this study reports on a bibliometric analysis of the mental health literature to examine the extent and breadth of research studies with a focus on various projective tests and malevolent, dysfunctional personality characteristics.

Method:

The repository of extant mental health scholarly literature for this analysis was the database *PsycINFO*. In

Chris Piotrowski, PhD, Research consultant, University of West Florida, USA; Email: piotrowskichris@hotmail.com
Keywords: Projective tests, Bullying, Adults, Dark Triad, Adult Bully Syndrome

order to target studies with a major focus on personality characteristics specific to the Adult Bully Syndrome, the online procedure limited the search output based on these terms appearing in the *Abstract* of references. Each projective measure was subjected to a Boolean procedure that linked each test with the specific personality characteristic. Table 1 presents the number of peer-reviewed articles for each test across 6 key personality traits.

Table 1. Number of Peer-Reviewed Articles in *PsycINFO*

Trait	Rorschach	TAT	Sentence Completion
Narcissism	56	24	4
Machiavellian	0	3	0
Ruthlessness	1	0	1
Dominance	1	3	0
Coercion	2	2	0
Self-Centered	3	1	0

Findings:

Observation of the results in Table 1 shows there has been and continues to be a moderate level of investigatory focus on the issue of narcissism related to the Rorschach and TAT, and to a lesser extent with Sentence Completion measures. Interestingly, there was tepid scholarly interest using these 3 projective techniques on aspects of personality such as Machiavellianism, ruthlessness, dominance, coercion, and self-centeredness. However, these findings confirm that select projective tests could be used as a diagnostic 'screener' regarding the propensity to exhibit bullying in adult populations, particularly related to the personality trait of narcissism.

Table 2 presents several key studies that support usage of projective measures in both research and practice regarding bullying characteristics. Very recently, researchers have developed assessment instruments to target bullying behavior in adults (e.g., McLoughlin et al., 2021). Mental health professionals, as well as researchers, should consider relying on established measures and clinical tools as part of the assessment armamentarium, including projective techniques. At the same time, clinicians need to be cognizant of the fact that adult bullies are qualitatively different from the child or adolescent bully (see Ireland & Power, 2004; Schulz-Kraszewski, 2018). Hence, findings from projective tests may reveal psycho-diagnostic patterns and/or dynamics that can guide both comprehensive assessment and therapeutic intervention.

Table 2. Select Studies Using Projective Tests & Bullying Styles

Study	Measure	Personality Trait
Gritti, E.S., et al. (2018). Assessing narcissism using Rorschach-based imagery and behavior validated by clinician reports: Studies with adult patients and non patients. *Assessment*, *25*(7), 898-916	Rorschach	Narcissism
Hilsenroth, M.J., et al. (1997). Narcissism in the Rorschach revisited: Some reflections on empirical data. *Psychological Assessment*, *9*(2), 113-121	Rorschach	Narcissism
Smith, A.M., et al. (1997). A Rorschach comparison of psychopathic and non-psychopathic conduct disordered adolescents. *Journal of Clinical Psychology*, *53*(4), 289-300	Rorschach	Psychopathy

Campos, R.C. (2009). Dependency, narcissism and Rorschach. *Journal of Projective Psychology & Mental Health*, *16*(1), 3-7	Rorschach	Narcissism
Sheldon, K.M., et al. (2007). Comparing IAT and TAT measures of power versus intimacy motivation. *European Journal of Personality*, *21*, 263-280	TAT	Dominance
Bailly-Salin, M., et al. (2003). Narcissism and borderline functioning at adolescence as seen through a TAT analysis. *Psychologie Clinique et Projective*, *9*, 203-226	TAT	Narcissism
Wysocki, A.C., & Wysocki, B.A. (1977). Human figure drawings of sex offenders. *Journal of Clinical Psychology*, *33*(1), 278-284	Draw-A-Person	Narcissism
Kalliopuska, M. (1982). Empathy measured by the Rorschach and TAT. *British Journal of Projective Psychology and Personality Study*, *27*(2), 5-11	Rorschach/TAT	(Lack of) Empathy
Dymond, R.F. (1950). Personality and empathy. *Journal of Consulting Psychology*, *14*(5), 343-350	Rorschach/TAT	(Lack of) Empathy

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Baughman, H.M., et al. (2012). Relationships between bullying behaviors and the Dark Triad: A study with adults. Personality and Individual Differences, 52(5), 571-575.

Fossati, A., et al. (2012). Bullying as a style of personal relating: Personality characteristics and interpersonal aspects. Personality and Mental Health, 6, 325-339.

Gini, G., et al. (2011). Bullies have enhanced moral competence to judge relative to victims, but lack moral compassion. Personality and Individual Differences, 50, 603-608.

Glaso, L., et al. (2009). Interpersonal problems among perpetrators and targets of workplace bullying. Journal of Applied Social Psychology, 39, 1316-1333.

Goodboy, A.K., & Martin, M. (2015).The personality profile of a cyberbully: Examining the Dark Triad. Computers in Human Behavior, 49, 1-4.

Ireland, J.L., & Power, C.L. (2004). Attachment, emotional loneliness, and bullying behavior: A study of adult and young offenders. Aggressive Behavior, 30(4), 298-312.

Kerzner, S. (2013). The crucial role of the "third" in bully/victim dynamics. Psychoanalytic Inquiry, 33(2), 116-123.

King, C., & Piotrowski, C. (2015). Bullying of educators by educators: Incivility in higher education. Contemporary Issues in Educational Research, 8(4), 257-262.

Kowalski, R.M., et al. (2018). Bullying and cyberbullying in adulthood and the workplace. Journal of Social Psychology, 158(1), 64-81.

Linton, D.K., & Power, J.L. (2013). The personality traits of workplace bullies are often shared by their victims. Personality and Individual Differences, 54, 738-743.

Lyons, M. (2019). The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy in everyday life. San Diego, CA: Elsevier.

McLoughlin, L.T., et al. (2021). The Cyberbullying Picture Series (CyPicS). Psychological Reports, 124(3), 1370-1383.

Paludi, M.A. (Ed.). (2015). Bullies in the workplace: Seeing and stopping adults who abuse their co-workers and employees. Santa Barbara, CA: Praeger.

Piotrowski, C. (2018). The Dark Triad in leadership research: The Adult Bully Syndrome in action. Psychology & Education, 55(3), 101-110.

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Schulz-Kraszewski, S. (2018). Schemes, well-being, and bullying in young adults. Dissertation Abstracts International, 78 (11-BE), na.

Sourander, A., et al. (2007). What is the early adulthood outcome of boys who bully or are bullied in childhood? Pediatrics, 120, 397-404.

Van Geel, M., et al. (2017). Which personality traits are related to traditional bullying and cyberbullying? A study with the Big Five, Dark Triad, and sadism. Personality and Individual Differences, 106, 231-242.

Vaughn, M.G., et al. (2010). Psychiatric correlates of bullying in the United States: Findings from a national sample. Psychiatric Quarterly, 81, 183-195.

SIS J. Proj. Psy. & Ment. Health (2022) 29: 19-28

An Alternative Interpretation Hypothesis Regarding Color Projection

Sanae Aoki & Nobuo Kogayu

The appearance of Color Projection（CP） on the Rorschach test has been conventionally considered to signify the denial of unpleasant affection. However, this hypothesis has not been supported empirically due to lack of empirical evidence. This study investigated this conventional hypothesis quantitatively by examining verbal expressions of affection in explanations of CP responses. The participants included 37 adult Japanese psychiatric patients. The study was conducted between April 1995 and July 2017, and 68 CP responses produced by participants in the Rorschach protocol were examined.The results showed that 22% of the color projection (CP) responses were accompanied by pleasant affection only, as previously hypothesized. Furthermore, CP responses with unpleasant and negative affection or no affection at all were revealed. CP responses were classified into three by type of affective expression. While CP responses with only pleasant affective explanations were not accompanied by any special scores and often appeared in the form of multiple color projections in the gray area, CP responses, including negative affective explanations or no affective expressions at all, could be accompanied by special scores.The results suggest that while some CP responses may indicate a denial of unpleasant affection, as previously hypothesized, there may be CP responses that are reflecting cognitive integration deficits rather than affection.

Introduction:

Color Projection（CP） in the Rorschach test occurs when a subject projects chromatic colors onto blot areas that display only varieties of black and gray tones (Piotrowski, 1957). Examples include “a blue bird” in response to Card I, “a bright red butterfly” in response to Card V, and “green leaves” for Card VI. Piotrowski (1957) suggested that CP indicates a deliberate, conscious attempt to overtly feel, sense, and display happiness, while suppressing spontaneous and deeply felt sadness. He also proposed that CP shows an earnest, intense attempt at self-imposed serenity to dispel depression caused by deeply felt frustration.

Moreover, Weiner (1998) and Exner (2003) later recognized that in broader terms, CP is the rejection of not only depressive feelings but also unpleasant feelings in general. Currently, many Rorschach systems support these hypotheses. Weiner (1998) reported that “people (subjects) with one or more CP in their records are usually individuals who keep themselves in good spirits by using denial to ward off any potentially depressing feeling.” Therefore, according to Weiner (1998), “Color Projection responses almost always involve pleasant percepts very rarely do subjects report a CP with unpleasant connotations.” He added that “because it is so strained and contrived, the defensiveness indicated by CP is very fragile and likely to crumble quickly when challenged.” Exner (2003) wrote, “The presence of even one CP represents the use of an unusual form of denial to contend with unpleasant affective experiences.” Weiner (1998) and Exner (2003) interpreted CP as the rejection of not only depressive affect but also unpleasant affect overall, but they essentially supported Z.A. Piotrowski’s hypothesis.

Thus, in almost all scoring systems that use CP, the definition and interpretation of CP is identical, regardless of differences in classification frameworks such as special scores or determinants. The most widely accepted interpretation of CP is that the perception of chromatic colors in achromatic areas is an intentional, but unusual and strained, psychological mechanism of cognitive transformation to cope with unpleasant affections activated by black images. However, few studies provide grounds for this interpretation, and most were conducted by Exner. According to Exner (2003), a review of 430 records of outpatients revealed that CP was coded at least once in 44 of the protocols. Therapist evaluations of these patients indicated that the primary symptom patterns of those giving CP responses were psychosomatic (N = 14), hysteroid-like problems in dealing with affect (N = 20), depression (N = 7) and obsession-like features (N = 3). The therapist evaluations included a section pertaining to defense tactics, of which, if

Sanae Aoki, Division of Psychology, Faculty of Human Sciences, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8577 Japan. Email: s-aoki@human.tsukuba.ac.jp (Corresponding author:) and **Nobuo Kogayu**, Juvenile treatment division, correction bureau, Japan Ministry of justice, Tokyo, Japan
Keywords: Color projection, Rorschach test, interpretation, validity

discernible, as many as three were to be listed. 95% of the 44 persons who gave at least one CP response were evaluated as having marked tendencies to use denial as a defensive tactic. Only about 32% of the remaining 385 patients were evaluated as frequently using denial as a defensive tactic.

Some reports in Japan have supported the conventional hypothesis asserted by Z.A. Piotrowski and Exner, but others do not provide support. In 10 Rorschach case studies, Ishii (2003) found that most CP responses involved positive images, but some involved negative ones, such as a “sea of blood” and “dead leaves.” Aoki found that some CP responses involved pleasant perceptions but that others occurred with unpleasant ones, such as a “drowned body” and “rotten leaves” (Aoki, 2009, 2010, 2011).

Aoki’ research also showed through several case studies that some CP responses are better interpreted as cognitive integration failure, such as color integration failure, rather than as denial of discomfort as previously hypothesized (Aoki, 2009, 2011, 2013). Aoki (2013) suggests that some CPs in which the projected color does not match the color of the content, for example, "dead leaves, because dead leaves are a fresh green color," or "violin, because violin is definitely pink," or CPs with significantly lower form quality, or CPs with scores indicating cognitive deviance, should not be immediately applied to Z.A.Piotrowski’s conventional hypothesis, but should be interpreted carefully. Furthermore, Aoki (2013) attempted to qualitatively classify CP responses in 30 Rorschach cases of CP according to content, verbal expression, shape and color conformity, and color obsession (absolute, red, etc.). As a result, four types of responses were identified: denial of unpleasant feelings as previously hypothesized, preoccupation with content (e.g., forcibly changing color due to preoccupation with content), flashback (including vivid descriptions), and integration failure (mismatch between color and response content, projecting a color different from that commonly recognized with the object; e.g., dead leaves are fresh green). The results suggest that CP may be divided into four types of CP responses. These results support Z.A. Piotrowski's claim that CP can be interpreted as indicating a denial of discomfort. However, these investigators also suggest that not all CPs carry this connotative meaning.

CPs are unique responses that change the actual color of the ink, and even protocols that show only one CP can have important implications, which is why appropriate interpretations may be important in understanding individuals. Therefore, if there are other possible interpretations of CP that are more promising than the traditional explanations, these should be considered.

Recently, serious criticism has been brought to bear on the variables used in the Rorschach test. In response, the validity of the Rorschach variables has been defended (Meyer, Erdberg, & Shaffer, 2007; Mihura, Meyer, Dumitrascu, & Bombel, 2013; Tibon & Zeligman, 2016; Wood, Garb, Nezworski, Lilienfeld, & Duke, 2015; Wood, Nezworski, Grab, & Lilienfeld, 2001). Mihura, Bombel, and Dumitrascu (2013) evaluated peer-reviewed literature on Rorschach validity in terms of the 65 main variables in the popular Comprehensive System (CS), and CP was found to be among those with the least support. However, Mihura et al. (2013) report that this lack of support should not imply evidence of the lack of or low or unstable levels of validity but instead absence of evidence because no studies have been conducted on CP, perhaps due to its low incidence.

In fact, basic research on color itself has been scarce in recent years; the results of C. Piotrowski’s (2017) exploratory bibliometric "topic" analysis focusing on primary Rorschach studies published between 2000 and 2016 showed that there are limited studies on color compared to the large number of Rorschach studies on psychiatric disorders. Furthermore, the low frequency of CP contributes to the lack of studies on CP.

The incidence of CP has been reported by Exner (2001), stating that it occurs in 3–7% of clinical patients. Conversely, the incidence of CP of the nonclinical group is lower than that of the clinical group and is 0–3% (Meyer et al., 2007; Nakamura, Fuchigami, & Tsugawa, 2007). However, Ishii (2003) and Aoki (2013)

reported that CP might not be extremely rare in the empirical context. It may be difficult to collect data on CP for effective evaluation by statistical methods in short-term studies. Data on Rorschach protocols, including CP responses, are often accumulated in spontaneous, day-to-day work in clinical settings over the long term. A range of issues, including data control, can arise when data are accumulated in the course of long-term clinical practice. It is also time-consuming to collect enough to withstand validity studies. However, to verify the conventional understanding of CP, it is necessary to collect data and perform basic research.

Aoki and Kogayu (2021) conducted a basic study of CP and examined which cards, locations, quality of development, quality of form, determinants, content, special scores, and projected colors accompanied the CP responses. The results showed that almost half of the CP responses contained special scores indicating deviations in cognition and thinking, half of which indicated a severe level (level 2). Considering that about 30% of the CP responses were FQ- and 10% of the CPs included color projections that did not match the content of the responses, it was also inferred that some of the CPs failed to integrate their cognition and thinking. Furthermore, given that nearly 30% of the CP responses were scored with MOR, it was thought that the traditional CP interpretation hypothesis of denial of unpleasant emotions may not apply to all CP responses. However, Aoki and Kogayu (2021) did not examine the linguistic representation of CP protocols or even classify CPs. Therefore, this study focused on Weiner's (1998) assertion that “CP responses almost always involve pleasant percepts and only very rarely do subjects report a CP with unpleasant connotations”. In particular, the presence or absence of affective expressions and their affective dimensions (pleasant, unpleasant, or both) were examined in an attempt to classify CP responses.

The final goal of the current study was to assess the validity of CP and to re-examine the traditional interpretation of CP. Although validity cannot be determined in this study, if there are multiple types of CP responses, each with different meanings, then it is quite possible that multiple interpretation hypotheses beyond the traditional interpretation hypotheses are possible. Furthermore, if there are multiple types of CPs, knowing their attributes and grouping them accordingly may generate new interpretive hypotheses, which may lead to improved evaluation accuracy regarding clinical support. In the current study, we used the same dataset as reported by Aoki and Kogayu (2021).

Methods: Procedure:

This study was performed with the cooperation and agreement of the patients and their treatment organizations. The Rorschach test was administered individually for diagnosis and planning in the treatment organizations. When CP appeared in Rorschach protocols, the record was placed in the set of research data after obtaining informed consent form the patient, explaining that the data were to be used only for research purposes and that personal information would be completely protected. Data from patients who signed a participation agreement were used. The research was conducted in from April 1995 and to July 2017. In all, 68 CP responses in 37 protocols were collected from over 1500 Rorschach protocols.The survey was conducted with the approval of the Committee on Ethics of the Faculty for Research in Human Sciences, Tsukuba University.

Data analysis:

Certified Psychologists with more than 20 years of experience in Rorschach testing, including the authors, scored protocols that were collected in the form described in the procedure independently by employing the CS (Exner, 2001). Before the scoring, the scorers agreed to use the CP principle, in which CP were coded only when the presence of chromatic coloring in the achromatic blot area was identified (Exner, 2003). In addition, prior to the score, it was confirmed among the scorers that achromatic included "white" and chromatic included both color specifications such as "red" and "blue" and non-color specifications such as

"colorful" and "multicolored." 97.0% of all scores, including CP, were in agreement. Disagreements were discussed by adding another certified psychologist to determine the final scores.

Data:

The research data included 68 CP responses from adult mental health patients (N = 37, 4 men and 33 women, age range 15 to 47 years, means age = 28.68 years,SD = 9.80). None of the patients had any visual impairments or problems with color recognition as a result of the attending doctor's diagnosis or medical checkups.The diagnosis of the patients varied from posttraumatic stress disorder, schizophrenia, depression, dissociation disorder, panic disorder, and adjustment disorder.

Results:

Expressions of affection in explanations of CP response:
The verbal expressions of 38 CP responses (55.9%) had affective words, but 30 CP responses did not (see Table 1); 15 responses (22.1%) included only pleasant and positive expressions (e.g., “beautiful,” “bright,” “brilliant,” “cute,” and “warm”), and 12 responses (17.6%) included only unpleasant and negative affective expressions (e.g., “bloody,” “bad,” “obnoxious,” “malicious,” “sad,” and “dirty”). Furthermore, 11 responses (16.2%) included both pleasant and unpleasant affective expressions and ambivalent ones, such as “beautifully sorrowful butterfly” or “bad, dirty, and cool.” Thus, the CPs involved responses with both pleasant and unpleasant affection, and not all CP responses involved pleasant percepts.

Table 1. Affective Expression of CP Response

Group	N	Affective expressions	Fre
No expressions of affection	30 (44.1%)		
Expressions of affection	38 (55.9%)		
Only pleasant and positive	15 (22.1%)	bright	7
		pretty/sweet	6
		warm	6
		gorgeous	5
		beautiful/cool	4
		other positive	5
Only unpleasant and negative	12 (17.6%)	damaged	13
		dirty	6
		sickening/obnoxious	5
		sad/lonely	4
		malicious	4
Ambivalent	11 (16.2%)		

Note. Group= the groups of verbal expressions of affection in explanations of CP response; N=number and percentage of each explanation type of CP; Affective explanation = Examples of affective explanation (adjectives) on CP; Fre=frequency of the Affective expressions.

Features of affection groups in explanations of CP response:

To examine the characteristics of CP for each of the four emotional expression types, the frequency of each type of CP was compared with those of the others. The following scores were assessed: cards (CP > 5, Cards I, IV, V, VI, or VII); the lightness of the card's color (black card: I or V; light gray card: VI or VII); locations (W, D, or Dd); projected colors (one specific color, multiple specific colors, or no specific chromatic color[s]); appropriateness of projected colors (appropriate or inappropriate); determinants (shading or no shading/Form); special scores (Level 1, Level 2, or no special score); DR (Yes or No); INCOM; FABCOM; and/or CONTAM (YES or NO); and form qualities (FQo, FQu, or FQ-). CPs of different types of affective explanations (only pleasant affection, only unpleasant affection, both pleasant and unpleasant affection/ambivalent, and no affection) are shown in Table 2.

Table 2. The Percentages of Affective Type in CP Responses

	Affective type				
Variable	Pleasant	Unpleasant	Ambivalent	No-affection	Total
Card（N＞5)					
Card I	2 (14.3%)	6 (50.0%)	2 (20.0%)	6 (21.4%)	16 (25.0%)
Card Ⅳ	2 (14.3%)	0 (0.0%)	1 (10.0%)	3 (10.7%)	6 (9.4%)
Card Ⅴ	0 (0.0%)	4 (33.3%)	3 (30.0%)	4 (14.3%)	11 (17.2%)
Card Ⅵ	7 (50.0%)	2 (16.7%)	3 (30.0%)	11 (39.3%)	23 (35.9%)
Card Ⅶ	3 (21.4%)	0 (0.0%)	1 (10.0%)	4 (14.3%)	8 (12.5%)
					64 (100%)
The color area on cards					
Black	3 (23.1%)	10 (83.3%)	6 (60.0%)	14 (51.9%)	33 (53.2%)
Light Gray	10 (76.9%)	2 (16.7%)	4 (40.0%)	13 (48.1%)	29 (48.6%)
					62 (100%)
Location					
W	12（80.0%)	12 (100.0%)	9 (81.8%)	15 (50.0%)	48 (70.6%)
D	3 (20.0%)	0 (0.0%)	0 (0.0%)	7 (23.3%)	10 (14.7%)
Dd	0 (0.0%)	0 (0.0%)	2 (18.2%)	8 (26.7%)	10 (14.7%)
					68 (100%)
Projected colors					
one specific color	6 (40.0%)	9 (75.0%)	6 (54.5%)	23 (76.7%)	44 (64.7%)
multiple specific colors	7 (46.7%)	0 (0.0%)	3 (27.3%)	3 (10.0%)	13 (19.1%)
No-Specific colors	2 (13.3%)	3 (25.0%)	2 (18.2%)	4 (13.3%)	11 (16.2%)
					68 (100%)

Appropriateness of projected Color					
appropriate	15 (100%)	8 (66.7%)	10 (90.9%)	28 (93.3%)	61 (89.7%)
inappropriate	0 (0%)	4 (33.3%)	1 (9.1%)	2 (6.7%)	7 (10.3%)
					68 (100%)
Special score					
Level 1	3 (20.0%)	4 (33.3%)	2 (18.2%)	8 (26.7%)	17 (25.0%)
Level 2	3 (20.0%)	5 (41.7%)	6 (54.5%)	2 (6.7%)	16 (23.5%)
No Special score	9 (60.0%)	3 (25.0%)	3 (27.3%)	20 (66.7%)	35 (51.5%)
					68 (100%)
DR					
YES	4 (26.7%)	7 (58.3%)	8 (72.7%)	6 (20.0%)	25 (36.8%)
NO	11 (73.3%)	5 (41.7%)	3 (27.3%)	24 (80.0%)	43 (63.2%)
					68(100%)
INC/FAB/CONTAM					
YES	6 (40.0%)	9 (75.0%)	8 (72.7%)	10(33.3%)	33(48.5%)
NO	9 (60.0%)	3 (25.0%)	3 (27.3%)	20(66.7%)	35(51.5%)
					68 (100%)
Form qualities(FQ)					
FQo	7 (46.7%)	7 (58.2%)	4 (36.4%)	8(26.7%)	26(38.2%)
FQu	4 (26.7%)	4 (33.3%)	2 (18.2%)	10(33.3%)	20(29.4%)
FQ-	4 (26.7%)	1 (8.3%)	5 (45.5%)	12(40.0%)	22(32.4%)
					68(100%)

Note. N=68. Pleasant=CP with Only pleasant explanation; Unpleasant ＝ CP with Only unpleasant explanation; Pleasant and unpleasant＝CP with both pleasant and unpleasant explanation; No-affection＝CP without any affective explanation.

CP responses with only unpleasant affective expressions were more likely (83.3%) to occur with black cards than they were with light gray ones (16.7%). CP responses with only pleasant affective expressions were more likely (76.9%) to occur with the light gray cards (cards VI, VII) than they were with the black ones (23.1%). W featured 70.6% of the CP responses, and CP responses with only unpleasant affective expressions were all seen in W (100%). No affective CP was seen less commonly in W (50%) but more commonly in Dd (26.7%) than any of the other three affective CP groups. Neither CP with only pleasant affection nor with only unpleasant affection was seen in Dd. Furthermore, only two CP responses with ambivalent affection were seen there (18.2%). CP responses with pleasant affective expressions were significantly more likely to feature multiple specific chromatic colors (46.7%) than the other CP types did (0–27.3%) and were less likely to be seen in only one specific color (40.0%) than other CP types were

(54.5–76.7%). Furthermore, CP responses with only unpleasant affective expressions were more likely to feature inappropriate colors (33.3%) than other affective CP types were (0–9.1%). CP responses with ambivalent affective expressions were more likely to be seen with a Level 2 special score (54.5%). No affective CP was observed less with a Level 2 special score (6.7%) and more with no special score (66.7%). However, CP with unpleasant affective expressions was less likely to be seen with no special score (25%). More CP responses with ambivalent affective expressions were scored DR (72.7%), and fewer no-affective CP responses were scored DR (20.0%). More CP responses with unpleasant affective expressions were scored INCOM, FABCOM, or/and CONTAM (75.0%), and fewer no-affective CP were scored INCOM, FABCOM, or CONTAM (33.3%). No bias of more than two-thirds (66.7%) was found for form qualities.

Classification of CP response:

Quantification Method Type III (Hayashi, 1993), a type of correspondence analysis, was used to classify the CP responses according to the characteristics of the affection groups. The analysis covered eight categories and nineteen variables: card color, location, projected color, appropriateness of projected color, special scores, and emotional expressions included in response to INCOM/FABCOM/CONTAM/DR and CP characterizations. These variables were selected based on two criteria: first, the results of a basic study on the classification of CP (Aoki & Kogayu, 2021), and second, a bias of more than two-thirds (66.6%) in the frequency of occurrence in this study (Table 2).

The first and second axes were created from the results. The eigenvalue for the first axis was 0.37, and its correlation coefficient was 0.61; the second axis had an eigenvalue of 0.28 and a correlation coefficient of 0.53. The first axis was interpreted as an axis of cognitive disarray because no special score (−1.27) had a lower category score, and Levels 1 (0.96) and 2 (1.31) had a higher one. The second axis could also be interpreted as the axis of affective explanation because no affection (−1.50) had a lower category score, and unpleasant affection (0.35), ambivalent affection (0.82), and pleasant affection (1.77) had a higher one. The category scores are shown in Table 3.

Table 3. Score of Category

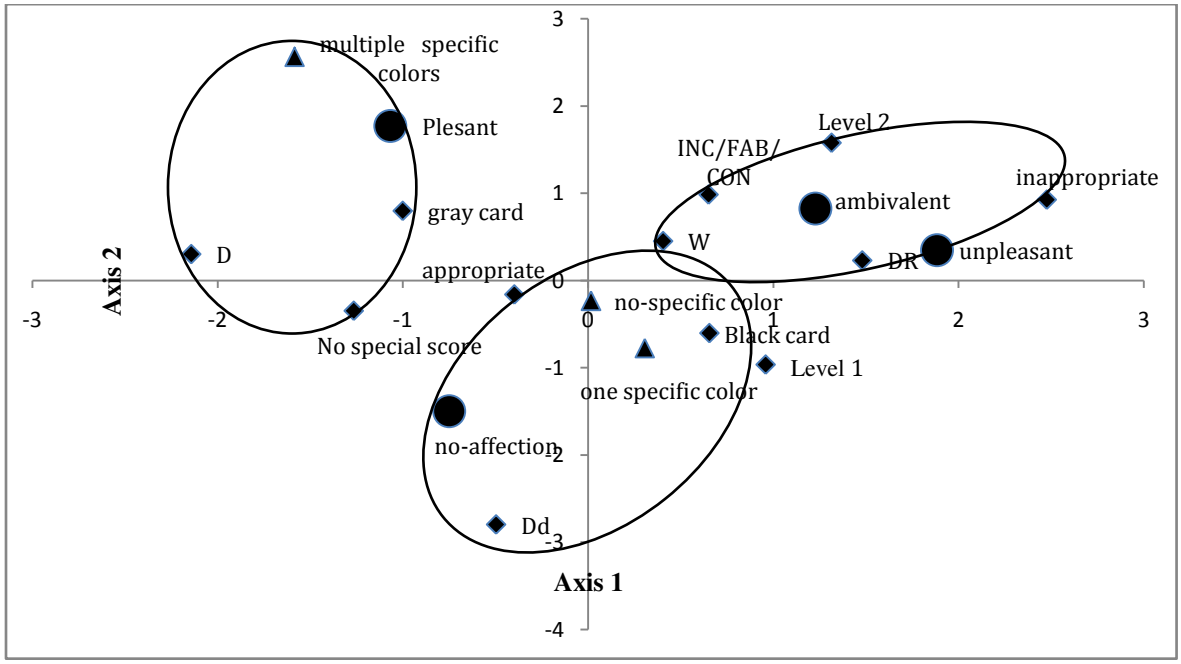
Category	Axis Ⅰ	Axis Ⅱ
Level 1	0.96	-0.96
Level 2	1.31	1.58
No-special score	-1.27	-0.35
DR	1.48	0.23
INC/FAB/CON	0.65	0.98
Pleasant	-1.07	1.77
Unpleasant	1.88	0.35
Ambivalent	1.23	0.82
No affection	-0.75	-1.50
One color	0.31	-0.77
Multiple color	-1.59	2.56
Unspecific color	0.02	-0.23
Appropriate,	2.48	0.93
In-appropriate	-0.40	-0.16
W	0.40	0.45

D	-2.14	0.30
Dd	-0.50	-2.80
Black card	0.65	-0.60
Gray card	-1.00	0.80

Note. Axis Ⅰ = the axis of cognitive disarray
;Axis Ⅱ = the axis of Emotional explanation.
Rounded to the second decimal place.
Appropriate is appropriateness of a projected color.
In-appropriate is in-appropriateness of a projected color.

A two-dimensional scatter diagram is shown in Figure 1 with 19 items for category score: category scores with similar values are placed near each other, using the Ward method of cluster analysis (Figure 1).

Figure 1. Classification of CP responses



Note. Axis Ⅰ = the axis of cognitive distortions;Axis Ⅱ = the axis of Emotional explanation.

Discussion:
Response explanations:

More than half of the CP responses were accompanied by words expressing affect. Among the emotional expressions, the largest percentage of CPs (22.1%) included only pleasant emotions, while 17.6% of CPs included only unpleasant emotions and 16.2% were mixed. This result is inconsistent with Weiner's (1998) findings that "most CPs almost always contain beautiful flowers or colorful butterflies" and that "few people express colored projections such as bloody or sickness in their CPs.

The results showed that about half of the CP responses included adjectives with distinct pleasant or unpleasant expressions, suggesting that CP is often an indicator of affects. While "a beautiful blue butterfly" and "colorful and beautiful leaves" may represent a denial of discomfort, "a beautiful blue butterfly, but unhappy and sad" and "a beautiful red dress, but tattered" may be failures to deny discomfort. In addition," bloody, drowned body. bright red" and "skinned, tattered animal, brown" express unpleasant affect directly, and there seems to be no factor to deny it. On the other hand, the responses of CPs without affect expression, such as "blue sky and white clouds" and "green lamp," may be indicators of affect in terms of their use of color, but it may be necessary to consider meanings other than affect.

Classification of CPresponses:

CP responses were classified into three types. Interpreting the first axis as cognitive confusion and the second axis as affective expression, the three types of CP responses can be interpreted from two aspects: cognitive and affective.The CP with only pleasant affective expressions, consistent with the interpretive hypotheses of Z.A. Piotrowski (1957) and Weiner (1998), constituted a group with multiple specific colors, no special scores, location D, and a light gray card area. These CP responses projected multiple different colors for each part ("pink for the flower part, blue for the ribbon"), suggesting that subjective and active color change and response making by the examinee may have taken place, and in this respect, the possibility of affective defense and denial of unpleasant affect was also suggested. On the other hand, the CP with unpleasant affect was often accompanied by severe disturbances in special scores such as DR and INCI/FAB/CON, especially Level 2. The large number of cases in which the projected colors did not match the content ("dead leaves, fresh green") may be more appropriate to be considered as an indicator of severe cognitive disorganization rather than an affective defense mechanism as in the conventional hypothesis of CP. The large number of DRs also suggested the possibility that the participants were thinking fluidly by repeating words in an attempt to cope with the discomfort, but that the discomfort was not dispelled as a result. This type of CP was also assumed to be a shock to the inkblot as a whole, since it was grouped together with location W. Furthermore, the responses of CPs that did not involve any affective expression were often located in the black ink area, location Dd, but they were not accompanied by any special scores, the colors were consistent with the content, and many of them did not involve any cognitive problems. Considering the fact that they deliberately responded to location Dd and added cognitively appropriate but unique colors to it, it is possible that they were coordinating the content of their responses, i.e., the validity of what they perceived, but it is not possible to judge this type of CP only on the basis of this paper.

The results of this study show that not all CP responses involve pleasant perceptions, and not all CPs can express denial of unpleasant affect. CP may be classified into several types according to the characteristics of their affective explanations. In many Rorschach systems, when CP appears, it is interpreted as abnormal, rare, and vulnerable affective coping with unpleasant affective experiences (Exner, 2003; Z.A. Piotrowski, 1957; Weiner, 1998). However, the results of the present study cast doubt on this traditional one-way interpretation hypothesis. The interpretation of CP needs to be considered in a complex way, including color, response explanation, FQ, and special scores.

In interpreting the results of this study, the following limitations should be kept in mind. First, the data collection was not preplanned and took place in a naturalistic setting; therefore, there was no control group. Second, the data collection was done in a very small number of hospitals in Japan, so there may have been a sampling bias. Future studies need to examine more data to more accurately examine the characteristics of CP and its interpretation.

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SIS J. Proj. Psy. & Ment. Health (2022) 29: 29-38

The Effect of Boredom Proneness on Job Satisfaction: An Empirical Analysis

John D. Watt

Personality characteristics play a salient role with regard to mental health and are a significant moderating factor in the work-life of individuals. Moreover, previous research findings confirm that there is a link between job satisfaction and both physical and psychological well-being. Boredom-prone individuals (i.e., those who have a greater tendency to experience boredom in all facets of their lives), however, appear to experience significantly lower job satisfaction and report diminished physical and mental health. Boredom proneness has been shown to be associated with a variety of important negative mental health and life outcomes, including depression, loneliness, anxiety, procrastination, drug and alcohol abuse, and life and job dissatisfaction. Although research suggests that boredom proneness may present significant problems at work (e.g., dissatisfaction, absenteeism, disengagement, counter-productive work behaviors), it remains an under-researched and poorly understood phenomenon, particularly as it relates to organizational work life and its implications for better understanding emotional, psychological, and social well-being. In the current study, a measure of trait boredom (i.e., boredom proneness) was predicted to moderate the relationship between job satisfaction and turnover. Results indicated that the job satisfaction-turnover relationship was significantly stronger among workers high in boredom proneness. The combination of high boredom proneness and low job satisfaction was associated with the greatest amount of voluntary turnover. Results, implications regarding mental well-being, and study limitations are discussed.

Introduction:

Boredom proneness, an individual's propensity to become bored, is defined as "a tendency to experience tedium and lack of personal involvement and enthusiasm, to have a general or frequent lack of sufficient interest in one's life surroundings and future" (Sundberg, Latkin, Farmer, & Saoud, 1991, p. 210), and it is associated with a variety of negative clinical and life outcomes. Farmer and Sundberg describe the boredom-prone individual as "… one who experiences varying degrees of depression, hopelessness, loneliness, and distractibility. Common tasks are perceived as requiring effort, with dissatisfaction with one's work and psychological well-being (1986, p. 14).

In a clinical context, boredom proneness has been found to be significantly positively related to depression, hopelessness, loneliness, and distractibility (Farmer & Sundberg, 1986), measures of obsessive-compulsiveness, somatization, anxiety, interpersonal sensitivity, and depression (Sommers & Vodanovich, 2000), and neuroticism (Mercer-Lynn, Flora, Fahlman, & Eastwood, 2013). Similarly, Vodanovich, Verner, and Gilbride (1991) found that boredom-prone individuals possess significantly greater scores on measures of anxiety, depression, and hostility. Significant negative correlations have also been reported between boredom proneness and sexual, relationship, and life satisfaction (Watt & Ewing, 1996), problem gambling (Blaszczynski et al., 1990; Mercer & Eastwood, 2010), and drug and alcohol abuse (LePera, 2011).

Multiple personality factors have been associated with boredom proneness. Specifically, boredom-prone individuals have been reported to be more impulsive, less persistent, less sociable, more dogmatic (Leong & Schneller, 1993); less assertive and more alienated (Tolor, 1989); more angry, aggressive, and anxious (Rupp & Vodanovich, 1997; Vodanovich et al., 1991); and less attributionally complex (Polly, Vodanovich, Watt, & Blanchard, 1993). Boredom-prone individuals have also been found to manifest greater sensation seeking, Type-A behavior (Kass & Vodanovich, 1990), procrastination (Vodanovich & Rupp, 1999), neuroticism and negative affect (Gordon et al., 1997); and narcissistic behavior (Wink & Donahue, 1997). Boredom proneness has been significantly and positively related to loneliness and distractibility (Farmer & Sundberg, 1986), and high boredom-prone individuals have been found to value external (extrinsic) work values, such as salary and social status, over internal (intrinsic) work values, such as pride in work and job involvement (Vodanovich, Weddle, & Piotrowski, 1997).

John D. Watt, Ph.D., Department of Management and Entrepreneurship, Iowa State University; Email: jwatt@iastate.edu
Keywords: Boredom Proneness, Trait Boredom, Job Satisfaction, Turnover

Boredom proneness has been significantly negatively associated with measures of self-actualization (McLeod & Vodanovich, 1991); assertiveness (Tolor, 1989); need for cognition (i.e., the tendency to engage in and enjoy effortful cognitive endeavors and problem solving; Watt & Blanchard, 1994); a sense of purpose in life (Weinstein et al., 1995); educational involvement (Watt & Vodanovich, 1999); positive affect (Vodanovich et al., 1991); flow experience (i.e., an optimal match between environmental challenges and skill; Harris, 2000); and subjective well-being (Bai et al., 2021).

Research on boredom continues to indicate that boredom proneness may present problems in employment contexts. For instance, a study by Bruursema et al. (2011) reported a strong, positive association between high boredom-prone workers and counterproductive work behaviors. Watt and Hargis (2010) found that boredom proneness was positively related to perceptions of underemployment and negatively correlated with supervisor ratings of job performance and perceived organizational support. Relatedly, boredom proneness was reported to be negatively associated with perceived organizational support and climate (Keles & Ozkan, 2011). In addition, Abdolahi, Damirchi, and Ganjeh (2011) reported that boredom proneness was negatively related to both job satisfaction and job involvement. Lastly, a study by Wan et al. (2014) found boredom proneness scores to be linked to increased job stress and the tendency to procrastinate, and negatively associated with emotional intelligence.

Multiple researchers have noted the relevance of studying boredom while simultaneously pointing out the relative lack of empirical attention paid to this construct (Fisher, 1998; Hill, 1975; Smith, 1981). In the nearly quarter century since Fisher (1998, p. 503) noted that “boredom at work is experienced by nearly everyone at some time or another, yet has been largely ignored by organizational researchers,” there has been a steady but modest increase in the examination of boredom. Despite its noted prevalence and potential impact, however, boredom remains an under-researched topic, particularly as it relates to organizational work life.

Turnover is one of the most frequently researched organizational outcome variables. Because of the importance of turnover decisions to both individuals and organizations (Staw, 1980), it is understandable that it has been a primary concern of both practitioners and researchers for quite some time (Piotrowski & Plash, 2006; for early reviews see Brayfield & Crockett, 1955; March & Simon, 1958).

Past reviews (Mobley, Griffeth, Hand, & Meglino, 1979; Muchinsky & Tuttle, 1979; Porter & Steers, 1973) and more recent meta-analytic studies of turnover have consistently shown job satisfaction to be a significant predictor of turnover (Carsten & Spector, 1987; Cotton & Tuttle, 1986; Griffeth, Hom, & Gaertner, 2000; Hom & Griffeth, 1995). In their meta-analytic review of 47 studies, Carsten and Spector (1987) reported a correlation of -.26 between job satisfaction and turnover, while Griffeth et al. (2000) reviewed 42 studies and reported a correlation of -.19. In their review, Carsten and Spector (1987) indicated that sampling error accounted for only 21% of the variance in satisfaction correlations across studies and concluded that the differences in correlations across studies were due to moderator variables.

Despite the existence of an extensive literature on turnover, surprisingly few studies have examined potential moderators of the job satisfaction-turnover relationship (for notable exceptions see Judge, 1993; Tang, Kim, & Tang, 2000). Indeed, Judge (1993, p. 395) has stated “it is surprising that more research concerning potential moderators of the job satisfaction-turnover relationship has not been conducted.” Similarly, Griffeth et al. (2000), in their meta-analytic review, commented that greater attention should be paid to potential moderators of antecedent-turnover relationships, as have Cotton and Tuttle (1986).

One potential unexplored moderator of the job satisfaction-turnover relationship is boredom. Boredom’s polysemic nature has resulted in it being described as "an aversion for repetitive experience of any kind, routine work, or dull and boring people and extreme restlessness under conditions when escape from

constancy is impossible" (Zuckerman, 1979, p. 103), "a state of relatively low arousal and [high] dissatisfaction, which is attributed to an inadequately stimulating situation" (Mikulas & Vodanovich, 1993, p. 3), and "the aversive experience of wanting, but being unable, to engage in satisfying activity" (Eastwood, Frischen, Fenske, & Smilek, 2012, p. 482). Still others have conceptualized boredom as occurring in organizational life "when members are unable to emotionally and intellectually experience personal meaning in what they are doing in their work process" (Gemmill & Oakley, 1992, p. 358).

Complaints of work-related boredom are widespread (Farnworth, 1998; Fisher, 1987; Guest, Williams, & Dewe, 1978; Harris, 2000), and the general experience of boredom has been frequently reported across many different cultures (Sundberg et al., 1991; Sundberg & Staat, 1992; Vodanovich & Watt, 1999). Similarly, Terkel (1974) has noted the prevalence of boredom among both white-collar and blue-collar American workers. In fact, boredom is the leitmotif of both Terkel's (1974) and Chinoy's (1955) poignant examinations of the American worker.

Given that boredom proneness has been found to be associated with varying degrees of depression, hopelessness, anxiety, hostility, and loneliness (Farmer & Sundberg, 1986; Vodanovich et al., 1991), it is likely that the reaction of high boredom-prone individuals to a dissatisfying job or task would be more intense than their low boredom-prone counterparts. High boredom-prone individuals who are dissatisfied with their jobs may engage in withdrawal behaviors as one way of attempting to alleviate and/or cope with their increased discontentment.

The purpose of the current study was to examine the potential moderating effect of boredom proneness on the job satisfaction-turnover relationship among a sample of stock handlers. Based upon the previous review, it was hypothesized that boredom proneness (a trait measure of boredom) would moderate the job satisfaction-turnover relationship. Specifically, it was posited that the strength of the negative relationship between job satisfaction and turnover would be greater among high boredom-prone workers than among low boredom-prone workers.

To test the hypothesized effect of boredom proneness on voluntary turnover, logistic regression analysis was used. Logistic regression is an appropriate method of analysis to use to predict and explain a binary categorical dependent variable (see Hosmer & Lemeshow, 2000). Huselid and Day (1991) argued in their critique that the results of many studies are probably in error because the researchers used ordinary least squares regression and related models when the dependent variable was dichotomous. Logistic regression is able to handle the violations of the assumptions of the usual regression model when the dependent variable is binary.

Method: Participants:

The participants (N = 150) in the current study included 102 male (68%) and 48 female (32%) stock handlers employed at a large retail department/grocery store chain in the South. The breakdown of the sample was as follows: 68% single; 63% White, 3% Hispanic, 23% African American, and 11% other; average age was 24.62 years old (sd = 6.22); average level of tenure was 3.31 years (sd = 5.93); average number of hours worked per week was 31.63 (sd = 8.56); average hourly wage rate in dollars was 7.96 (sd = 2.31), and 75% had obtained a high school diploma. The voluntary turnover rate for respondents in this sample was 20%.

Nature of Participant's Work:

Stock handlers are responsible for receiving, unpacking, checking, storing, and tracking merchandise. They keep records of items entering or leaving the store/stock room, and they inspect damaged or spoiled goods.

They sort, organize, and/or mark items with identifying codes so that inventories can be located quickly and efficiently. Stock handlers bring merchandise to the sales floor and stock shelves and racks. Much of their work is repetitious and performed manually. They are also required to be able to lift cartons of various sizes and weights for long periods of time. Work can often be hectic and may involve dealing with customer requests.

Measures: Sociodemographic Variables:

The variables measured in this study were age, gender (1 = male; 2 = female), race (1 = White; 2 = Black; 3 = Hispanic; 4 = Other), marital status (1 = not married; 2 = married), job tenure (1 = less than 1 year; 2 = 1 to 2 years; 3 = 3 to 5 years; 4 = 6 to 10 years; 5 = 11 years or more), highest educational level achieved (1 = high school diploma or below; 2 = 1 to 3 years of college or trade school; 3 = college or trade school degree; 4 = post-graduate degree), and hourly wage rate.

Boredom Proneness:

To assess one's tendency to experience boredom, Farmer and Sundberg's (1986) Boredom Proneness (BP) scale was used. Sample items from the 28-item BP scale include "*It takes more stimulation to get me going than most people*," "*It is easy for me to concentrate on my activities*," and "*It takes a lot of change and variety to keep me really happy*" (Farmer & Sundberg, 1986, p. 6). Responses ranged from (1) *highly disagree* to (7) *highly agree*, with higher scores reflecting greater boredom proneness.

The Boredom Proneness (BP) scale been shown to possess adequate internal consistency (Farmer & Sundberg, 1986; Sommers & Vodanovich, 2000; Watt & Blanchard, 1994) and test-retest reliability (Farmer & Sundberg, 1993; Polly et al., 1993). The internal consistency reliability (coefficient alpha) of the BP scale in this study was .85. Satisfactory validity support for the BP scale has been reported elsewhere (see Farmer & Sundberg, 1986; Vodanovich et al., 1991; Watt & Blanchard, 1994).

Job Satisfaction:

Industrial and organizational psychologists have typically assessed employee well-being using measures of job satisfaction that assess the extent to which an employee generally likes his or her job, and research suggests that how satisfied you are at work can have a significant impact on not only your physical health, but your mental health in particular (Dirlam & Zheng, 2017). Job satisfaction was assessed using the Minnesota Satisfaction Questionnaire (MSQ; Weiss, Dawis, England, & Lofquist, 1967). The short form of the MSQ consists of 20 items asking participants to what extent they are satisfied (on a 5-point Likert scale) with various components of their job (e.g., "the working conditions," "the competence of my supervisor in making decisions," "the pay and the amount of work I do," and "the way company policies are put into practice"). The MSQ is a frequently used measure of job satisfaction in organizational research, and its internal consistency has been well established. The reliability (coefficient alpha) for this scale in the present study was .91.

Turnover:

Data on turnover were collected from company records 9 months following the completion of questionnaires by employees. Company officials made distinctions as to whether an employee's withdrawal was voluntary (quit) or involuntary (fired). Of the 38 withdrawals recorded, 31 were voluntary and 7 were involuntary. One of the recorded voluntary withdrawals, however, was not used in this study since company officials indicated that this particular employee had been warned that "any additional disruptive behavior at work" would result in termination. The employee in question quit the day after this

warning was issued. The decision to exclude the worker is consistent with previous distinctions that have been made between voluntary and involuntary turnover (cf. Bluedorn, 1978). Additionally, one of the recorded voluntary withdrawals was due to pregnancy. Although pregnancy has been classified differently in the turnover literature, consistent with other researchers (e.g., Dickter, Roznowski, & Harrison, 1996; Mirvis & Lawler, 1977), turnover in this case was considered involuntary. The voluntary turnover rate among respondents was 20%.

Procedure:

Data were collected via questionnaires administered and completed during work breaks on company time across a 1-week period. Employees were assured of individual confidentiality and informed that their information would be used for research purposes only. Participation in the study was voluntary. Of the 171 employees available to participate in the study, 150 returned usable questionnaires, resulting in a high response rate of 88%. Nine months following the administration of the questionnaires, turnover data were obtained via company records (see additional information listed under "Turnover").

Results:

Correlations and descriptive statistics for this study's variables are reported in Table 1. The inclusion of control variables in the model was limited so that a test of the study's primary hypothesis could be performed with as simple a base model as possible. Thus, an equation predicting voluntary turnover by age, gender, marital status, wage rate, tenure, and educational level was estimated. In this equation, tenure was found to be a significant predictor of voluntary turnover. Thus, only tenure was included as a control variable in subsequent analyses.

Next, a main effects model that included tenure and the study's two predictor variables (i.e., boredom proneness and job satisfaction) was generated. The -2-log likelihood (-2LL) value for the model was 78.13 (df = 3). The -2LL value provides an indication of the fit of the model, with smaller values indicating better fit. The utility of adding predictors to a model can be evaluated by examining whether the reduction in the -2LL value is significant. The chi-square test for the reduction in -2LL provides one measurement due to the introduction of such independent variables. That is, changes in the -2LL are distributed as chi-square with degrees of freedom being equal to the number of terms added to the model (Hosmer & Lemeshow, 1989).

Table 1 . Means, Standard Deviations, and Inter-correlations of Study Variables

Variable	M	SD	1	2	3	4	5	6	7
1. Age	24.62	6.22							
2. Gender[a]	1.48	.54	.02						
3. Education[b]	1.55	.87	-.31**	-.14*					
4. Wage rate[c]	7.96	2.31	.21**	-.03	.42**				
5. Tenure[d]	1.36	1.27	.40**	.11*	-.37**	.38**			
6. Job satisfaction	53.62	11.30	.05	.03	.15*	.18*	.08		
7. Boredom proneness	103.34	12.43	-.10	-.09	.04	.03	.01	-.24**	
8. Turnover	.18	.75	-.12*	-.04	.07	-.09	-.13*	-.23**	.09

Note. [a]1 = male, 2 = female. [b]1 = high school diploma or below, 2 = 1 to 3 years of college or trade school, 3 = college or trade school degree, 4 = post-graduate degree. [c]hourly wage rate.
[d]1 = less than 1 year, 2 = 1 to 2 years, 3 = 3 to 5 years, 4 = 6 to 10 years, 5 = 11 years or more.
* p < .05, ** p < .01

Table 2 presents the logistic regression results for the model containing the main effects and the significant interaction term.

Table 2. Logistic Regression Coefficients for Voluntary Turnover

Variables	**B**	**SE**	**p**	**Odds Ratio**
Tenure	-.112	.067	.015	.44
Job Satisfaction	-.302	.051	.001	1.46
Boredom Proneness	-.249	.105	.001	.84
Boredom Proneness x Job Satisfaction	-.373	.071	.001	1.73

Note. Model χ^2 = (6, N = 146) = 167.38, p< .001. Percent of cases correctly classified with the model was 84%.

The hypothesis of interest predicted an interaction between boredom proneness and job satisfaction, such that as boredom proneness increases, the impact of job satisfaction on turnover increases. The boredom proneness-job satisfaction interaction term was added to the main effects model and resulted in a significant improvement of the model. The -2LL change was 8.24 (df = 1, p< .01).

The interaction between boredom proneness and job satisfaction predicting voluntary turnover was plotted. The form of the interaction was congruent with the hypothesized form. There was a marked downward sloping effect for high boredom-prone individuals. The combination of high boredom proneness and low job satisfaction was found to be associated with the greatest amount of voluntary turnover (see Figure 1).

Figure 1: Interaction Between Boredom Proneness (BP) and Job Satisfaction Predicting Voluntary *Turnover*



Discussion:

Work represents an important part of life for most adults, and it has consistently been shown to be essential for one's physical and mental well-being. Boredom at work has been reported as a frequent problem experienced by many, with implications for mental and social well-being (Gardell, 1971).

Industrial and organizational psychologists have typically assessed employee well-being using measures of job satisfaction that assess the extent to which an employee generally likes his or her job, and research suggests that how satisfied you are at work can have a significant impact on not only your physical health, but your mental health in particular (Dirlam & Zheng, 2017).Given the observed pervasiveness of boredom and that it is commonly described as significant problem, a fuller understanding of boredom would have important implications for better understanding emotional, psychological, and social well-being.

The present study examined the potential interaction of boredom proneness (a measure of trait boredom) and job satisfaction in predicting voluntary turnover among a sample of 150 stock handlers. Support was found for the moderating effect of boredom proneness on the job satisfaction-turnover relationship. Specifically, the strength of the negative relationship between job satisfaction and turnover was found to be greater for high boredom-prone employees than for low boredom-prone workers. These results are congruent with past findings which suggest a connection between boredom proneness and mental well-being (Sommers & Vodanovich, 2000; Matteson & Ivancevich, 1982; Thackray, 1981).

Boredom at work is a frequently reported negative occurrence for many individuals (Fisher, 1987; Harris, 2000). When faced with transitory boredom, individuals typically respond by adjusting their external environment to be more varied and stimulating (Geiwitz, 1966; Watt & Blanchard, 1994). Boredom-prone individuals, however, experience boredom much more pervasively than most, and have greater difficulty keeping themselves entertained (i.e., they have poorer coping skills). When faced with a dissatisfying job, high boredom-prone individuals appear to react by engaging in greater withdrawal behaviors. For instance, Kass et al. (2001) reported that high boredom-prone workers exhibited greater absenteeism. An additional adjustment to workplace dissatisfaction by boredom-prone individuals appears to be terminating their employment.

The current findings may, at first glance, appear incongruent with Fisher, Locke, and Henne's (1992) suggestion that individuals who are negatively disposed toward life (i.e., have a negative affective disposition) may be less likely than others, because of job dissatisfaction, to engage in withdrawal behaviors because they are unaccustomed to acting on the basis of their job dissatisfaction. Boredom proneness, however, has been shown to be conceptually and empirically distinct from negative affect (Farmer & Sundberg, 1986; Vodanovich et al., 1991).

Perhaps because of the sensation-seeking aspects associated with boredom (cf. Zuckerman, 1979), boredom-prone individuals may be more likely than others, because of job dissatisfaction, to engage in withdrawal behaviors as a way of attempting to secure a more varied and stimulating work environment.

As with all empirical research, there are limitations that should be mentioned. First, the data were cross-sectional. A longitudinal design might permit a more accurate assessment of the variables under current study. Secondly, the sampling frame limits the generalizability of the results. Data were drawn from a single occupational category from one organization (i.e., stock handlers). Future researchers should seek to replicate these findings, and to fully explain the interaction between boredom proneness and job satisfaction in predicting voluntary turnover using more diverse samples.

While current models of turnover incorporate relevant causal antecedents (Mobley, 1982; Steers &

Mowday, 1981), meta-analytic studies have highlighted the limits to generalizations for the causes of turnover (Griffeth et al., 2000). A search for moderators is helpful in explaining the significant variability in effect sizes found among reviewed studies. The present study found support for boredom proneness as a moderator of the negative relationship between job satisfaction and turnover and adds additional support for the efficacy of the dispositional approach in explaining organizational phenomena.

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SIS J. Proj. Psy. & Ment. Health (2022) 29: 39-50

Trading Halls, Psychological Features, and Fund Manager Performance

Joachim Von Weissenberg

According to findings in the field of environmental psychology, the architectural and social working environment have a significant impact on overall physical and psychological wellbeing and work performance. The purpose of this paper is to examine the relationship between architectural and social working conditions, psychological features, and work performance. The 5-year, risk-adjusted (Sharpe) investment performance of 40 Finnish professional fund managers was compared with the characteristics of their work environment and the psychological features of stress tolerance, complex problem solving and risk attitude. The results are in line with earlier findings that open-plan offices have negative consequences on the performance of cognitively demanding tasks. The number of people in the immediate vicinity (the same room and department) had the strongest negative effect on performance, especially because of decreased stress tolerance. These results should be considered preliminary because of the small sample size; further verification using a larger sample is needed.

Introduction:

There are many ways to define office types architecturally: closed office, cubicle, open office and combi or hybrid offices. There have been reports that organizations are tending toward fewer high-privacy enclosed offices and more open, accessible work environments (Haka et al., 2009; Hua, Loftness, Heerwagen, & Powell, 2011). Open-plan offices have been favored for many reasons, among them that the space requirements per person are almost 50 % smaller than in traditional closed offices, which leads to substantial economic savings (Hongisto, 2005). There have, however, been indications that offices are now changing due to the covid-19 pandemic and increased remote working.

According to the data of the current study, the offices of fund managers can be divided into two contrasting categories: (1) open offices crowded with people and monitors, with no physical walls and doors, and (2) conventional closed offices, separated by partitions, with only one or a limited number of people working in them. Subsequently, a larger number of people per area can work in open offices than in closed, private offices. Offices have a primary function as a social structure (Kim, 2014) and a mediator of social interaction (Winkel, Saegert, & Evans, 2009). The scientific findings are robust in indicating the detrimental effects of the original open offices on tasks that are highly demanding in cognitive terms (James, Delfabbro, & King, 2021; Salas, Driskell, & Hughes, 1996). Von Weissenberg (2017, 2019) discovered that fund managing is a profession that is cognitively demanding. Nevertheless, institutional investors such as fund managers have traditionally been linked to open-plan offices i.e., trading halls.

Background:

An open-plan office is a physical workspace shared with other people. Open offices therefore mean being exposed to more uncontrolled social interaction, crowds, irrelevant intelligible speech, noise, and visual and audial evaluation. These features have been reported as being the sources of a variety of negative outcomes on overall health, job satisfaction and productivity (James et al., 2021; Richardson et al., 2017; Varjo et al., 2015). The negative outcomes of open-plan offices are shown particularly in physical & mental health and well-being (James et al., 2021; Veitch, 2011), stress (Jahncke, Hyggge, Halin, Green, &Dimberg, 2011,

Veitch, 2011), exhaustion, and burnout (Laurence, Fried, & Slowik, 2013), mental workload, concentration and adaption (Cohen, 1980; Jahncke et al., 2011, Varjo et al), independence, motivation and creativity (Baum & Paulus, 1987; Cohen, 1980; Jahncke et al., 2011; Lee & Brand, 2010), job satisfaction and productivity, especially in cognitively demanding tasks (James et al., 2021, Seddigh, Berntson, Danielson,

Joachim von Weissenberg, LPsy, Psychoanalyst (IPA), Hummelgatan 7 A 35, 00250 Helsinki, Finland-20500, E-mail: JoachimvW@protonmail.com
Key Words:Fund managing, open office, working conditions, privacy, cognitive complexity, stress, investment performance,

&Westerlund, 2014), irritation and depersonalization (Richardson et al., 2017), social relationships and interaction (James et al., 2021), and absenteeism, recruitment and retention of staff (Richardson et al., 2017).

Open-plan offices lead to more uncontrolled human encounters that can easily mean too many unpredictable daily human interactions. Superfluous face-to-face conversations are cognitively demanding and burdensome (Kraut, Fussell, Brennan, & Siegel, 2002), and can easily result in a stressful experience of crowding (Aiello, 1987; Altman, 1976). Baum and Valins (1987) concluded that crowding stress is, to a large extent, a consequence of having to interact with too many others (social group size). Social group size (the number of people in the physical vicinity) has been found to affect performance-related outcomes, such as cognitive performance (Kupritz, 2000). The major downside of traditional open-plan offices is associated with the completion of more complicated tasks that demand higher degrees of concentration and higher cognitive skills (Cohen, 1980; Jahncke et al., 2011). Cognitive processing is easily hampered in open-plan offices because the arousal level is higher and there are more distractions and interruptions (Jahncke et al., 2011; Misra& Stokols, 2012). Working for long periods in conditions in which one is frequently distracted, for example, increases stress levels and leads to greater frustration and an increase in cognitive load (Cohen, 1980; Rotton, Olsezewski, Charleton, & Soler, 1978).

Privacy Regulation:

Privacy regulation refers to the process of controlling interpersonal boundaries. Privacy regulation theory argues that a work environment that is socially dense leads to difficulties in terms of privacy regulation. Closed offices mean smaller social groups and more physical walls, which are central features in the regulation and protection of privacy.Small, closed offices mean increased regulatory freedom as regards border function because they make it possible to avoid excessive contact (Altman, 1976).The need for privacy is shown in how social contact is optimized, including both incoming stimulation and outgoing information: people have a basic need to avoid too little contact, which leads to isolation, yet too much contact can lead to arousal and stress (Altman, 1976). In general, privacy needs vary by occupation (Karasek, 1979). According to the Yerkes-Dodson Law, more complicated tasks demand a greater degree of privacy (Sundstrom & Sundstrom, 1986). This is because complicated tasks have been shown to be more sensitive to a variety of intrusive factors such as too much arousal (stress) and disruption. According to Kupritz (2000), work-related stress and privacy can be linked; in other words, non-optimal privacy in any work area—social, behavioral, or environmental (i.e., office type)—has a negative impact on the performance of work with higher cognitive demands, such as from task novelty, complexity and/or variability (Salas et al., 1996).

Little research attention has hitherto been paid to the effect of different physical and social working conditions on the mental health or work performance of institutional investors. According to the many scientific findings of the detrimental effects of open-plan offices on the carrying out of cognitively demanding tasks (Hongisto, Haapakangas, Varjo, Helenius, &Koskela, 2016; Jahncke et al., 2011), there is a strong likelihood that most fund manager work under unfavorable conditions?

The most common positive features of open-plan offices cited by researchers are how such spaces increase communication between workers and how they have a beneficial impact on productivity, and especially innovation (Wineman, Kabo, & Davis, 2009). Peponis et al. (2007) conclude that there is statistical evidence to show that the physical layout of a workspace contributes to the density of network interactions and that there is some evidence that layout can contribute to increased productivity in knowledge work via the sharing of ideas, the increased communication, and joint exploration. This may be the case for certain tasks and occupations, but Kim and de Dear (2012) found that communication was greater in private offices

than in open offices. They and many other researchers have interpreted this as a result of the lack of privacy and confidentiality in open offices (James et al., 2021; Laurence et al., 2013; Richardson et al., 2017).

Research aims:

The purpose of this research was twofold.

The first goal was to investigate if there is a relationship between the physical and social work environment and five-year real fund manager performance. No pre-existing research was found regarding fund manager performance and the work environment.

The second goal was to investigate if there is a relationship between the physical and social work environment and the psychological features of complex problem solving, stress tolerance and financial risk attitude. The hypothesis of the study was as follows:

Hypothesis 1. Smaller closed offices are more beneficial to fund manager performance than larger open-plan offices (trading halls).

Hypothesis 2. The smaller the number of people in the fund manager's vicinity, the better will be their performance.

Fund managers' work is difficult because of the large changes in their work due to the tendency of financial markets to change over long periods of time between rising (bull) and descending (bear) markets. Descending markets have been described as being dominated by feelings of depression and/or anxiety, while rising markets are marked by hopefulness and/or elation (Cheung, 2010; Shefrin, 2002). Negative news associated with a descending market has been found to make a stronger impression on people than favorable information related to rising markets (Skowronski&Carslton, 1989). This is the so-called loss aversion coefficient, which across a wide range of studies has come out at a value of around two (Stanyer, 2014).

Hypothesis 3. The effect of work environment variables is greater in a bear market than in a bull market.

Hypothesis 4. Work environment variables are negatively related to the psychological features of complex problem solving and stress tolerance, and positively related to financial risk attitude (dependence).

Method: Participants and testing procedure:

The data used in the present article was collected as a part of a larger survey concerning fund managers' personality, decision-making and performance. The present article shares the same participants and performance variables as (von Weissenberg, 2017, 2019), to which reference should be made for more detailed methodological descriptions.

In brief, the method used in this study involved the participation of forty professional fund managers, who were tested at the end of 2004 and the beginning of 2005. The work environment data was collected in 2005 in a separate telephone interview conducted by the author. The telephone interview included the following questions (and each question also functioned as a preliminary work environment variable):

1. How many colleagues do you have in your workplace? (A colleague is considered to be someone who works on tasks that are connected to your decision-making, as well as someone with whom you mighty

share your thoughts or information and whom you would possibly take into consideration in your decision-making.)
2. How many people work in the entire company (group)?
3. How many people work in your department?
4. What type of workroom do you work in: 1. A private room 2. A shared room (a traditional office) 3. An open office (landscape office) 4. Trading hall 5. Other (i.e., you work from home or another location - what)?
5. How many people work in your workroom?

To check for any misleading data, the fund manager was then asked how long they had worked in these conditions and whether there had been any significant change in circumstances during that time and, if so, when?

Fund Performance:

In the present study, information about the fund(s) managed by a fund manager was collected by Eufex Ltd. (a Finnish equivalent to Morningstar), which is an independent company that delivers risk-adjusted Z scores (Sharpe). The period of performance evaluation started in March 2000 and ended in March 2005. A descending period of 31 months began on March 24th, 2000, and lasted until October 10th 2002, and an ascending period of 29 months stretched from October 10th 2002 until March 24th 2005, according to the general development of Standard & Poor's 500 (S&P 500[1]). The same performance measurements were used in the present study as in (von Weissenberg, 2017), which should be referred to for a more detailed description.

Results:

As mentioned in the introduction, social group size plays an important role as a mediator of daily human encounters and has been found to cause arousal that can easily lead to stress (Aiello, 1987). A descriptive analysis was undertaken in order to understand the social group size variables. The results are presented in Table 1. The results of the descriptive analysis in Table 1 show that while some variables, such as the number of people in the corporate group (3-100,000), had a wider range, others had a narrow range; this was particularly the case in relation to the number of colleagues (1-13).

Table 1. Descriptive of office type and social group size

			Closed single office[1]	**Closed shared office[2]**		**Open-plan office (*n*=21)**		**Trading hall (*n*=15)**	
Social group size	**Min/ Max**	**Mean/ SD**	**Mean**	**Mean**	**SD**	**Mean**	***SD***	**Mean**	***SD***
Number of people in workroom	1/22	12.4/ 7.0	1	3.9	1.9	13.9	6.9	13.8	5.9
Number of people in department	1/50	23.3/ 16.9	1	5.8	1.9	27	19.3	24	10.8
Number of colleagues	1/13	6.1/ 2.7	1	4.3	2.1	6.9	2.4	6.3	2.9

[1]March 24, 2000: The S&P 500 index reached an all-time intraday high of 1,552.87 during the dot-com bubble (S&P 500, 2018).

Number of people in corporate group	3/100 000	5041/ 16267	3	15	3.5	3197	4048	9096	26,1 28

Notes. SD = Standard deviation. *n* = Sample size. [1] = (n = 1), [2] = (n= 4)

A descriptive analysis was undertaken in order to understand how office type variables related to social group size variables (the number of people in the physical vicinity, in the workroom and department). Social group size was analyzed in relation to closed private offices, shared offices that were closed, open-plan offices, and trading halls. The results are presented in Table 1.

The results in Table 1 show that there was no significant difference between open-plan offices and trading halls (mean: number of people in (a) workroom; (b) department and (c) number of colleagues). It also shows that the majority of fund managers worked in open-plan offices and trading halls (87.5%). After this, the two variables of trading hall and open-plan office were treated as one and the same variable in the current work, that is, as trading halls. The only meaningful difference between the trading hall and open-plan office variables was associated with the number of people in a corporate group in which a trading hall was associated with a larger corporate. This difference could be interpreted as signifying that fund managers in larger banks and investment companies simply call their offices trading halls, whereas in medium-sized corporations they refer to them as open-plan offices.

Table 1 also shows that only one person worked in a closed single office. In further statistical analysis the variable was united with the closed-office variable (closed single office + closed shared office = 12.5% of all fund managers). There was a strong and significant relationship (r = .556, p< .000) between the number of people in the corporate group and office type. Closed offices were found in small corporate groups (M = 12.6 employees) and trading halls were found in larger corporate groups (M = 5759.09 employees). This result shows that when companies grow, they prefer open offices and trading halls. The results in Table 1 show that trading halls are associated to a higher number of people per space. Enclosed, single-person offices have the smallest social group size, whereas open-plan offices and trading halls have the largest. It has been concluded that human interaction increases with the size of the social group (Baum &Valins, 1987). One can interpret the results of Table 1 as demonstrating that office type plays a primary function as a social structure and mediator of social interaction (Kim, 2014; Winkel et al., 2009).

In order to discover if there were any differences in working conditions, such as closed offices being occupied by more experienced fund managers, the descriptive of participant gender, investment work experience, and total investment experience (private + work) were analyzed. Firstly, it was found that fund managers are professionally quite experienced, especially if one considers the mean total (private + work) investment experience (Mean = 15.89 years). No significant differences were found between more and less experienced fund managers in relation to office type, which means according to this sample that closed offices do not function as a reward for experience or loyalty to the company.

A T-test was made between male and female fund managers. The result of the paired T-test was (t = -3,082, df = 38, p< .01) and it showed that female fund managers were significantly older than their male colleagues. This could reflect the fact that this is traditionally a male profession (more young men enter this job market) and that the women who choose such a vocation have made a truly considered choice. The second T-test showed that male fund managers occupied significantly more closed offices than female fund managers. The result of the independent T-test was (t = -2.380, df = 34, p< .05, equal variances were not assumed). It is plausible that women experience more difficulties in pursuing their careers or starting a company of their own. The closed offices were all found in small companies, usually companies partly owned by the fund manager themselves. These results should be interpreted with caution due to the small

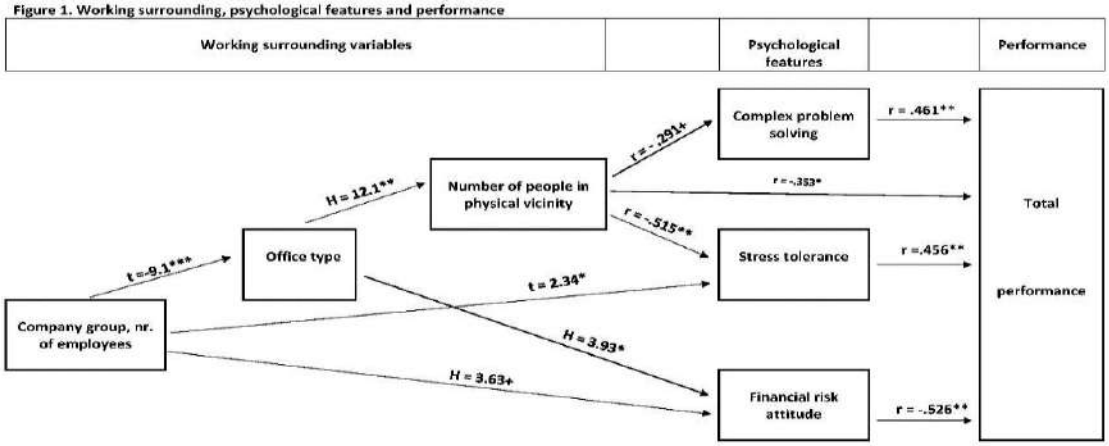
sample of women who participated in this survey (5/40). The reason why there were significantly more men than women in the sample could be that men seem to be more attracted to sensation seeking (Wong & Carducci, 1991) and risk taking (Grable, 1997) than women.

In order to find out about possible associations between work environment variables and the psychological features of financial risk attitude, stress tolerance and complex problem solving (von Weissenberg, 2017) several statistical analyses of fund manager performance were carried out using the SPSS 24.

Associations between working surrounding, psychological features and performance:

In order to answer hypotheses 1-4, several statistical analyses were conducted. First, in order to reduce the possibility of statistical errors, I created a composite variable named *number of people in physical vicinity*, which consisted of the variables of number of people in the workroom and number of people in the department. This composite variable had an internal reliability using the Cronbach Alpha measure of .820. Second, to understand the bigger picture, I explored a possible relationship between corporate group size, office type (trading hall vs closed office), the number of people in the physical vicinity, psychological features, and fund manager performance. The results are presented in Figure 1.

Figure 1. Working surrounding, psychological features and performance



r = Pearson and Spearman Correlation analysis, t = Independent T-Test, H = Kruskal-Wallis one-way ANOVA

Figure 1 shows several statistically significant associations between the variables. Company group size did significantly correlate with office type (trading hall vs closed office). This result means quite logically that larger corporations use trading halls rather than closed offices and smaller companies have more closed offices. Corporate size also significantly correlated negatively with stress tolerance and with a tendency to financial risk attitude. These results mean that fund managers in larger corporations have a decreased stress tolerance. One possible reason for this is that larger corporations have more employees and therefore more uncontrolled interactions. This has been found to increase arousal, and too much arousal is a synonym for stress. The positive tendency of corporate size to financial risk attitude (dependency) could be due to the increased group think (Janis, 1982) and group feel (Tuckett, 2011) in larger social settings. The significant correlation of office type to financial risk attitude confirms this hypothesis: larger social structures (trading halls) are related to more dependent group think and group feel. The finding that office type correlated significantly with number of people in the physical vicinity was expected: trading halls (office type) have the capacity to hold more people than closed offices. According to the results shown in Figure 1, there was a significant negative association between the number of people in the physical vicinity and performance. The number of people in the physical vicinity also strongly correlated negatively with stress tolerance. The

figure was slightly higher for stress variables (r = -.449, p <.01) than for tolerance variables (r = -.390, p <.05). These results support the arousal and stress hypothesis: that too many uncontrolled human encounters lead to stress and fatigue and a reduction in performance (Cohen, 1980; Kupritz, 2000).

The number of people in the physical vicinity also correlated negatively with complex problem solving, supporting earlier findings that open-plan offices and social group size have negative consequences on the performance of tasks that demand concentration (Seddigh et al., 2014; Varjo et al., 2015). The relationship between performance and the three psychological features of complex problem solving, stress tolerance and financial risk attitude was strong. These results have been reported earlier (von Weissenberg, 2017, 2019) so they are not here discussed in further detail. Figure 1 shows that the negative impact of work environment variables on total performance is more of indirect nature, via the psychological features variables.

The performance figures presented in Figure 1 relate to the total (bear + bull[2]) market. If one measures the data only in the bear market, the correlation increases. The relationship between the physical vicinity variable and bear performance was strong: r = -.521, p < .001. The office type variable showed a negative relationship to bear performance r = -.430, p < .05. The stronger bear market association can be interpreted as demonstrating that stress increases under bear market conditions. This stress is partly increased by a larger number of people in the fund managers' physical vicinity: the conclusion is that the more privacy the fund manager has for their decisions, the better is their performance, especially in a bear market.

Discussion:

The aim of the present study was to investigate whether office type and number of people in the physical vicinity can be associated with fund managers' real five-year performance. The results were in line with the hypotheses.

Hypothesis 1. Smaller closed offices are more beneficial to performance than larger open-plan offices (trading halls). The results shown in Figure 1 confirm Hypothesis 1.

Hypothesis 2. The smaller the number of people in the fund manager's vicinity, the better will be their performance. The results shown in Figure 1 confirm Hypothesis 2.

Hypothesis 3. The effect of the number of people in the physical vicinity and office type on performance is greater in a bear market than in a bull market. The results of the correlation analysis confirm Hypothesis 3.

Hypothesis 4. Work environment variables are negatively related to complex problem solving and stress tolerance, and positively related to financial risk attitude (dependence). Figure 1 confirms the hypothesis that a physically larger work environment (office type) and socially larger work environment (number of people in the corporate group and in the physical vicinity) have a negative impact on the three essential psychological features of financial decision-making.

The results of the current study show that closed offices are a better work environment than trading halls. The results show that office type is a mediator of number of people in physical vicinity (workroom and department), which was the strongest predictor of performance, and that this effect is much stronger in descending bear markets. The results supported hypotheses 1, 2, 3 and 4.

[2] Statistical analysis have showed that fund managers perform consistently in both bull and bear markets: Sharpe – mean and range (von Weissenberg, 2019).

The majority (87.5%) of the fund managers who took part in the present study worked in trading halls. The findings of this research are in line with the consensus within environmental psychology of the detrimental effect of open offices on the performance of complex tasks (Jahncke et al., 2011; Seddigh et al., 2014). One possible conclusion that can be drawn from this is that the negative emotions of stress and anxiety associated with bear markets are disseminated through increased human encounters. The present study found that a higher number of people in the physical vicinity was especially detrimental to bear market performance. Stress levels have been found to be generally higher in bear markets than in bull markets (Nguyen & Claus, 2013), which is supported by the finding of the current research, that of the three personality variables, stress tolerance had the most significant correlation with work environment variables. Chronic workplace stress has been reported to relate to burn out and depression (Marin et al., 2011).

Greater susceptibility to negative financial news as a result of survival bias has also been documented (Nguyen & Claus, 2013; Skowronski&Carlston, 1989). This would support the prospect theory (Kahneman & Tversky, 1979), which asserts that individuals respond more intensely to unfavorable changes than to favorable ones. What is more, a shared physical space probably has an amplifying effect on underlying work moods, and larger social groups have been found to increase emotionality (Bion, 2003). In other words, sharing physical and social space exaggerates an existing negative mood and exerts pressure to conform to the prevailing group emotions and group ideas (Tuckett, 2011; Turquet, 1975).

The beneficial impact on performance of the smaller work environment - especially as regards number of people in the physical vicinity - supports the privacy regulation theory (Altman, 1976; Bechtel &Churchmann, 2002). The difference in performance can be understood in terms of how a fund manager who works in greater solitude has a better chance of regulating his or her privacy. As findings from environmental psychology have made clear, the lack of physical barriers in open style trading halls easily leads to intrusion into the employee's inner world, which can cause a heightened environmental load. The results of the present study support the conclusions of Baum and Valins (1987), that the size of the social group in which interaction is likely can increase beyond optimal levels. The results of the current study can also be interpreted as demonstrating that managers who are more independent and more highly skilled tend to work in physical and social work environments that are more private. However, what this skill actually consists of and why they work in greater solitude remain open questions.

Brill, Weidemann, Alard, Olson, &Keable(2001) concluded that the strongest factor in performance and satisfaction is the ability to carry out work in an environment free from distractions. Cognitive processing has been found to be a key factor in the successful performance of complicated tasks (Wustenberg, Greiff, & Funke, 2012). The results of the present study support the general consensus within environmental psychology that closed offices are more suitable for complex tasks that require higher cognitive capacities (Bechtel &Churchmann, 2002; Jahncke et al., 2011; Laurence et al., 2013). The complex problem-solving capability of the participants in the current study was also somewhat lower in work environments with a larger number of people in the physical vicinity. The increased levels of casual encounters and noise probably explain the distraction and interruptions, but another explanation could be that fund managers with higher levels of complex problem-solving motivation and capabilities prefer to work in greater solitude. Both of these explanations may be valid; this is something for future research to explore. One could say that the results of the present study are unsurprising, given the general consensus within environmental psychology of the detrimental effects of open offices (Jahncke et al., 2011; Seddigh et al., 2014).

Open offices have been found to be related to many measures related to physical and mental health, job satisfaction, work efficiency and social relationships (James et al., 2021). Typically, open offices have been linked to a decrease in overall physical and mental health in terms of stress, exhaustion, and burnout (James et al., 2021; Laurence et al., 2013). There is a conflict, then, between the short-term financial benefits to the

employer of open-plan offices and the significant employer and employee harms, including reduced job satisfaction, increased sickness absence, lower productivity, and probably problems with the recruitment and retention of staff (Richardson et al., 2017). These results are more difficult to interpret with regard to newer trends in office design, with modern open offices, hybrid, flex and combi offices (Office type, 2021) that combine different aspects of office designs.

The result with regard to gender reported here is in line with studies reporting no significant investment performance differences between men and women (Babalos, Caporale, &Philippas, 2015). The reason why experience or age did not correlate positively with performance can be explained by earlier scientific findings which found a negative correlation between risk taking and age (Grable &Joo, 1997). Older and more experienced managers may suffer from decreased risk appetite and/or occupational stress (Mohacsy&Lefer, 2007). This is, however, a hypothesis for future research to explore. Although the present study contributes to research on the effect of the work environment on those, such as fund managers, who have to make decisions that entail high risks, there are some limitations which should be acknowledged. First, one limitation of the survey concerns the size of the data. The data was not large on any count, but ideally it would have been larger especially concerning the numbers of closed offices and female fund managers. The relatively small size of the data makes the results preliminary and in need of further verification from a larger sample. Unfortunately, this would be difficult to achieve in a fairly small country, such as Finland. However, Finnish fund managers work to high international standards and in different equities, trading in national, emerging and more established international markets. Second, this study lacks a temporal dimension; future research could examine the phenomenon especially before and after an organizational or office change. The third limitation concerns crowding. As empirical findings within environmental psychology have shown, there are important questions to answer about crowding, perceived privacy and satisfaction among financial specialists in relation to performance. Crowding was originally defined as an experiential concept (Stokols, 1972). The current research did not measure perceived crowding, which could have given further information for example in relation to office type, the number of people in the physical vicinity and performance. A comparison of the working conditions of financial professionals would enable a more thorough and informative analysis of the number of people per quantitative area. The current research would have benefited from measures of size of area of work space, as the traditional definition of social density as a physical condition - spatial limitation - implies (Stokols, 1972); the present study used Baum and Valins' (1987) definition of the number of people in the physical vicinity, which emphasized that crowding stress is to a large extent a consequence of having to deal with too many other people (a larger number of people in the physical vicinity). Future research could also consider measuring and comparing older open offices with hybrid and modern open offices (see Office type, 2021).

Conclusions: Taking into consideration the important role fund managers have in managing wealth in the world (Funds' facts, 2019), the negative economic consequences of unsatisfactory working conditions could be vast. It has been shown that the decision-making capabilities of fund managers are related to the personality features of risk taking (dependence), stress tolerance and complex problem solving (von Weissenberg, 2017, 2019). All of these three personality features are related to privacy regulation: increased privacy regulation enhances independent thinking, stress tolerance and complex problem solving. In other words, privacy is a valuable and productive aspect of a workplace with cognitively demanding tasks. Privacy, however, is far from being characteristic of the trading hall, the normative working space of those in the financial industry.

Acknowledgements:

I would like to express my deep gratitude to the following people: my wife Ulla, Professor Kenneth Sandnabba, Professor Mats Hansson, CEO, doctoral student Aku-Ville Lehtimäki, CEO, Fund Manager

PetterLangenskiöld, CIO, Anders Ekholm, PhD, AiloUhinki. My thanks too to all the people who have shown an interest in my work and helped me on my way, especially the fund managers who gave up their time to aid my research.

Authors note: This paper is the result of research that has been financially supported by the following generous institutions and individuals: 1. Börstiftelsen i Finland, 2. Stiftelsen för Åbo Akademi Forskningsinstitut, 3. Stiftelsen för Främjande av Värdepappersmarknaden i Finland, 4. Jorma Mattinen, Principal of Åbo Akademi, 5. Sparbankernas Forskningsstiftelse.

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Get in Touch with either of us:

Dr. Bankey L. Dubey,
Editor Emeritus
Email: bldubey@gmail.com

Dr. Naveen Gupta
Editor-in-Chief
Email: dr_naveengupta@yahoo.com
Cell: 91-9627182913

SIS J. Proj. Psy. & Ment. Health (2022) 29: 51-56

Intervention using Somatic Inkblot Test in Sexual Deviance - A Case Study

Shubhika Singh & B. L. Dubey

The Somatic Imagery Test (online version) was administered to a 24-year-old male with complaints of guilt associated to child pornography surfing, porn dependence to fall asleep, depressive features and low self-esteem. The inkblot images were helpful to bring out high level of frustration, interpersonal conflict, sexual preoccupation, and body image issues which supported the client's report and aided the process of psychotherapeutic intervention.

The Case:

The client is a 24-year-old male, working as a software developer and currently single. He was referred for the main complaints of guilt associated to child pornography surfing, porn dependence to fall asleep, depressive features and low self-esteem. He has undergone 16 sessions of psychotherapy so far and he is feeling better.

He reported having viewed child porn consciously i.e., out of will a few times and was feeling severe guilt for doing the same. The client watches porn daily at night before sleeping. On probing, the client reported that he is not attracted to underage children but, has built tolerance towards regular porn videos and hence was searching for something new, unusual, and more stimulating. The client also reported having low self-esteem and severe issues regarding his appearance especially his face. He strongly feels that he is "ugly". He remembers having a difficult time during 10^{th} to 12^{th} grade in school, being bullied and had no friends. He reported that he could not answer back and felt extremely consumed with himself answering back to the bullies in his head.

During puberty and early adolescence, the client reported being a "pervert" - in his words. On exploration, he reports being a consumer of regular heavy porn usage and his choice of preferred video category was 'voyeurism'. He also disclosed acting on his voyeuristic desires i.e. putting cameras in girls toilet in school, peeking through windows and sneakily watching his mother and aunt bathe or change clothes. He also reports groping or touching inappropriately his younger sister in her sleep. The client has had 2 sexual encounters where both were not up to his satisfaction as he didn't achieve full erection and it did not match the images viewed in porn. The client also reported having suicidal ideas as he felt he isn't a good person and has done something wrong and unacceptable.

Preoccupation with sexual fantasies and curiosity to explore them is common and natural during adolescence and young adulthood. But, when that curiosity and desire begins to affect one's self concept and interferes in one's concentration, daily life, and productivity, then, it indicates unhealthy sexual concept. To ascertain his personality and unconscious motives, a projective personality tool - **Somatic Inkblot Test** (online version, Dubey et al, 2019) was administered and the responses were analyzed using content analysis and psychoanalytic interpretation (Cassell & Dubey, 2003).

Image 1: He viewed "I can see the earth, a kid clinging onto that earth on the left and on the right top of the earth I see a kid sitting on that earth which made me a little uncomfortable. I also can see a lady wearing one piece with big breasts resting on Earth. On the top of the earth, I see a plant with peacocks leaves as feathers." The client's response of "wearing one piece with big breasts resting on Earth" may indicate his sexual fantasy and sexual preoccupation with

Shubhika Singh, M.Phil. Consultant Clinical Psychologist, 92, Krishna Nagar, Shekhawat Marg, Sirsi Road, Jaipur -302021, Email: shubhikasc@gmail.com & **B. L. Dubey**, Dubay Healing Center (USA), Email: bldubey@gmail.com
Keyword: Somatic Inkblot Test, SIT in Pornography, sexual fantasy. Content analysis

females. The “Big Breasts” may also indicate his craving for maternal affection which was confirmed by the client.

Image 2: He perceived “At first I saw a figure of some God flying, probably with Lord Shiva's head. Also, I can see a cross where Lord Jesus was hanged. I can also see a cartoon creature called Samurai jack who is performing some kung-fu stunt. I feel a little positive after seeing this image, which is making me think that yes, I can recover somehow.” The responses of perceiving different God may indicate that the client has religious faith and is seeking spiritual support or divine help in controlling adverse situations that are being faced by him. Often people seek spiritual support to protect ego from breakdown particularly in cases of depression and maladjustment.

Image 3: He saw “On the bottom I can see a fat lady without a head and a hat of a chef who is dancing. I can also see a guy in his night suit dancing without the head. In the middle I can see pink outlined heart. On the top I can see a key of a small toy, or I can see a bat. I don't know, this image somehow depicts that the guy or the woman is happy, but also sad dark clouds are somewhere but this heart is dominating the dark clouds.” The client’s response of “The fat lady without head” may symbolize his wishful thinking to see his mother in pain and suffering. “Key of a small toy” and “bat” might be male phallic symbols and “sad dark clouds” represent his anxiety. Seeing headless male and female is indicative of his aggressive attitude towards his parents. The client projects aggression towards his parents for their erotic interaction which he had witnessed accidentally during childhood.

Image 4: He viewed “On the right I can see a teddy bear. On the left I can see a guy who is overfilled with joy and playing football which made me remind of a moment in my 8th class where my exams were finished, and I was so happy, playing with my friends. This image also depicts somehow the contrast between happy and sad where the kid on the left is extrovert and happy and the kid on the right is introvert and sad.” The response may indicate his wishful thinking to enjoy like the extrovert boy in the image and feels sad to imagine his home environment. It needs further probing during therapy sessions. A joint therapy session with parents and significant family members will be of great help.

Image 5: He perceived in this image “The guy is dancing in a zig-zag manner or maybe doing some belly- dance. This guy is smiling, has a beard and black hair. Then I thought this is some pregnant lady who is walking with her hands out and what is inside her is the baby. It brought a thought which I had during my 4th year of college when I was into some marijuana stuff as well. On the top I see an apple. Somehow it is just coming to my mind that this apple is a bait to this guy who already has a slice of pizza in his belly”. Perception of fetus may indicate intimate relationship with some female. Apple and dancing lady are normal responses to this image.

Image 6: He perceived “At first I can see a guy on the right and a girl on the left who are talking to each other, and these two red dots depict that they both are sharing their hearts. I don’t know this triggered a thought in my mind where I feel like my whole life would have been different if I was not ugly. Coming back to the image from one perspective it also seems like a spider with two devil eyes.” The response “I feel like my whole life would have been different if I was not ugly” indicates his sense of inferiority regarding his body image/appearance, which is leading him to avoid interaction with others and instead spend more time in viewing pornography. “Spider with two devil eyes” indicates suspicious attitude/ paranoid ideation.

Image 7: He responded “First I saw the letter D. Then I can see a banana on the left bottom inside of that D which is supported by a hand through which an elephant’s trunk is coming out in the

opposite direction. On looking closely, I don't see a banana, I see a brinjal now. In between is red liquid. Now looking a little more closely I can see an ear where the black stuff which I was thinking as a banana now seems like dirt clinging on to the ear and the red part depicts the depth inside that ear. The orange color outside D reminds me of Multani Clay". The banana and elephant's trunk may represent male phallic symbol and "the depth inside that ear" may represent female genitalia symbol indicating sexual preoccupation.

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Image 8: He perceived "In between is the hand with a wired thumb. It feels like as if this image depicts some sign of a dictatorial political party, probably of Hitler. That small line dividing the palm of the hand into two seems like some scar where the left side of the scar is the mirror image of the right side. Now, I can also see as if this hand is drowning somewhere and is asking for some help. Around the hand are green leaves which I saw in a WHO or a UN sign somewhere. On looking closely into the leaves, I can see people's heads coming out of it and that hand is asking help from these people, but nobody is helping that hand ". Hitler's hand indicates authoritarian attitude of the father-figure with whom he appears to have disturbed interpersonal relationship. The other responses indicate the client's feelings of helplessness. He is aware of his problems for which he is seeking help but is not getting adequate support. The kind of support that the client expects from significant others and even from the therapist must be explored during therapy sessions.

Image 9: He viewed "As if two birds are kissing each other or fighting for a food. At the bottom I can see a flowerpot in the shape of a heart with plants coming out of it which further extends with three leaves. On each side are the leaves coming out from the top above the birds. It also seems like an entrance to some wedding ceremony, where on the left half of the heart is the bride and right half of the heart is the groom. On the top is the decoration ". Responses indicate wishful thinking to have romantic relationships. It may also indicate conflict in relationship(s).

Image 10: He responded "This image feels so negative where a fierce animal with sting appears to be coming out of its back and there is a peculiar tail and a head which is eating out the skeleton and trying to reach the heart. Interior of this animal touches the skeletal structure of its ribs inside which is a faded heart. This image feels like some sort of invisible demon has captured our body and is consuming the heart." The demon may indicate hostility, sadism, and masculine inadequacy in men. The "demon has captured our body and is consuming the heart" may further indicate feelings of helplessness and constant suffering on the part of the client.

Image 11: He responded to the image as, "It seems like an image of a girl doing ballet. But now when I look closer, it seems that someone is lying in a bathtub of a heart shape and black blood is coming out of its head, which is spilled around the bathtub." Denial of perceiving common response of heart in this image indicates interpersonal conflict in romantic relationships which is confirmed from his case history. He had reported how he failed to establish satisfactory erotic relationship with the opposite gender.

Image 12: He saw "Two kidneys which are connected to a urinary bladder, but left kidney has extra tube connected to it. On the bottom of the urinary bladder is some sort of an outlet which maybe a penis and inside the urinary bladder is the urine collected". The kidney is normal perception. Other responses indicate sexual preoccupation.

Image 13: He perceived "A guy is sky-diving with an extra pair of legs which are intertwined with each other with a heart sticker on its costume. On the left is a cupid who is either sitting on a broom or trying to pee. On the right is a kid who is flying with a tail on its rear end. It is difficult to think what those two red dots denote. Upon thinking hard if all of these kids are flying then

those two red dots seem like small buildings". The "cupid trying to pee" indicates sexual preoccupation and release of aggression.

Image 14: He viewed the image as, "There is a guy in suit at the bottom with his head cut. There are multiple chests on the top of each other until the mid-point where there is a big belly of some fat guy and now there are many other chests on top of each other with hands coming out at the top. This image now collectively forms a skeleton. It seems to me that legs are necessary for you to stand, and chest is necessary for you to face the world. It all constitutes a backbone." The perception of backbone towards the end of several responses is normal perception. However, the "fat guy" may symbolize his aggression and hatred towards his classmates bulling him during school days.

Image 15: He viewed, "On the first glance, it seemed like a vagina with some vaginal ring connected to the bottom and blood coming out of it. On giving it a closer look, I can see an amoeba which has eaten some fish with small legs at the bottom." The response "blood coming out of it" may indicate aggression towards females and sexual preoccupation.

Image 16: He perceived the image as, "It seemed like a vagina with some vaginal ring connected to the bottom and blood coming out of it. On giving it a closer look, I can see an amoeba which has eaten some fish with small legs at the bottom." Avoiding common response of a fetus may indicate sexual preoccupation and masculine inadequacy.

Image 17: He perceived the image as, "This image made me a little aroused as what I am seeing is some sort of naked breast coming out of a saree. The abstract drawing is being made from censored nipple of the lady to her shoulder." The response indicates his repeated sexual preoccupation and sexual fantasy for which he is taking help from his therapist.

Image 18: He saw "There are two faces, one on the left with a side pose seeming sad and that blurriness in that brain makes me feel like that she is too overwhelmed by the feelings and feeling a little foggy mentally. And the guy on the right side has the expression of feeling dumb where he is feeling foggy because he is feeling sleepy. This blue background reminds me of introduction of Ramayana on Door darshan." The responses indicate feelings of frustration and disturbed interpersonal relationship.

Image 19: He perceived the image as, "I see the back of the head of a guy and his mask which is purple. This is because the outside world which is the border of this image is also purple and that mask is what he shows it to the outside world ". The responses clearly indicate his depressive feelings and frustrating interaction with others which the client finds difficult to cope with.

Image 20: He viewed it as, "A guy on the left is sitting on a chair and describing his emotions through his hand gestures to the lady on the right who seems to be his therapist who is noting down his emotions inside a book. And they are inside a bubble where everything that is shared is confidential". The response indicates his faith in the therapist and at the same time he also wants an assurance of confidentiality from his therapist. Feelings of insecurity and frustration are also indicated through his responses.

Image 21: He perceived the image as, "On the left I see multiple kind of knives which are moving in a single direction. There are also some straight knives on the right. It feels like they are trying to attack the abstract figure in between. On the top right and bottom are pencil scratches drawn very hastily." Perceiving knives thrown on abstract figure indicates uncontrolled hostility and aggression. Pencil scratches drawn hastily also signal the presence of pent-up hostility and frustration. The response seems alarming, and the client should be treated to release his aggression.

Image 22: "At first glance it felt like I am looking at some greeting card with a heart on it. In between the heart I can see a small mouth who is singing some love song (probably English). This image feels like someone is very happy - enjoying their day, most probably their wedding day." The response indicates wishful thinking to have a family and desire to live happily. It's a normal response.

Image 23: He viewed the image as, "At first I thought it was a sperm, then a snake which is moving under a stream of water and now I see weird-shaped dick as if someone is squeezing it due to the white line on the top." The snake which is moving under a stream of water symbolizes erotic interaction and pleasure-seeking projection. However, the "weird-shaped dick" indicates sexual insecurities and failure in establishing smooth erotic relationship, which has been reported by the client.

Image 24: He perceivedthe image as,"Coronavirus was the first thing that popped up in my head. This image is making me feel uncomfortable as it feels like an earth having the hands of octopus or some organism which we are looking at under a microscope. After giving a close look, I see blue heart in the center that is divided into four. It feels like the heart is trying to recollect some of the good things by capturing small moments which represent small green hearts. But it's too broken inside and captured by dark thoughts around it." The broken heart indicates frustrated/broken love affairs/relations. The broken heart inside depicts depressive feature.

Image 25: He viewed the image as, "It looks like some disinfectant spray gun that is used to kill mosquitoes. It also looks like some old-fashioned gun that has already fired some bullet and the top of the gun has been destroyed after firing the bullet. On looking more closely, it feels like an arm of a guy has been exploded in a terror attack." The responses indicate flared-up aggression and frustration. The similar theme was brought on image 21 too. The client needs special attention to address his pent-up aggression which seems to be very alarming. More often, such clients are referred for anger-management treatment.

Image 26: "Either a guy is dead or is buried somewhere alive and he is letting out some heat through his body. It feels like he is lying alone on his bed, feeling there is nobody in the world who could understand him; there is no point on getting him out of this buried state and do something because it would not matter. No matter how much he tries to prove himself, the world would still judge him on his looks". The responses clearly indicate his feelings of inferiority towards his appearance and his body-image related insecurities. The feelings of helplessness, hopelessness and depression are brought on the surface. Pent-up aggression and suicidal ideation must be addressed during therapy session.

Image 27: He perceived "The kid on the left is still inside the womb and has not been born yet. The kid on the right is unborn kids' future spirit who is trying to give him some tips about the future. He may be telling him that it is a scary world out there but also preparing him for what is about to come. Future spirit does not want to scare him but just prepare him mentally for what is about to come." The responses indicate regression as the safer mode of protection in life. His insecurity and challenges faced in life are also projected. It appears as if he has faith in his therapist and hopes for guidance. It further looks like a good prognostic indicator.

Image 28: He perceived the image as, "The face of a woman with old-fashioned hair and is sad because she is being beaten by the guy at the bottom. It feels like as if the guy is trying to punch her and she is ready to take that punch." The client's response indicates that he has witnessed physical abuse of a female family member by a male and has closely seen the helplessness of the woman in the situation. Witnessing such violence closely also contributes into developing

aggressive attitude on the part of the client. Non-perception of child with the mother in the image by the client indicates the presence of conflicts with the mother/maternal figure.

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Image 29: He saw the image to be "A guy without a leg who is moving on a side of the street, or the guy is walking heavily, and his half part of the leg cannot be seen, also his face seems like as if he is taking heavy breaths. Also, there is a minor shadow of him at the bottom left. It feels like as if I have opened the door and this guy is standing in front of me looking dumb-faced and does not know what he wants." The response indicates poor self-image, low self-esteem, and insecurities in life.

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Image 30: "A family portrait where all are trying to pose. Also, a scene of a wedding where kids are holding flowers and the bride and groom are kissing. Also, it feels like parents are talking to each other and not paying attention to what their kids want. This image felt both positive and negative at the same time." The responses indicate parental deprivation and sexual preoccupation.

Conclusion:

Overall, the client gave more than 50 responses indicating high productivity and average intellectual ability. The responses indicated coherent thinking and ability to meet with the demands of the society. However, the protocol revealed high levels of frustration, feelings of insecurity, depressive features, pent-up hostility, and interpersonal conflicts with opposite gender including the mother. There was also strong evidence of sexual preoccupation. He has also shown anxiety and concerns of body-image and low self-image. The above factors were causing significant distress in the client's important areas of functioning and needed to be immediately addressed with insight-oriented psychotherapy and pharmacological intervention.

The psychotherapy is in progress with a focus on psychoeducation about healthy sexual arousal, difference between harmful use, dependence, and addiction (in terms of porn surfing) and learning the difference between sexual responses i.e.habitual/ conditioned arousal v/s natural or need-based arousal. Therapy is also focused on finding more than one way of self-pleasure and self-love. Techniques such as deep breathing, grounding exercises, yoga, meditation, cognitive distortions, and Socratic questioning were introduced to address depressive and anxiety symptoms. Extensive work was done to process emotions regarding childhood/adolescent experiences of bullying, sexual exploration, and body image. Habits such as self-compassion and emotional hygiene were introduced to the client to combat low self-image.

The client continues to be in therapy with sixteen therapy sessions completed so far. Therapy has shown a positive outcome and consistent improvement in the client's wellbeing. Re-assessment will be done after 6 months of the termination to find the changes in test responses and to ascertain complete recovery. The outcome of the same shall be reported.

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Bankey L. Dubey, Ph.D.,
Global Director Dubay Healing Centre,
7490 Coon Club Rd, Medina, OH 44256 (USA)
E-mail: bldubey@gmail.com
Email: ad@dubay.bz

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Place of Publication:	Mathura-281122
Periodicity of Publication:	Half Yearly
Editor:	Dr. Naveen Gupta
Nationality:	Indian
Address:	Hindustan Institute of Management and Computer Studies, Farah, Mathura-281122 U.P
Owner:	Somatic Inkblot Society
Printer's / Publisher's Name:	Kushwanshi Printographics

I, Dr. Naveen Gupta, hereby declare that the particulars given above are true to the best of my knowledge and belief.

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SIS Journal of Projective Psychology and Mental Health

Published by Dr. Naveen Gupta, on behalf of Somatic Inkblot Society at KUSHWANSHI PRINTOGRAPHICS, Bagh Mujaffar Khan, Agra, U.P. Email : drayogsingh1@gmail.com Phone No. 8430229696

What is the Somatic Inkblot Test (SIT 30 Image online Test)?

The Somatic Inkblot test (SIT) is a semi-structured, projective, diagnostic test and an adjunct to psychotherapy. The **SIT** is available at *www.dubayhealingcenter.com*, with 30 imageswas released for quick assessment, after 30 years of intense data collection on clinical, organizational, and normal groups. Researchers have reported **high reliability and validity** of the test (Dubey et al, 2019) The papers published in the international journal, "SIS Journal of Projective Psychology and Mental Health' '(www.somaticinkblots.com) clearly show the advantages of the SIT both in the "individual" as well as "group administration" settings.

The SIT automates the entire "psychological test life-cycle" including administration, interpretation, reporting and diagnostic collaboration. In addition to quantitative analysis, the SIT facilitates and emphasizes content analysis, psychoanalytic interpretation, and symbolic interpretation via a database of research made available as "hints"and case studies. It takes about 30 minutes to complete the test.

The technique is based on spontaneous, individually generated responses to semi-ambiguous figures, which elicit intrapsychic associations specific to the person presented with them. The SIT images evoke symbolism and meanings unique to the responding individual. The test responses (Total R, Human, Animal, Anatomical, Sex, Most Typical, Movement, Rejection and Pathological responses) can be differentiated from peer norms and clinical indices and can be analyzed according to internationally recognized psycho diagnostic criteria. The procedure is an adjunct to psychotherapy because responses can be further explored to create a more effective treatment plan, and can be re-addressed in later discussions, providing opportunities to elicit deeply defended material. During the administration of the SIT procedure, clients may abreact emotional conflict raised to consciousness by the images, which can be a therapeutic experience (Cassell and Dubey, 2003).

The SIT has an amazingly simple 11 scoring indices common to Rorschach, such as R, H, A, At, Sex, MT/P, Movement, Rejection and Pathological responses It is less complicated than existing inkblot tests since it emphasizes content analysis.

The Test was administered to different clinical groups – Anxiety, Depression, PTSD, Sex perpetuators, Criminals Neurotics, Marital maladjustment, Schizophrenia, and the findings were very encouraging. The images take the client back in time and help to verbalize the repressed material lying down in the storage of unconscious mind. Such verbalization is very useful during therapy session.

The Test was administered to executives in different situations and as expected, the data revealed several higher mental functions. These were as follows: productivity, imaginative ability, controlled emotionality, good adjustment, and group conformity.

Please visit our website: http://www.dubayhealingcenter.com and take the test to see its simple administration, scoring and interpretation (Quantitative and Content analysis). Please see the Manual of the Test and book "Inkblot Personality Test -Understanding the Unconscious Mind, Dubey, B.L., Banerjee, P. and Dubey Anand (2019) Sage Publications Inc.

Prof. Bankey L. Dubey, Global Director
Anand Dubey, CEO
Dubay Healing Center, 7490 Coon Club Road, Medina,
OH 44256 (USA)Emails: ad@dubay.bz
Email: bldubey@gmail.com

SIS Doctoral Research Award

Somatic Inkblot Society announces an award to the Research Scholars who have employed Somatic Inkblot Test as a tool in their doctoral dissertation. The award carries a Citation and a cash award of Rs. 5000/- to the research scholars.

Submit a soft copy of your doctoral dissertation to claim your award on Email ID: bldubey@gmail.com. The Award will be delivered in the next International Conference of SIS.

Bankey L. Dubey, PhD., DPM, DM&SP,

Global Director, Dubay Healing Center,

Editor Emeritus, SIS J.of Projective Psychology & Mental Health,

E-mail: bldubey@gmail.com

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Dr. Bankey L. Dubey,
Editor-in-Chief
Email: bldubey@gmail.com

SIS JOURNAL OF PROJECTIVE PSYCHOLOGY AND MENTAL HEALTH: ACHIEVEMENTS

Journal in WHO's Listing

Members of Somatic Inkblot Society will be glad to know that SIS Journal of Projective Psychology and Mental Health has been listed by World Health Organization (Global Forum for Health Research) among 25 indexed journals that have published the highest number of articles on mental health from LMICs in Latin America, Africa and Asia (Medline and PsycINFO). Extract from table-6 of "Research Capacity for Mental Health in Low - and Middle - Income Countries: Results of a Mapping Project "(www.globalforumhealth.org) is given below:

Rank	Journal	Country	Language
1	Revista de Psicoanalisis	Argentina	Spanish
2	Revista de Neurologia	Spain	Spanish
3	Revista Brasileria de Psiquiatria	Brazil	Eng.,Spani.,Portuguese
4	Arquivos de Neuro-psiquiatria	Brazil	Portuguese
5	Acta Psiquiatrica y psicologica de Amercia Laina	Argentina	Spanish
6	Journal of the Medical Association of Thailand	Thailand	English, Thai
7	British Journal of Psychiatry	UK	English
8	Acta Psychiatrica Scandinavica	Denmark	English
9	Salud Mentale	Mexico	Spanish
10	Vertex	Argentina	Spanish
11	Journal of Personality and Clinical Studies	India	English
12	Social Psychiatry and Psychiatric Epidemiology	Germany	English
13	Revista Medica de Chile	Chile	Spanish
14	South African Journal of Psychology	South Africa	Afrikaans, English
15	Psychological Reports	USA	English
16	South African Medical Journal	South Africa	Afrikaans, English
17	The Australian & New Zealand Jr. of Psychiatry	Australia	English
18	International Journal of Social Psychiatry	U. K.	English
19	Psychiatry Research	Ireland	English
20	Social Science & Medicine	U. K.	English
21	Revista De Saude Publica	Brazil	Portuguese
22	International Journal of Geriatric Psychiatry	U. K.	English
23	**SIS Journal of Projective Psychology and Mental Health**	**India**	**English**
24	Journal Brasilerio de Psiquiatria	Brazil	Portuguese
25	Psychiatry and Clinical Neurosciences	Australia	English

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Abstracted in "APA" Psyc INFO
Regd. No. 71632/99, RNI Delhi

SIS
Journal of Projective Psychology & Mental Health

Volume: 29 **Number: 01** **Jan 2022**

EDITORS EMERITUS :

Bankey L. Dubey, Ph.D.,
Director Dubay Healing
Centre, 7490 Coon Club Rd,
Medina,OH 44256 (USA)
E-mail: bldubey@gmail.com

EDITOR-IN-CHIEF :

Naveen Gupta, Ph.D.,
Director, Hindustan Institute of Management
& Computer Studies,
Farah, Mathura-281122 (INDIA),
Email: dr_naveengupta@yahoo.com

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Rakesh Kumar, Ph.D.
Department of Psychology,
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Email: jain.gkv@gmail.com

EDITORS :

Anand Dubey, MBA,
CEO, Dubay Healing Center,
7490 Coon Club Road, Medina,
OH 44256 (USA)
Email: ad@dubay.bz

Chavi Bhargava Sharma, Ph.D.
Exe. Director & Dean Beh & Soc Sciences,
Manav Rachna International University,
Faridabad-121001 (India)
Email: psychologistchavi@gmail.com

Christopher Piotrowski, Ph.D.
Research Consultant,
University of West Florida,
504 Concordia Blvd. Pensacola,
FL 32505 (USA)
Email: cpiotrowski@uwf.edu

Nilanjana Sanyal, Ph.D.,
Former Prof. University of Calcutta,
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Krishan K. Sony, Ph.D.
Asso. Editor, Asso Prof. Dept of Psychiatry,
PGIMER, Chandigarh-160012
Email: keshusony@rediffmail.com

PUBLICATION MANAGER:

Brijesh. K. Gupta, MBA
Hindustan Institute of Management
and Computer Studies
Farah, Mathura-281122 (INDIA)

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