ISSN 0971-6610

SIS

Journal of Projective Psychology & Mental Health

Volume: 32 Number: 02 July 2025

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Editorial:

Cancer Patients in Assessment: Insights from a Bibliometric Analysis of the Journal *Psycho-Oncology*

According to recent *American Cancer Society estimates*, the burden of cancer incidence and morbidity continues to escalate at alarming rates (Siegel et al., 2024; Sung et al., 2021), encompassing both physical and psychological impairment. In the assessment enterprise, clients frequently present with copious health problems and a sizeable minority of these examinees struggle with serious medical conditions, such as cancer (see Bell et al., 1953). But what unique aspects does a cancer diagnosis play in psychological evaluation protocols? Perhaps, this is most applicable to the use of Inkblot measures, such as the SIS-Series and the Rorschach where somatization is a key clinical element, as reflected in the research literature (Cassell & Dubey, 1996; Georgoff, 1991; Marchioro et al., 2005; Mukherjee et al., 2023; Schon & Bard, 1958; Signorelli, 2015; Tofani & Vaz, 2007; Venturini & Pheulpin, 2021). Hence, what are the most prominent mental health issues and challenges in the lives of cancer patients? Secondly, to what extent does the psychological examiner consider the examinee's cancer diagnosis as a potential critical factor in the clinical productivity evident through psychological and projective testing?

The field of Psycho-Oncology constitutes a specialty area within healthcare psychology (Kissane, 2022). Yet, there is scant research regarding the nature of the intellectual structure and extant scholarship reflecting this area of study. One approach to gaining an understanding on the breadth and scope of the extensive body of scientific knowledge that spans Psych-Oncology is the use of bibliometric analysis. To this end, I conducted a bibliometric analysis of contemporary studies indexed in the journal *Psycho-Oncology* from 2018 to 2024, which determined the most prominent topics of research attention published in this top-tier journal. Based on the analysis, I identified the core mental health issues that permeate the life of cancer patients. These central, most salient, issues should be at the forefront of clinical concern and attention of the examining psychologist during the psychological assessment of cancer patients.

Method:

Bibliometric analysis offers a methodology in determining a systematic, quantitative description of the investigatory trends and scholarly research activity of a select field (Krippendorff, 2004). Bibliographic research has been well regarded in both the field of psychology (e.g., Piotrowski, 2020) and health care (Holden et al., 2020; Kokol et al., 2020). The current study sought to obtain a content analysis of studies represented in the journal *Psych-Oncology* over the past 7 years (2018-2024); an online review identified 1,677 references for this time span. Of these, 119 were editorials, erratum, corrections, and commentaries which were deleted from further consideration. Hence, the total dataset for the current analysis entailed 1,558 studies. The objective was to determine the *main* focus of each reference from the perspective of the study's investigator(s). Based on these parameters, all studies were reviewed by the author and each reference was coded with a sole descriptor that best represented the main focus of study. A frequency tally, across individual subject categories, was maintained and then summed for each topic.

Findings:

A caveat is in order: Only those psychological topics that are highly salient to the lives of cancer patients are presented in Table 1. Not surprisingly, psychological distress was the most prominent area of investigatory attention in *Psycho-Oncology* (see Mehnert et al., 2018; Mitchell et al., 2011; Wolyniec et al., 2022), representing almost 4% of the current analysis (i.e., 63 of 1,558 studies). Undoubtedly, this reflects the historically high prevalence of mental health concerns and psychiatric disorders evident in cancer patient populations (Derogatis et al., 1983; Holland & Rowland, 1989). Several topical areas each accounted for 3% of the examined dataset, i.e., quality of life, depression, and fear of cancer recurrence. This is consistent with the prior analyses of published scholarship in cancer research (e.g., Kissane, 2022; Shrestha et al., 2019).

In terms of cancer-related psychopathology, research on depression effects was much more prevalent than the study of anxiety conditions (Nikendei et al., 2018; Priede et al., 2022), although the focus on mental health evaluation of cancer patients is a central concern of health care providers (see Table 1). Measurement and assessment issues (39 studies) appear to be quite prominent in the journal *Psycho-Oncology*, and the current analysis identified 44 individual measures/scales that were the major focus of study. The most prominent measures were the Fear of Cancer Recurrence Inventory (Fardell et al., 2018; Luigjes-Huizer et al., 2022), the PROMIS series, the Distress Thermometer, and the Patient Health Questionnaire-9. Perhaps this reflects methodological challenges in the field, with unresolved validation of construct and evaluation procedures that define an emerging discipline (e.g., Piotrowski & Watt, 2025). The bottom-half of Table 1 lists topics with 1-2% of the dataset of 1,558 studies.

Table 1. Rank Order of Major Topical Areas of Research

Major Topic	***n* of articles**	**%**
Psychological distress	63	4
Quality of life	46	3
Fear of cancer recurrence	43	3
Depression	42	3
Measurement/Assessment issues	39	2.5
Social support	37	2.5
Exercise/Physical activity	35	2
Cognitive impairment/abilities	34	2
Research design/methods	33	2
Body image	30	2
Communication issues (patients)	30	2
Emotions/Emotion regulation	28	2
Decision-making	27	1.5
Financial limitations	26	1.5
Anxiety	25	1.5
Sexual functioning	23	1.5
Suicide/suicide ideation	20	1.5
Symptom awareness	20	1.5
Religion/Spirituality	19	1.5

Post-traumatic growth	18	1
Resilience	18	1
Fertility/Pregnancy issues	18	1
Sleep	17	1
Job loss/Return to work	16	1

Note: Total dataset (*n*=1,558).

In addition, several salient topics represented just below 1% of the articles in the analysis i.e., investigatory areas dealing with existential issues, adolescent psychosocial development and genetic testing/heredity. These should be considered additional clinical factors that may be a significant feature in the psychological evaluation of the cancer patient.

Overall, the findings of this analysis seem to confirm that contemporary research in the area of Psych-Oncology spans a broad range of salient topics central to the mental health and psychological dynamics of cancer patients, issues frequently encountered in the assessment enterprise (Langford et al., 2020). Clinicians need to be cognizant of these issues and their potential significance to projective testing protocols. Further research is needed to determine critical aspects of not only the mental health status of cancer patients, but also the significance of these factors and their impact on clinical data revealed via psychological and projective assessment, including the examinees' reference to pain concerns (see Piotrowski, 2020; Piotrowski & Lubin, 1990).

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Trauma Research: Contemporary Under-Studied Areas of Scholarly Investigation

Chris Piotrowski

The study of psychological trauma and associated stressors has attracted extensive scholarly attention in the social sciences. The current investigation utilized a bibliometric approach to examine recent topical investigatory coverage across 3 prominent journals in the field of trauma psychology: *Traumatology*, *Journal of Traumatic Stress*, and *Psychological Trauma*. The main focus was to determine topical areas that attract *sparse* coverage in these publications over recent years. The content analysis identified copious topics that represent less than 1% of the peer-reviewed studies across the 3 datasets of published articles. Most noteworthy: acute stress disorder, poly-trauma, cumulative trauma, mass/school shootings, the disabled, catastrophizing, sexual harassment, divorce, poverty, and pre-existing conditions. These findings should a) illuminate our understanding of under-studied areas in trauma research, b) promote the use of multi-database search strategies during the literature review process, and c) provide a catalyst and descriptive framework for further bibliometric research on the sub-field of trauma psychology.

Introduction:

The study of psychological trauma encompasses a broad spectrum of investigatory topics and research streams. A review of the literature indicates that the repository of scholarships in the general area of trauma studies is rather voluminous. An online *keyword* search in the database *PsycINFO*, using the term *trauma*, reveals 45,000 articles and 6,500 dissertations. Moreover, copious scholarly books on the general field of traumatic stress and disaster studies have appeared in recent decades (e.g., Catherall, 2013; Fink, 2010; Gold, 2017, 2020; Reyes & Jacobs, 2006; Rodriguez, 2007). Noteworthy, the study of traumatology has evolved and gained prominence in the social sciences and there is now an *APA Division 56* (Trauma Psychology). Thus, appreciating the nature of the intellectual structure of this extensive repository of scientific knowledge is a worthy academic endeavor. Historically, the study of megatrends on individual topics in the social and behavioral sciences has attracted much attention from researchers (Blake et al., 1992; Katzell, 1994; Piotrowski, 2021, 2023). One approach to gaining an understanding of the breadth and scope of select research domains is the use of bibliometric methods which provide data on the intellectual structure regarding scientific research activity (or the lack thereof). Indeed, bibliometric analyses on a variety of subject areas in psychology have been reported in the scholarly literature, presenting a detailed analysis of important facets of research studies, such as investigatory areas of study, theoretical approaches, methodologies, measures, type of data analyses, author affiliation, and under-represented areas of investigation. While the majority of bibliometric studies focus on reviews of areas specific to prominent topics of interest in the field (e.g., Bamel, 2020; Zha et al., 2020), a minority of research examines the nature and content of scholarship evident in specific journal outlets (e.g., Piotrowski, 2012, 2016).

Recently, Piotrowski (2024), in a bibliometric analysis of the APA journal *Traumatology*, identified the most prominent topics investigated by researchers, i.e., mental health treatment, PTSD in veterans, natural disasters, resilience, posttraumatic growth, childhood traumas, and secondary/vicarious trauma. Yet an examination of scientific literature provides scant data on salient subject matter related to trauma that is largely ignored by either researchers or the editorship of leading journals in the field. To address this void in extant repositories of scholarship, the current study performed a bibliometric analysis of 3 leading journals on the issue of trauma in order to determine subject areas which receive scant

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Keywords: Bibliometric, traumatology, understudied, trauma, multifile searching

research attention. Identifying under-represented investigatory topics across specialty periodicals should a) call attention to shortcomings with regard to the scope of research coverage, and b) provide incentive for expanding the breadth of research interest that reflects a more holistic overview of the emerging field of trauma psychology.

Method:

Bibliometric analysis offers a methodology in determining a systematic description of the scholarly productivity of individual research streams (Krippendorff, 2004; Maltseva & Batagelj, 2020), including the field of psychology (e.g., Hooper et al., 2017; Piotrowski, 2012, 2016). Moreover, research productivity on select topics can be determined by assessing publication trends in *specialty* journals. The current study sought to obtain a comprehensive overview of the field of trauma psychology. To that end, it was decided to perform a content analysis of 3 prominent periodicals with a specific focus on the study of psychological aspects of trauma: *Traumatology*, the *Journal of Traumatic Stress,* and *Psychological Trauma*, which assured coverage of emergent research. The review entailed only peer-reviewed articles. The objective was to determine the *main* focus of each reference from the perspective of the study's investigator(s). Based on these parameters, all studies were reviewed and the author (C.P.) tagged each reference with a sole descriptor that best represented the main focus of study. A frequency tally, across individual subject categories, was maintained and then summed for each topic. (Full reports on the *major* topics of study, across the 3 journals, are available from the author).

Study 1 examined articles in the journal *Traumatology*, for years 2011-2024 inclusive. The review comprised 640 references of which 17 were erratum/corrections, editorials, or comments/replies. Thus, the Total Dataset was 623 articles. Some of these data are reported in Piotrowski (2025).

Study 2 examined articles in the *Journal of Traumatic Stress*, for years 2018-2024 inclusive. The review comprised 774 references of with 39 were erratum/corrections, editorials, or comments/replies. Thus, the Total Dataset was 735 articles.

Study 3 examined the most recent 1,000 articles in the journal *Psychological Trauma*, for years 2020-2024 inclusive. Of these, 28 were erratum/corrections, editorials, or comments/replies. Thus, the Total Dataset was 972 articles.

Findings: Neglected Areas of Study

Overall, the analysis indicated a rather extensive list of topics representing less than 1% of the dataset of articles across all 3 journals (see Table 1). The analysis revealed the startling fact that copious areas have been under-studied across all these periodicals with a specific research attention to trauma psychology. Historically, the ebb and flow regarding the prominence of specific research topics is a function of a complex interplay of multiple factors (e.g., methodological advances, evolving constructs, cross-disciplinary collaboration, funding availability). Moreover, research attention to investigatory subject matter can fall out-of-favor for a myriad of reasons (saturation of published studies, shifting paradigms, lack of theoretical advances). Although the topics listed in Table 1 may be deemphasized across these specific journals, research on these subject areas is quite evident in the general psychological literature (e.g., Figley, 2010; Fried et al., 2018; Hansen et al., 2017; McCormack et al., 2022; Zell & Stockus, 2024). One noteworthy topic is acute stress disorder (ASD). As noted in Table 2, ASD has well over 200 studies indexed in *PsycINFO*, based on a keyword search. Yet this salient investigatory area seems to be under-represented across the 3 trauma-related journals in the current analysis. The reason for this is rather inexplicable. Moreover, modern popular topics such as virtual reality and artificial intelligence receive but scant investigatory focus in trauma psychology research. Perhaps, researchers may incorporate these areas in their research designs in the near future.

Furthermore, the cumulative impact of multiple traumas over-time should attract research attention as human populations are increasingly besieged by both natural/technological disasters and dire social conditions in the modern era (see Buckley et al., 2024 for a discussion). The study of poly-trauma appears to be focused on veteran populations, although there is limited research on multiple injuries incurred in motor vehicle accidents. The contemporary impact of emergent technology (e.g., cyber-bullying; Piotrowski & Watt, 2024) should also be recognized as a potential long-term initiator of stress on human populations. Finally, while mass shootings (particularly school shootings) have received prominent media attention in the U.S. over the past two decades, this topic has received but scant scholarly coverage in these 3 trauma journals.

Table 1. Under-studied Topical Areas Across 3 'Trauma' Journals

Poly-trauma	Cumulative trauma
Acute stress disorder	Long-term stress exposure
Prevalence/epidemiology	Exercise
Bullying/Cyber bullying	Unemployment
Personality factors	Mass/School shootings
Loneliness	Motor vehicle accidents
the Disabled	Homicide of close associates
the Elderly	Emotional-support animals
Psychosis	Pre-existing mental health
Self-Esteem	Collective trauma
Bereavement	Pain conditions
Near-death experience	Paralysis
Food insecurity	Religion/Spirituality
Crisis management	Interpersonal relationships
Creativity	Divorce
Defense mechanisms	Sexual harassment
Dreams	Social capital
Poverty	Age effects/differences
Workplace stress	Chronic medical illness
Financial stress/ loss	Incarceration
Major surgery	Catastrophizing
Death in family	Homelessness
Rumination	Eating disorders
Intolerance for uncertainty	Quality of life
Parenting	Virtual reality
Noise stress	Extreme hot/cold weather
Historical overviews	Artificial intelligence (AI)

Note: Topics representing less than 1% of the Total Dataset for each individual journal.

Literature Search of *PsycINFO*

It would be informative to conduct an online *Keyword* search in *PsycINFO*, using a Boolean strategy where the terms *trauma* and specific topic noted in Table 1 form the search strategy. This would provide a gauge on the extent of research articles on specific topics related to trauma that are indexed in the general psychological literature. Table 2 displays the reference output for several of the 'under-studied' topics that appear in Table 1. These results clearly indicate that these topics are rather salient issues related to the domain of trauma and are frequently the focus of research attention. Then why are

these integral topics in the study of trauma under-represented across the 3 trauma journals in this analysis? Admittedly, many of these topics may not be the *main* focus of study but may be critical secondary or mediator variables in the research strategy or design intended by investigators. Also, some of these topics may not attract editorial board attention as critical subject matter for the need for a 'Special issue'.

Table 2. Keyword Search in *PsycINFO*

Search term	# of studies
Acute stress disorder + trauma	208
Motor vehicle accident + trauma	53
Quality of life + trauma	424
Defense mechanisms + trauma	183
Bullying/cyber bullying + trauma	166
Religion/spirituality + trauma	478
Divorce + trauma	52
Incarceration + trauma	305
Poverty + trauma	136
Homelessness + trauma	132
Virtual reality + trauma	55
Chronic pain + trauma	39

Conclusion:

A major outcome of the current study is the identification of copious subject areas largely neglected or under-studied across 3 prominent journals with a research focus on the psychological aspects of trauma. Whether this finding is attributed to investigatory disinterest or editorial board preferences is a matter of conjecture (Aguinis et al., 2021). Moreover, variability of subject area coverage may be a function of intended scope of scholarship outlined by individual journals. Despite these parameters, the current investigation seems to verify that research in the field of trauma studies is emergent in nature, yet recognition of under-represented areas of study is crucial to paving the way for future directions for scholarly exploration. Hence, expanding the breadth of research interests would affirm a more holistic overview of the emerging field of trauma psychology. Based on these findings, researchers are urged to adopt a multi-database search strategy when conducting the initial literature search (see Angier & Epstein, 1980; Joliboius et al., 2000; Perdue & Piotrowski, 1991; Piotrowski & Perdue, 2003), rather than limiting their search to select journals in the trauma field. Overall, the current findings should a) illuminate under-studied areas in the scholarly study of trauma, b) support the use of multi-database searches during the literature review process, and c) provide a descriptive framework for the study of investigatory trends on the subject matter of trauma psychology. Finally, potential differences in international publication trends with regard to scholarship on trauma would be a worthy area of study (Bedard et al., 2004).

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SIS J. Proj. Psy. & Ment. Health (2025) 32: 2, 72-82

A Rorschach Trauma Content Index and PCL-R Understanding of Female and Male Psychopaths

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Trauma histories are ubiquitous within offender populations. Prevalence rates for trauma related diagnoses range from 12-54% for females and 4-21% for males (Adams et al., 2017). Much of the psychopathy/trauma literature from the past 20 years addresses methodological issues that obfuscate their findings (Cunliffe et al., 2021b). In this study, the relationship between trauma and psychopathy is explored by comparing the Rorschach Trauma Content Index between female psychopaths (n = 115) and male psychopaths (n = 44). Rather than being linear this relationship appears to be comorbid. Trauma-related disorders do not negate the presence of psychopathy. Offenders, both psychopathic and non-psychopathic, can exhibit histories of trauma. Total TCI scores do not differentiate among these offenders related to their histories of trauma. Our findings are used to explore what the TCI may be measuring in this offender population.

Introduction:

Trauma and psychopathy are essential issues in the assessment and treatment of offenders (Gacono, 2016; Gacono & Meloy, 1994; Hare, 2003). Psychopathy has been described as a disorder characterized by profound emotional deficits, a lack of guilt and empathy, and antisocial behaviors (Hare, 2003). It provides a measure of discriminate ability for predicting outcomes, treatment response, and risk. Based on prior estimates, 10% of incarcerated women and 15-25% of men meet the threshold for psychopathy (PCL-R $\geq$ 30; Hare, 2003), while the relationship between reported trauma symptomology and gender is the inverse (incarcerated women, 12%-54%; men, 4-21%; Adams et al., 2017; Briere et al., 2016).

Hare's PCL-R (Psychopathy Checklist-Revised [PCL-R], 2003) is the gold standard for differentiating adult psychopathy groups (Gacono, 2016). PCL-R and/or Rorschach findings have highlighted the differences between male and female psychopaths (Cunliffe et al., 2016; Gacono & Meloy, 1994; Smith et al., 2021), suggesting that the male psychopath is an amalgam of a self-centered, grandiose, and narcissistic personality along with an antisocial/criminal lifestyle (Gacono, 2016; Gacono & Meloy, 1994), whereas the female psychopath demonstrates less arrogance and self-aggrandizement, more interest in others, and in some situations is less violent (Cunliffe et al., 2016; Smith et al., 2021). Female psychopaths can best be understood as having a malignant form of hysteria (Gacono & Meloy, 1994).

The women's affective and interpersonal style informs a type of pseudo-emotionality and pseudo-dependency which distinguish them from males (Kreis & Cooke, 2011; Smith et al., 2018, 2021). Both male and female psychopaths are organized at a borderline or psychotic level and share a similar cognitive style (Gacono & Meloy, 1994; Smith et al., 2021). Malignant narcissism masks the males underlying paranoid personality (Gacono & Meloy, 1994), while a malignant form of hysteria defends against the paranoid structure in the women (Cunliffe & Gacono, 2005; Gacono & Meloy, 1994; Smith et al., 2018, 2021). These empirical differences have informed suggested revisions for the PCL-R for women (see Cunliffe et al., 2021a), and suggest that gender would inform differential responses to trauma.

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Key Words: psychopathy; gender; Rorschach; trauma; TCI

Psychopathy & Trauma

Studies over the past 20 years have exhibited similar methodological errors, such as using an inappropriate measure for determining psychopathy. Correlations with PCL-R Factor 2 (antisocial lifestyle), rather than Factor 1, result in self-report measures such as the Personality Assessment Inventory (PAI; Edens et al., 2000) or the Psychopathic Personality Inventory (PPI; Lilienfeld, 1991; PPI-R; Lilienfeld & Widows, 2005) being of little use in forming psychopathy groups. Regarding the assessment of trauma, a reliance on inmate self-report without the support of third-party sources disallows certainty regarding the accuracy of these data (Craparo et al., 2013). These methodological flaws have contributed to counterintuitive and conflicting findings that lead to erroneous and nonsensical conclusions, such as complex trauma or PTSD mimics psychopathy (Herman, 1992), or trauma leads to psychopathic traits (Boduszek et al., 2019; Odgers et al., 2005).

Several studies have pointed to an association between trauma histories and the antisocial lifestyle component (Factor 2) of the PCL-R. Reported histories of childhood abuse in male offenders, were moderately related to the impulsive and irresponsible lifestyle facet, but not total PCL-R scores (Poythress et al., 2006). A history of suicide, physical, and/or sexual abuse in women offenders were found to be moderately correlated with PCL-R Factor 2 but negatively related to Factor 1 (Verona et al., 2005). Child abuse and neglect were found to be unrelated to PCL-R Factor 1 scores in male rapists (Graham et al., 2012). In a well-designed PCL: YV study (Psychopathy Checklist: Youth Version; Forth et al., 2003), with incarcerated German youth (N = 341; 170 male & 171 female adolescents), high levels of trauma correlated with Factor 2 (antisocial lifestyle) on the PCL: YV, but not with Factor 1 scores (affective & interpersonal facets; Sevecke et al., 2016). Cook et al. (2010) also found that correlations between PCL: YV Factor 2 and total scores predicted psychiatric hospitalization and adjustment difficulties, while Factor 1 scores did not.

In their study of 180 incarcerated women, Smith et al. (2020) found high rates of trauma-related disorders for both psychopathic (52.4%) and non-psychopathic (53.8%) offenders. It should be noted that the distribution of trauma disorders occurred equally between the psychopaths and non-psychopaths and high rates of psychopathy were noted in those without a trauma history. Around 50% of each group did not have trauma histories, suggesting a co-morbid rather than a causal relationship between trauma history and psychopathy (i.e., trauma causes psychopathy).

While trauma of all types can impact an individual's personality development, the idea that trauma causes psychopathy or is etiologically linked to psychopathy has not been demonstrated. This idea is a red herring fallacy diverting attention away from the erroneous argument some investigators (i.e., Motz, 2020) are trying to suggest, namely that the psychopathy construct cannot be applied to women (Cunliffe et al., 2021b).

Rorschach Measures of Trauma

Comprehensive System (CS) Rorschach variables have been used extensively for studying trauma (Acklin, 2013; Armstrong, 2002; Armstrong & Loewenstein, 1990; Brand et al., 2006; Gacono & Meloy, 1994; Kaser-Boyd & Evans, 2008; Piotrowski, 2017; Smith et al., 2020, 2021; Viglione et al., 2012). While many indices provide support for the presence and nature of stress, vulnerability, a self-experience of being damaged, and indices of primitive content (Gacono & Smith, 2022a; Perry & Viglione, 1991; Resnick, 1994), the Trauma Content Index (TCI; Armstrong & Loewenstein, 1990) has been used specifically for this purpose.

The TCI is calculated by summing Rorschach responses that contain: 1) Blood (Bl), 2) Anatomy (An), 3) Sex (Sx), 4) Morbid (MOR; i.e., something is torn, broken, damaged) and 5) Aggressive Movement (AG) divided by the total number of Rorschach responses ([Bl + An + Sx + MOR + AG]/R;

CS, Exner, 2003; CS-R, Exner et al., 2022). A mean of 0.25 has shown specificity and sensitivity for trauma, while mean scores greater than 0.30 have been suggested to indicate traumatic intrusions and have been proven to differentiate traumatized and non-traumatized patients (Armstrong, 2002; Smith et al., 2020). A TCI score of ≥ 0.35 has shown to indicate dissociative symptoms (Brand et al., 2006). The fact that some combination of the TCI indices has been included in the Conceptual Ego Strength Index (primitive contents; CESI, Resnick, 1994; the Critical Contents score [R-PAS Crit Cont %; Meyer et al., 2011]), the Ego Impairment Index (derepressed content; Perry & Viglione, 1991), and the Gacono Aggressivity Cluster (GAC, drive laden content, DLC; Gacono & Smith, 2022a), speak to the importance of what these scores measure as related to several dynamic issues.

Most research has supported the utility of the TCI (Armstrong & Loewenstein, 1990; Kaser-Boyd, 2021; Smith et al., 2020; Viglione et al., 2012; Zukerman et al., 2017). The TCI was correlated with personal traumatic history and intrusive traumatic imagery (Armstrong & Loewenstein, 1990; Zukerman et al., 2017). In a female offender population, the TCI was correlated with the total number of reported traumatic events and sexual abuse events but not total reported physical abuse events (Smith et al., 2020). High scores on the TCI have been related to sexual abuse, dissociation, physiological responses, higher levels of arousal, and those diagnosed with PTSD produce high scores (Armstrong & Loewenstein, 1990; Brand et al., 2006; Zukerman et al., 2017).

Interestingly, the TCI was significantly correlated with the PAI Borderline features scales (Smith et al., 2020). Both PTSD and Borderline Personality Disorder (BPD) were prominent within incarcerated women (Acklin, 2013; Smith et al., 2018, 2020). The TCI and Rorschach Oral Dependency (ROD) have also been found to be significantly correlated suggesting that traumatic intrusions may relate to higher levels of "dependency" (Smith et al., 2020). The association of the TCI with borderline features becomes particularly relevant, when considering the similarities of the TCI to components of the EII, CESI, and GAC and what it may be measuring.

TCI scores have been higher in debt collectors than those that have committed homicides or had low levels of violence (Nørbech et al., 2016). Female sexual offenders also tend to have had high TCI scores (M = 0.23; Smith et al., 2019). The relationship between AgPast (Gacono & Meloy, 1994) and the TCI (MOR) suggests the sense of damage relates to victimization or traumatic events (Kamphuis et al., 2008; Smith et al., 2020). For some antisocial offenders it provides a marker for their feelings of entitlement to harm others (Gacono & Meloy, 1994).

In this study, we examined the TCI in incarcerated female (n = 115; PCL-R ≥ 30) and male (n = 44; PCL-R ≥ 30) psychopaths. Our previous findings suggest that female psychopaths would produce a higher TCI score than male psychopaths due to their higher rates of somatic concerns (An) and damaged sense of self (MOR). We also explore how the unique styles of the male and female psychopath create different developmental pathways for responding to trauma. The hysterical style of the women, that includes somatic concerns (An + Xy; Kwawer [1980] Malignant Internal Processes) would lend itself to incorporating the impact of trauma (and a pseudo-dependency; Sum T, ROD) while the males' independent narcissistic style would function to deny, minimize, and defend against it (EGOI; Fr + rF; vulnerability).

Method:

Participants

The authors collected archival prisoner data at various USA prisons (N = 442; 105 males, 337 females). Participants provided informed consent, and the IRB and correctional institutions approved the research. The PCL-R (≥ 30) identified 120 females and 50 males. Two females (2%) were excluded as

they had an IQ score < 80 (Shipley-2) and three had < 14 Rorschach responses (3%). The male group exclusions included two (4%) with IQs < 80 (SILS) and four (8%) with < 14 Rorschach responses.

After the IQ and total Rorschach responses exclusions there were 159 participants left to examine in the study (female psychopaths, n = 115; male psychopaths, n = 44). Inmate security status ranged from minimum to maximum. Males were 68% Caucasian, 18% African American, 11% Hispanic, and 2% Native American, with a mean age of 31.32 (*SD* = 6.48, range = 18-43). Females were 58% Caucasian, 32% African American, 8% Hispanic, 2% Asian, and 2% Native American with a mean age of 35.98 (*SD* = 9.85, range = 20-70). Males' offenses included 16% violent crimes, 18% drug offenses, 16% sexual offenses, and 50% other. Females' offenses were 46% drug-related, 16% fraud, 20% theft, 27% violent crimes, 12% sexual offenses, and 32% other. Reliable and verifiable data related to traumatic events for the males were not available. For the females, 59 (51%) did not have a reported/verified traumatic history and 56 (49%) did have reported and verified traumatic history.

Measures

The Shipley Institute of Living Scale (SILS; Shipley & Zachary, 1986) or the Shipley-2 (Shipley et al., 2009), Psychopathy Checklist-Revised (PCL-R; Hare, 2003) and Comprehensive System Rorschach (CS; Exner, 2003; CS-R; Exner et al., 2022) were administered in accordance with test manual procedures. All measures were completed by doctoral-level Psychologists (Ph.D. or Psy.D.) with extensive training in the scoring, administration, and interpretation of these measures.

The SILS/Shipley-2 were used to provide an estimate of intelligence. It is essential to utilize a cognitive measure in Rorschach studies as low IQ is one of several confounds that can contribute to a constricted Rorschach protocol (Gacono, 2019; Gacono & Gacono, 2008; Gacono & Smith, 2022b; Smith et al., 2018, 2020).

The Psychopathy Checklist-Revised (Hare, 2003) was used to determine the presence or absence of psychopathy. This measure contains 20 items and is administered via a file review prior to the semi-structured interview (CFIS; Gacono, 2005). During the interview, personality characteristics and antisocial behaviors are evaluated on a three-point ordinal scale with a total score range of 0 to 40. While optimal PCL-R cutoff scores may vary in clinical usage, a PCL-R total score $\geq$ 30 is recommended as a cut score when categorically comparing psychopaths and non-psychopaths (Gacono, 2016). This cut off ensures the presence of psychopaths in the study. Lowering the PCL-R total score for psychopathic women is not warranted for various reasons including its impact on the generalizability of findings (Cunliffe & Gacono, 2005; Smith et al., 2021).

The file review that was used for the PCL-R was also completed for the trauma history. Collateral records were reviewed to determine the presence of any trauma history. Self-report and the Stressful Life Events Screening Questionnaire (SLESQ; Goodman, Corcoran, Turner, Yuan, & Green, 1998) were used to identify women's trauma. To verify the trauma, there had to be collateral data to support if not it was classified as unverified.

All the Rorschach protocols were administered and scored per the Exner Comprehensive System Guidelines thereby ensuring the comparison of findings with other CS studies as well as the over 2500 patient and nonpatient CS data (Exner, 1991), and over 2000 other CS forensic protocols available (Gacono et al., 2008). Twenty protocols were scored blindly by two raters who have been trained extensively in the Rorschach and inter-rater reliability was calculated from these protocols.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 27 was used for all calculations and descriptive statistics. The data were analyzed for means, standard deviations, and ranges.

Results:

The mean PCL-R score for women was 33.11 (*SD* = 2.27, range = 30-39), and very similar to the men (*M* = 33.14; *SD* = 2.32, range = 30-38). IQs for both groups (women *M* = 96.54, *SD* = 15.18, range = 80-155) and men (*M* = 101.30, *SD* = 9.58, range = 81-137) fell within average range. The women produced a valid number of Rorschach Responses (R; *M* = 21.88; *SD* = 8.83, range = 14-55) with a mean Lambda of 0.74 (*SD* = 0.69, range = 0.00-6.00). The women's total R were slightly higher than the men's R (*M* = 20.52, *SD* = 7.62, range = 14-52) while Lambda were slightly lower (Men *M* = 0.92, *SD* = 0.62, range = 0.13-2.50). Both R and Lambda differences represent a gender-based trend consistent with the psychopathic women producing significantly more CS determinants, indicative of their pseudo-affectivity and struggles with emotion (Gacono, 2019; Gacono & Smith, 2021; Smith et al., 2021).

Table 1. Rorschach Responses and Lambda between Psychopaths

	Males (n = 44)			**Females (n = 115)**				
Variable	***M***	***SD***	***Freq***	***M***	***SD***	***Freq***	***Statistic***	***es***
R	20.52	7.62	44	21.88	8.83	115	--	--
Lambda	0.92	0.62	44	0.74	0.69	115	1.53	0.27
TCI	0.22	0.20	44	0.30	0.20	115	2.03*	0.42
Blood (Bl)	0.28	0.58	7 (16%)	0.53	0.86	41 (36%)		
An	1.13	1.13	20 (45%)	1.83	1.75	90 (78%)		
Sx	0.56	0.67	15 (34%)	0.74	0.84	61 (53%)		
MOR	1.70	1.73	28 (64%)	3.00	2.84	96 (83%)		
AG	0.50	0.78	15 (34%)	0.50	0.77	43 (37%)		
AgPast	1.07	1.41	26 (59%)	2.25	2.48	86 (76%)		
Ag V	-	-	-	0.14	0.40	14 (12%)		

Note: M = mean; SD = standard deviation; Freq = the number of individuals who produced at least one of the variables; statistic = t-test; R = responses; TCI = trauma content index; * = $p < .05$.

For the TCI, the females produced significantly higher TCI scores than the males (women = *M* = 0.30, *SD* = 0.20; men = *M* = 0.22, *SD* = 0.20; *t-test* = 2.03, *p* = 0.022, *es* = 0.42). For replication and comparative reasons, the individual means, standard deviations, and frequencies were presented for AgPast and each of the TCI variables. No statistical tests were completed on the individual scores.

A supplemental TCI analysis the psychopathic women with and without a verified trauma history revealed virtually identical TCI scores (trauma [n = 59]; TCI = *M* = 0.30, *SD* = 0.20; no trauma [n = 56]; TCI = *M* = 0.31, *SD* = 0.22). Within the no trauma history group, 35 (60%) had a TCI ≥ 0.25.

An additional comparison of non-psychopathic women (n = 54; TCI = *M* = 0.25, *SD* = 0.15) found a nonsignificant difference compared to the psychopathic females (n = 115; TCI = *M* = 0.30, *SD* = 0.20). Those non-psychopathic women with trauma histories (n = 24; *M* = 0.23, *SD* = 0.16) were not significantly different than those without trauma histories (n = 30, *M* = 0.26, *SD* = 0.15). Within the no trauma history group, 13 (43%) had a TCI ≥ 0.25.

Discussion:

Although there are characteristics male and female psychopaths have in common (borderline or psychotic level of personality organization, similar cognitive style; Cunliffe et al., 2021b; Gacono, 2021; Smith et al., 2021), female psychopaths may be distinguished from their male counterparts by their negative self-image, dysphoric emotions, and heightened needs for approval and attention (as demonstrated by history, presentation, and Rorschach variables such as Lambda, Sum C', Sum Y, Sum

T, Sum V, Sum C, INT, MOR, ROD). The aggressive, violent (in many cases physically imposing), narcissistic, grandiose, shallow, and detached presentation of male psychopath contrasts with the frequently affectively laden presentation of the female psychopath (Cunliffe et al., 2021b; Gacono, 2016; Gacono & Meloy, 1994; Hare, 2003). The male's grandiosity and shallowness affect circumvents any threats to their self-worth including experiences that would evoke feelings of vulnerability (such as trauma). Consequently, these indices are less prevalent on the Rorschach for non-sexually offending psychopaths.

The pseudo-dependency of female psychopaths is interpersonally evident through the way they incorporate the examiner as an aid for managing painful emotions and regulating self-esteem (Gacono & Smith, 2021). Unlike the males whose grandiosity and detachment ward off emotional disruptions to what is already shallow affectivity, the female uses others to stabilize an abundance of mostly dysphoric, poorly managed, and poorly tolerated affect (Smith et al., 2021). These women are also found to be sensitive to criticism or withdrawal of attention, needing others to mirror back to them that they are good (see Gacono & Smith, 2021; Smith et al. 2021 for gender related transference and counter transference issues).

Offender gender differences also present for patterns of aggression and violence (Smith et al., 2021). Women serving a sentence for a violent offense have been found to be twice as likely than men to have committed their offense against an acquaintance. Rorschach patterns support the heightened interpersonal dependency, poor understanding of others, and limited capacity for introspection which increase the female psychopath's risk of offending against her family, friends, and acquaintances. Although male violence is frequently driven by narcissism, detachment, and a need to dominate (Gacono & Meloy, 1994), much of female violence appears to be closely related to a lack of emotional control (affective violence; Cunliffe et al., 2021b; Smith et al., 2021) and concerns about disapproval and loss of group membership. These differences were reflected in the higher scores for women versus men on the TCI.

The TCI focuses on five variables: Bl, An, Sx, MOR, and AG. The first four were elevated for the female psychopaths (see Table 1). Somatic concerns (An) and a damaged sense of self (MOR, AgPast) are consistent with the hysterical style and borderline functioning of the women such that their low self-worth and somatic preoccupations create self-focus centered on dysphoria and self-critical attitudes (they tend to produce elevations for pair responses rather than reflections) and separate them from the men. When the female psychopath gazes into the mirror, she sees a devalued and damaged self (MOR; AgPast; somatic concerns; An), rather than an idealized one. She "needs" others to mirror back an ideal image that she cannot. As noted by Berg et al. (1994; in Gacono & Meloy, 1994):

> … object relations will be pre-oedipal in both groups [BPD women & ASPD women] … Both groups will be characterologically rigid, self-absorbed, and likely to express a narcissistic sense of entitlement: the borderline female's wish to be taken care of, the antisocial female's wish to take (Berg et al., 1994, pp. 18-19; in Gacono & Meloy, 1994, p. 108).

Hysterical mechanisms provide cover for a conflicted, inconsistent, broken caricature of feminine identity. Her tendency to accept a victim role (MOR correlates with AgPast; M = 2.25; victim of aggression; Smith et al., 2020) becomes a fallback position for her failure to accept responsibility for her behavior (victim stance; "If I had better parents then things would have been better"; PCL-R item 16).

For psychopathic women the prevalence of splitting and other immature defense mechanisms (Splitting; 78%; Projection, 85%; Boundary Disturbance; 83%; Pollyannish Denial; 61%; Hypomanic denial; 65%; Smith et al., 2021) would be consistent with borderline personality organization, dissociation, and traumatic intrusions suggested by the elevated TCI scores (TCI ≥ 0.30). The defenses are not effective, but rather, represent desperate strategies for coping with affect. Traumatic intrusions

are linked to primitive paranoia found in female psychopaths (Smith et al., 2021). Dissociation is a common defense used in individuals with traumatic histories, and suggestive of the vulnerabilities inherent to borderline personality organization and borderline personality traits measured by the PAI (TCI; Smith et al., 2021; impaired abilities to manage and tolerate strong emotion (Acklin, 2013). Further, it has been suggested that "dissociation is an ideational defense employed to ward off overwhelming, intrusive, traumatic material" (Brand et al., 2006, p. 163). These women displayed dissociation but do not appear to be flooded (TCI ≥ 0.50) with traumatic content due to their fleeting and shallow emotional displays (Brand et al., 2006).

For psychopathic women, dissociation occurs in response to all types of stressors (Smith et al., 2021). The use of dissociation is supported by the higher rates of Impressionistic Reponses (IMP, Gacono & Meloy, 1994; Mp, Hx, AB [FQnone]) responses, Smith et al., 2021). The paranoia experienced within the borderline-hysterical personality (trauma in these individuals as well; Acklin, 2013; Gacono & Smith, 2021; Smith et al., 2021) is, in part, due to a felt awareness of their severe vulnerabilities (instability in several domains). The TCI seems to relate to difficulties managing strong emotion, an avoidance of unwanted internal experiences, and external experiences that could trigger a memory (Smith et al., 2020), traumatic symptoms (Smith et al., 2021), and a fragile sense of self.

The TCI score may also suggest how these women process their trauma and internalize (non-patients) or act out (antisocial women) their emotions (also Fi + Ex scores; M = 0.50). For the female psychopaths it adds to the mix of emotions increasing frustration levels and making their inner world even more difficult to contain, avoid, and distance from. These difficulties managing affect contribute to their acting out/behavioral impulsivity.

In addition, 12% of the female psychopaths produced at least one Aggressive Vulnerability (AgV[1]; Gacono & Meloy, 1994). AgV is coded when the person identifies a percept as vulnerable to attack, exploitation, or indicates that the object has taken steps to protect itself from predation (Gacono & Smith, 2022a). AgV implicates a sensitivity or preoccupation with vulnerability or being exploited, injured, or victimized and suggests an expenditure of psychic energy in protecting oneself (Gacono & Smith, 2022a). Joubert and Webster (2017) found AgV to be associated with sexual abuse, neglect, and physical abuse as well as with caregiver-rated conduct problems in a sample of foster care children. The AgV response does appear to indicate a sense of vulnerability and deviance/aggression based on a need for self-protection, an expected finding in female offenders.

At least 50% of female psychopaths did not have any reported histories of trauma. This supports a co-morbid relationship between psychopathy and trauma. From a treatment perspective, to assume that a trauma history negates the presence of an ingrained personality syndrome such as psychopathy (much like replacing a bonafide BPD diagnosis with a PTSD label; see Acklin, 2013), would be contrary to the data and lead to misguided interventions and, at times, disastrous results. As noted by Mason and Kreger, "... it is no more ethical to keep silent about a mental health diagnosis than a physical one." (2020; p. 196). Correlations with the PCL-R Factor 2 scores rather than Factor 1 speak to this distinction.

What does the TCI measure in Antisocial/Incarcerated Populations?

For our sample, the TCI mean score for men (M = 0.25) would suggest the presence of trauma despite its absence in their reported histories. Sixty percent of female psychopaths and 43% of non-psychopathic women would be misclassified as having a trauma history based on a TCI score ≥ 0.25. It is not suggested to use the TCI score to determine the presence of trauma and in fact elevated TCI is like Dramatic Contents (Ganellen, 1994) that it is sometimes used to assess malingering on the Rorschach. As noted by Mason and Kreger, "It's a myth that BPD is a result of some form of childhood abuse. Yes,

[1] Unfortunately, no AgV scores for available for the male psychopaths, though there was at least one (2%).

many people with BPD have been the victim of abuse, abandonment, neglect, or other mistreatment ... But we don't really know how many fit that pattern, because of flaws in the research" (2020, p. 238). The exact statement describes the relationship between trauma and psychopathy.

The frequency of AG in these forensic populations may underestimate the trait or process it purports to measure, when compared to non-patients (Gacono, 1988; Heaven, 1989). Gacono (1988) observed that antisocial personality disordered (ASPD) and psychopathic males, despite real world histories of violence, produced few AG movement responses (Exner, 2003) compared to Exner's (1991) presumably non-violent non-patients (Heaven, 1989). Perhaps, including one or more of the other Extended Aggressive scores might prove more fruitful (Gacono & Meloy, 1994; Gacono et al., 2008), or adding a half or full point for those MORs that are also AgPast. It should be noted that the total female psychopaths' group score was higher ($M = 0.30$) than not only our male psychopaths but also more than a group of nonviolent pedophiliac males with trauma histories (Gacono et al., 2008; $N = 39$; $M = 0.14$) and a group of sexual homicide male perpetrators which also had a history of trauma (Gacono et al., 2008; $N = 38$; $M = 0.21$).

Perhaps, TCI scores in higher functioning, neurotically oriented, non-patients relate to internal processes of trauma or ego-dystonic aggression (AG), resting on higher level defenses such as repression. While in the psychopathic women, it relates to self-critical attitudes and a tendency to accept a victim role and leads to an inability to regulate their own esteem relating to identity problems (PAI borderline traits).

So, does the TCI really measure "trauma"? The answer rests within an understanding of how the Rorschach works. The Rorschach does not measure diagnoses or a given behavioral historical marker, no more than a reflection response equals psychopathy (Fr + rF relates to self-focus-how one regulates one's self-worth). The Rorschach measures traits.

From this perspective the fact that there was no significant difference on the TCI for those with or without a history of trauma (regardless of psychopathy level) seems to negate its value for predicting a trauma in this population as well as the possibilities of creating false positives. The TCI seems to be assessing a type of personality vulnerability or weakness (note correlations with PAI borderline scales in our population; Smith et al., 2020).

With this as a premise, it is important to note the similarities of the TCI and the derepressed content items of the Ego Impairment Index, the primitive contents of the Conceptual Ego Strength Index (CESI; Resnick, 1994; now known in R-PAS as CritCont%, Meyer et al., 2011) and the drive laden material (DLC) in the Gacono Aggressivity Cluster (Gacono & Smith, 2022a). The authors of the EII (Perry & Viglione, 1991) and CESI (Resnick, 1994) suggest that the presence of those variables suggest a measure of ego lapse or failure to censor problematic imagery and/or the presence of dissociation. The drive laden content (DLC) of the GAC also suggests a vulnerability to acting on primitive aggressive/dysphoric impulses. The abundance of primitive content contributes to a weakness for acting out when stressed, while providing the fuel for the fire. Further research comparing primitive content between these four indices (TCI, EII, GAC, CESI/CritCont%) could lead to further clarity regarding what they measure (also see Holt, 1978; primary and secondary content).

Conclusions:

Psychopathic men and women differ. The male's grandiosity functions effectively in warding off external and internal threats to self-image, while women's malignant hysteria does not. TCI differences support this pattern, whereby the women display more typical responses to the measurement of Rorschach trauma.

Trauma-based research purporting to study psychopathy must use an appropriate measure such as the PCL-R for creating psychopathy groups. Equally important, trauma histories, whenever possible, should be supported by third party information. As noted by one psychopathic male who had reported being raped and molested at age six, but later said that he had lied, "when you're going to be an actor, you need to set the stage right" (Meloy & Gacono, 1993, p. 359). It is not recommended using the TCI as a measure of "trauma" in this population. Considering it a direct predictor of trauma, rather than a measure of personality vulnerability, involves circular reasoning, hasty generalization, and confirmation bias. What it appears to identify here is a type of personality deficit frequently found in borderline personality functioning. As trauma is ubiquitous in borderline functioning (Acklin, 2013) the mistaken transposition from trait (personality vulnerability) to behavior (trauma) is easily understood.

Though it is not meant to make diagnoses, the Rorschach can provide information about personality characteristics, including the individual's response to trauma, above what is offered by self-report measures. The current findings have both clinical and research implications, given that a recent analysis in the journal Traumatology found that 'personality' issues are an under-studied area of scholarly investigation (Piotrowski, 2024). Finally, future trauma-related research with the Rorschach would benefit by investigating the relationship between the TCI, and other measures of primitive content, measures of PTSD, and perhaps, adjusting the Aggression score (AG) for the TCI when evaluating forensic offender populations (also see Piotrowski, 2020).

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SIS J. Proj. Psy. & Ment. Health (2025) 32: 2, 83-90

Schafer's (1954) "Constants in the Patient's Psychological Position" in Rorschach Testing: Implied Consent & Case Illustration

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Securing a patient's informed consent (American Psychological Association Practice Directorate, 2024) to a psychological evaluation includes, under most conditions, clarifying the client's understanding of the reason for the referral and goals of the evaluation; record keeping and storage; fees and payment; confidentiality, HIPAA, and legal parameters; contact policy; report recipients; feedback procedure; voluntary participation; and freedom to withdraw from the evaluation without penalty. Informed consent is a legal term and differs from implied consent (Nosak et al., 2011), which includes psychological processes outside of conscious awareness or control. Roy Schafer's (1954) description of "constants in the patient's psychological position" appears consistent with the notion of implied consent as applied to a psychodynamic understanding of Rorschach test administration. Schafer's constants are represented by: (a) self-exposure in the absence of trust, (b) loss of control in the interpersonal relationship, (c) the danger of self-confrontation, (d) regressive temptations, and (e) the danger of freedom. In this study, I apply these constants in an integrative way, following test administration stages used by the Rorschach Performance Assessment System (R-PAS; Meyer et al., 2011) and the Comprehensive System-revised (CS-R; Exner et al., 2022).

Psychological assessment requires the psychologist to strive to obtain client consent "where appropriate" (American Psychological Association; APA, 2020) prior to participating in an evaluation. The *Ethical Principles and Code of Conduct* (American Psychological Association, 2002), APA *Guidelines for Psychological Assessment and Evaluation* (2020), and *Informed Consent Guidance and Templates for Psychologists* (APA, 2024) provide assessors with informed consent guidelines for psychological assessment. Guidelines include clarification and ensuring the client's understanding of the reason for the evaluation, goals of the evaluation, record keeping and storage, fees and payment, confidentiality and legal parameters, contact policy, HIPAA information, who receives the report, and the client's voluntary participation and freedom to withdraw from an evaluation without penalty.

What the client consents to either verbally or on a standard consent form does not, however, encompass implied consent. Informed consent is a legal term and differs from implied consent, which includes the engagement of psychological processes outside of the client's conscious awareness or control as part of a procedure (Nosek et al., 2011). Clinical implications of implied consent are prominent in personality assessment, where test responses are integrated through algorithms of true-false, ordinal, and coded variables, qualitative interpretation of response content, and clinical observations of the client's test-taking behavior and relationship with the assessor. In projective personality testing, which Piotrowski's (2015) survey identified as having strong worldwide utility amongst practitioners, the concept of implied consent has particular saliency. This is especially the case with the Rorschach test, which, along with the Thematic Apperception Test (TAT; Murray, 1943) are the most frequently taught measures in clinical psychology doctoral programs (Mihura et. al., 2017) accredited by the American Psychological Association. Villanueva van den Hurk and colleagues (2023) reported on the increased popularity of the Rorschach-Performance Assessment System (R-PAS; Meyer et al., 2011) which, with the Comprehensive System (CS; Exner 2003), remain the two most popular Rorschach systems taught in doctoral clinical psychology programs accredited by the American Psychological Association. The Comprehensive System-Revised (CS-R; Exner et al., 2022) upgrades the original CS with respect to

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Key words: Schafer, Informed consent, HIPPA, Rorschach

administrative and interpretive strategies. Both tests, however, are foundational to understanding how the concept of implied consent imposes psychological risks to the client that are not obvious until testing is underway, a point which I elaborate as follows.

Considered within the category of performance-based personality assessment measures (Meyer & Kurtz, 2006), the Rorschach has administration procedures that impose unique psychological demands on the client. In Rorschach testing, the client is required to scan and respond to inkblots, identify percepts, and decide what to say and how to say it. In other words, there is a silent process of sifting, associating, sorting, and settling on a percept that becomes the verbalized response. For example, a client might have a series of private reactions when scanning Card I that include the popular "bat" response such as "It could be a bat, a strange looking bat, a morbidly dark bat, the Batman symbol, and a bat with wings that need to be clipped." How the client responds, however, will differ, depending on character style.

Roy Schafer, in his classic book, *Psychoanalytic Interpretation in Rorschach Testing* (1954), identified a series of constants in the client's psychological position when taking the Rorschach test that have implications for implied consent. Schafer address this point directly: "In what follows, attention will be centered on the irrational, primitive, usually implicit attitudes and conceptions in the patient being tested" (p. 33). Constants in the patient's psychological position were described as: (a) self-exposure in the absence of trust, (b) loss of control in the interpersonal relationship, (c) the danger of self-confrontation, (d) regressive temptations, and (e) the danger of freedom, each of which poses an implied risk that could lead to unpleasant experiences associated with the Rorschach task. Schafer described how the client "takes on faith its helpfulness and the tester's helpful intent" (p. 33) but then qualified this more benign disposition by stating that even "ostensibly positive and cooperative conscious attitudes toward the testing —as well as adequate test behavior itself— may be disrupted" (p. 33). Schafer (1956) elaborates these points when discussing transference reactions to the tester in Rorschach testing.

Although Schafer (1954) presented the five constants as discrete categories for descriptive purposes, his intent was to highlight their integration across the administration of the Rorschach test, a point which I explain as follows. Rorschach test administration procedures are thought of as distinctive phases in the assessment process and less so as dynamically tinged experiences organized around unconscious psychological processes, as Schafer suggests, that help define the client's experience of a Rorschach administration. There are aspects of Rorschach administration, including implications of pre-response scanning of the inkblots (Dauphin et al., 2024), modification in number of cards utilized (Kleiger, 1997), audio-taping versus writing responses (Meyeret al., 2011), seating (Exner et al., 2022; Meyeret al., 2011)and psychoanalytic implications of re-administration procedures (Yalof & Rosenstein, 2014) that have been addressed in the Rorschach literature; however, no literature applies Schafer's psychodynamic model across all aspects of administration. In what follows, I summarize each of Schafer's five constants and then discuss each in relation to four aspects of the Rorschach test procedure: (a) seating arrangements, (b) introducing the Rorschach, (c) response and inquiry, and (d) record length and re-administration procedures as outlined in *Rorschach Performance Assessment System* (R-PAS; Meyer et al., 2011) and *The Rorschach: A Comprehensive System-Revised* (CS-R; Exneret al., 2022). Bram and Yalof (2018) discussed strengths and limitations of the R-PAS and the original CS (Exner, 2003) systems.

The current paper further builds on these comparisons by integrating Schafer's psychological constants across administration procedures of R-PAS and CS-R.I use a narrative format to illustrate how Schafer's ideas can be integrated within each stage of Rorschach test administration. Since Schafer's clinical examples involved young adults and adults, I apply my ideas only to these populations. An illustration highlights the integration of each of Schafer's constants in relation to a Rorschach response, with cross-measure support for this response provided by a TAT (Murray, 1943) response.

Schafer's Constants

Self-exposure in the Absence of Trust; Violated Privacy

Schafer recognizes the client's conflict between the desire to disclose and inhibit disclosures when presented with the Rorschach stimuli. He states, "It is generally true that the testing situation is not spontaneously sought out by the patient and that the process of self-exposure is not relished" (p. 34). He describes how the patient confides "innermost matters" (p. 34) to a stranger whose trust is not earned over time, and whose professional boundaries define the relationship. With respect to boundaries in the relationship, Schafer states, "On his side, the tester reveals next to nothing of his inner self" (p. 35). On other hand, Schafer also describes how the transience of the relationship and the client's not being aware of "much of what he is communicating and exposing" (p. 35) are protective factors that reduce anxiety over what can be experienced as violation of privacy.

Loss of Control in the Interpersonal Relationship

Schafer states that the "balance of power seems very much to be on the tester's side" (p. 36). Elements of the client's submission are shaped by what Schafer described as the autocratic and oracular aspects of the Rorschach assessor's role, which engages the client's "realistic and transference modes of coping" (p. 36) in relation to authority. Further, the colors, shadings, shapes, and other inkblot features make the client confront what they might otherwise choose to avoid or approach at their own discretion. Not having the freedom to do so, however, leads to a disruption in typical ways of interacting with the environment and a reduction in control over preferred response options.

Danger of Self-Confrontation

The danger of self-confrontation can be summed up as, "You can run but you can't hide." Conflicts and their associated defenses are portable. Unconscious danger lurks when a flurry of images passes across the client's mind when handed an inkblot. At the beginning of this section, Schafer states, "It is becoming increasingly clear that testing represents and is felt by the patient as an assault on his defenses" (p.38). Fears of being confronted with disowned self-representations and "the risk of becoming prematurely aware of angry, dependent, sexual, or shameful feelings, for example, which can result in "painful external blows to self-esteem" (p. 39).

Regressive Temptations

Early in his discussion of regressive temptations, Schafer states, "Filled with feelings of futility, he is tempted to give up the struggle, regress to an overly passive and helpless position, and demand that some real or fantasized figure in the environment "nurture" and "save" him" (p.38). Schafer frames the regressive temptations imposed by the demand characteristics of the Rorschach test as a tension between two competing alternatives: passivity in the face of needing help and a fear of relinquishing autonomy. Examples of adapting to this tension might include counter-dependency, confusion about expectations, and blaming the assessor for the vagueness of test instructions.

The Danger of Freedom

Schafer describes the risks and rewards of being free to respond without rules. Depending on character styles and preferred modes of adapting, clients might react by asking questions about the test, testing process, and response process (Meyer et al., 2011, pp. 10-11). Other comments might be associated with attempts to create a social encounter (e.g., talking sports after each response), taking advantage of newly found autonomy by making dismissive remarks about the test or assessor, or by becoming overly concerned about who has the

authority to review the report and requiring the assessor to assume responsibility for managing client anxiety or suspicion during the evaluation.

Application Rorschach Procedure

Seating Position

R-PAS introduces the seating arrangement by stating, *"To do the Rorschach (or the inkblot test), we need to sit side- by-side, so that I can see the cards as you hold them"* (italics in original, p. 7). For clients who experience the requested seating arrangement as awkward, the assessor might add, *"Also I do not want to interfere as you look at the card, so I am going to sit off the side here"* (italics in original, p. 7). R-PAS assessors are encouraged to be aware of diverse cultural meanings attached to the intimacy associated with side-by-side seating and to address questions that emerge in response to cultural differences in a sensitive manner while maintaining fidelity to the seating requirement. CS-R highlights the importance of assessor neutrality supported by the side by-side position and notes that the side-by-side seating arrangement reduces the "natural feelings of being judged" if seating position is face-to-face and "induces the desire to give the best possible performance" (p. 6). CS-R recommends that all testing be administered side-by-side to reduce the unexpected and sudden shifting of seating positions during an evaluation, exceptions (e.g., forensic assessment) notwithstanding, but this type of seating arrangement is not widespread practice.

The interaction between Schafer's constants and the Rorschach seating arrangement is applicable in the following manner. Whatever degree of assessor-client alliance and trust developed prior to Rorschach administration is placed at risk by the decision to modify the usual seating arrangement from face-to-face to side-by-side. This shift in seating position is more relevant to R-PAS than CS-R, which states that side-to-side is preferred for all tests, though test manuals have different preferences for seating position depending on the types of tests administered as part of an integrated, multi-method assessment battery. Moreover, the transition request is loaded with language that can leave the client uncertain about expectations despite the assessor's well-intentioned efforts to provide a rationale for the change in seating positions. R-PAS instructions include the assessor "not wanting to interfere" with the client by sitting off to the side, whereas CS-R aims to reduce the client's sensitivity to being judged with the goal of supporting the client's "best possible performance." Questions arise about the uniqueness of the Rorschach test: What, for example, do" not wanting to interfere" and "best possible performance" imply and why would the client feel "less judged" if eye contact with the assessor was reduced or lost?

Client compliance with seating is expected at the expense of agency and control. The client has no recourse and, depending on character, might comply without feeling empowered to ask questions, or ask the assessor pointed questions (e.g., "Can you say more about why I have to sit this way?"), show discontent through anxious commentary (e.g., "This feels weird, makes me uncomfortable,"), express feelings nonverbally (e.g., obsessing about aligning the chairs to exacting side-by-side coordinates), or complain verbally (e.g., "How long is this test going to take?") in an effort to irritate the assessor as a counter to a reduction in personal agency. Both R-PAS and CS-R recommend that the assessor respond neutrally to client questions about other parts of the Rorschach test and provide examples on how to respond to client queries but offer no examples for addressing reactions to the seating arrangement. In fact, R-PAS states, "The respondent typically experiences it as a standard, insignificant procedure" (p. 7). This might indeed be the case assuming manifest rapport has been established but Schafer's psychological constants operate under the radar, influencing clients in ways that might manifest through behavioral observations of the client's test-taking behavior that speak to an underlying sense of confusion or discontent. Freedom to question authority is reduced as both seating arrangement and minimally elaborated responses to queries are under the assessor's full control. Moreover, typical verbal cues from the assessor present in other tests are diminished, forcing the client to rely less on direct visual contact and previously established rapport and more on recollections of the assessor's tone of voice, facial expressions, or even visual representations of the testing room itself based on a prior face-to-face seating orientation that likely

characterized the administration of other tests. While nonverbal face-to-face cues may be reduced significantly, it is plausible that the client's responses are affected by visual and auditory memory residuals based on prior interactions or even by illicit "sneak peeks" at the examiner during the evaluation, which provides a measure of reality-based anchoring. The danger of self-confrontation arises when the inkblots evoke more primitive feelings than anticipated without the usual options of avoidance; here, images persist even when discarded as possible responses, whereas regressive temptations take the form of balking at a shift in seating arrangements, devaluing the assessor, and feeling confused or free to indulge responses that would otherwise be inhibited in everyday exchange governed by a higher level of structure and psychological distance created by the side-by-side seating arrangement. In sum, we can see how the dangers of self-exposure, reduced agency, self-confrontation, regression, and loss of freedom emerge during what on the surface might appear to be a minor request designed to strengthen the client's ability to perform well.

Introducing the Rorschach

When introducing the Rorschach, the assessor asks if the client has taken the test before and proceeds with instructions that differ depending on the assessor's preferred Rorschach method. The R-PAS assessor informs the client that they will be handed the inkblots with the task of responding to the question, "What might this be?" Once reassured that the client understands the requirement, the assessor states, "*Good, we can get started then. Try to give two responses, or maybe three to each* card" (p. 9). The assessor pauses after stating the word "two" and places less emphasis on the word "three" (p. 9). The CS-R assessor introduces the test as follows: "We will now proceed with the Rorschach test. Have you heard about it? Were you administered this test before?" (p. 8). For clients unfamiliar with the Rorschach, the assessor states, "It's just a series of inkblots that I'll show you and I want you to tell me what they look like to you." (p. 8). The only directive upon handing the client the first inkblot is, "What might this be?" (p. 9).

Questions arise about how clients might perceive these instructions; for example, how is the client to understand the implications of "two responses or maybe three responses" with a brief pause after "two" as provided by the R-PAS assessor? The client might question whether three responses are better than two responses, the meaning of the pause, and the possibility that there could be consequences if only one or more than three responses are offered? The way in which Schafer's psychological constants might emerge are as follows. With respect to trust, can they take the assessor's word that three responses are acceptable, or, for example, hear the assessor's setting a boundary with "or may be three" as a tempering of ambition in the face of a challenge, a competitive dare to challenge the limits, an invitation to regress passively and give only one response or actively tempt fate and offer four or more responses. How much freedom and control does the client have? CS-R provides even less direction by only asking the client to state what the inkblot might be; however, as noted below in the discussion of record length, both procedures have more in store for the client with respect to managing record length that were not part of the initial directions and interface with Schafer's constants.

Response and Inquiry

The embeddedness of Schafer's psychological constants throughout distinct phases of the Rorschach test is highlighted by the complex and interrelated processes of what R-PAS designates as response and clarification phases and CS-R identifies as the phases of free association and inquiry. I have opted to use "response" for the phase where responses are offered and "inquiry" for the phases where responses are queried to clarify various coding categories for the assessor while acknowledging the distinctive terms used by each method. Within the response phase, there are directions for managing brief and lengthy records. For the R-PAS method, the client does not know that one response to a card or a card rejection will result in the assessor prompting for more responses or that the card will be pulled after a fourth response to any card during the administration. These procedures are intended to optimize performance by securing the ideal of 27-32 responses for interpretive application in relation to the R-PAS norm base. The CS-R assessor prefers 14-50 responses per record but less specific about the requested number of responses per card compared to the R-PAS assessor and

has a different approach to managing the response phase when there is a concern about either underreporting or over reporting of responses. If the CS-R client offers only one response to each of the first four cards and these responses are "simple or if they are based on a single detail, the assessor does not accept the card…" (p.15), and states, "Wait, don't try to hurry through these. Please take your time and look some more" (p. 14). Card rejections on the CS-R are met with an encourager: "Take your time. We're in no hurry. "I'm sure you'll find something there" (p. 13).The R-PAS assessor responds to a card rejection by encouraging the client to take their time and try to provide more responses by stating, for example, "You can do it." (p. 15). The CS-R assessor addresses lengthy records by determining if "the flow of responses becomes evident on card 1, the recommended procedure is to take back the card after the fifth response, thanking the person and saying, "Now I'm going to show you the next one"' (p. 15). The procedure is continued on each subsequent card as long as five responses are given; once the response number falls below five, the assessor does not take the card back even if there are more than five responses to the follow-up card(s).

Following the completion of the response phase, the assessor poses a series of queries to each response with the goal of clarifying location, determinants, form quality, and other coding categories specific to each method. Queries are neutral (e.g., "You said 'darkish' when mentioning the cloud. Help me see it like you do.") but can be experienced in diverse ways depending on client character style and different dynamics that are operable during the evaluation (c.f., Schafer 1954, pp. 6-32).Assessor uncertainty about Rorschach coding for a particular response can render a client confused and wondering, either during or after the test administration is completed, about how to respond to nagging question related to the assessor's inquiry (e.g., "Why did he ask a question when I said, 'the lighter and darker tones' when I saw a vagina, but no question when I said 'lightish' after I saw a cloud on another card?"). A decision not to ask a question provides an example of how Schafer's psychological constants are expressed when responses are queried. Client agency can be affected by uncertainty about whether to ask the question, whereas the danger of regression is potentiated by confusion about expectations. Compliance and trust might lead to curiosity but no further entertainment of the issue. Self-confrontation and feelings about privacy become riskier, for example, in the context of whether to ask a question because the client might not want to draw further attention to a sex response or, in contrast, might wonder if ambiguity of external direction and authority might signal a further loss of control under these conditions, whereas the chance to respond freely without rules in challenged by the wish to comply with the idea that questions cannot be asked and the danger of regressing.

Re-administration

In cases where the client does not provide the preferred minimum number of total responses, R-PAS assessors recommend "an additional response phase" (p. 15) "if 15 or fewer responses emerge during the RP" (p. 15). The original responses are not queried; instead, the assessor states, *"That was fine. However, we need a few more responses for the test to be helpful. So let's go through the cards again. Take your time when looking at them and see what other things you can come up with*." (Italics in original, p. 25). Clients are then provided with an opportunity to view each card to which fewer than four responses were administered and add responses (returning cards if the four-response ceiling is met), which are then combined into a single, complete record following which the responses are subjected to inquiry. The CS-R does not advocate for re-administration when fewer than 14 responses are given but states, "Sometimes it is possible to propose the Rorschach anew in another session." Conditions for making this type of recommendation are not specified but appear to be at the assessor's discretion. Schafer's psychological constants are easily identifiable through the R-PAS re-administration procedures. Yalof and Rosenstein (2014) discussed superego pressures related to asking a client to retake the Rorschach. The R-PAS client is unaware that the assessor will merge responses from both records into a single record. Re-administration exposes the client to a sense of "not good-enough," or "good, but you can do better; I still need more from you." There is pressure to produce, but there is also a potential for breach of trust, of having to offer responses that might have been screened, fantasies about whether the assessor wants a

certain type of response, self-questioning about the impression generated by low productivity, a challenge to turn passive into active, and a loss of freedom to control output.

Illustration

The following hypothetical case highlights Schafer's psychological constants in relation to the client's presenting problems. An adult male physician was referred, begrudgingly, by his therapist because of disinhibition and dismissive behavior toward colleagues resulting in two complaints filed with the Human Resources department, including a recent situation in a bar where he made sexually provocative remarks to a co-worker. Using the R-PAS coding method, painful self-exposure in the absence of trust was suggested by his first response to Card 1 ("Brain split with white myelin showing"). Myelin sheath coats the neuron and serves as a conduit for efficient neuronal communication between cells in the nervous system. The response of exposed myelin in a split brain suggested a disconnect with impairment in easy communication. For coding purposes, the response included the whole blot (W), white space integration (SI), dysphoric affect (C'), an unusual form quality (Fqu), a morbid theme ("split open") and was accompanied by a pointed question about trust in the relationship ("I'm saying this to you but don't feel comfortable with what you might do with it."). The assessor tries to reassure the client by stating that he just needs to say what he sees and reminding him that he will have an opportunity to read the report. The client's discomfort persists. The response ends with the client stating, "That's all I got for you today." With palpable relationship pressure mounting, the assessor prompts for a second response, to which the client replies with a nonverbal show of annoyance, a thirty second delay, and then with the popular "bat" response. Even though the client could have said something else, he withholds, feels a loss of freedom, and reacts by regressing, demonstrating frustration, and heightened uncertainty about the wisdom of agreeing to an evaluation. He then gave four responses to Card II and was on the verge of providing a fifth response when the assessor pulled the card. The client stated, "What are you looking for? I thought you wanted more than one response." The assessor replied, "at least two, maybe three."

In this brief illustration, performance-based manifestations of Schafer's five constants emerge quickly. The client displays discomfort around trust and privacy, the danger of self-confrontation, regressive temptations, diminished agency in the relationship, and the danger of freedom. These constants are neither encompassing nor empirically derived but instead reflect a psycho analytically informed theoretical base and serve as descriptors for understanding the embedded and less conscious psychological risks that clients tacitly accept when agreeing to a personality evaluation. The client's response to TAT Card 13MF provides additional information related to Schafer's constants. In this story, the male figure is preoccupied with the woman's exposed breasts. The man in the card feels shame with his hand over his eyes, but the client then states, "This is too much. Makes me think of HR. Hard for me to control my thoughts here. I hope he feels some guilt, but who knows? Take this card away." He then laughs but with a sense of embarrassment. The dangers here are related to self-exposure, shame and guilt when confronting his behavior, yielding to a regressive temptation both in the narrative and after the story, and indulging freedom while also questioning if it comes at the cost of painful embarrassment.

Discussion:

The Rorschach test, because of its uniquely structured ambiguity, places considerable emphasis on the client's intra psychic adaptation to test stimuli which, in turn, illuminates the client's character and transference engagements. The concept of implied consent has particular relevance to the Rorschach since there are subjective risks when test administration procedures are presented without much direction about process and expectation. Under these conditions of test administration, the Rorschach client is exposed to character logical vulnerabilities that can be framed conceptually, as suggested by Schafer (1954), around a group of psychological constants, each of which exists on a dynamic continuum that can manifest in response variables, content, sequence, and in the client-assessor relationship. One might consider the possibility that Schafer's five constants might be integrated under different report headers as freedom of self-expression, capacity to regress and resilience, agency, frustration tolerance and affect expression, and capacity for healthy relationships, or find

integration within a psychodynamically informed report. The case analysis provides an example regarding how these constants are operable during Rorschach administration and transference sensitivities that can arise in response to these considerations (Schafer, 1956).

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SIS J. Proj. Psy. & Ment. Health (2025) 32: 2, 91-99

The Past, Present, and Future of the Psychology of Celebrity and Celebrity Worship: A Bibliometric Study

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The issue of Celebrity Worship is on the rise. Consequently, academic research on celebrities and Celebrity Worship across disciplines has increased accordingly, resulting in an increase of scholarly publications across diverse journals. Notably, psychology has been a significant field of inquiry regarding this phenomenon for nearly three decades. This study aims to analyze the body of extant scholarship published on celebrity worship. The literature reviewed included 983 documents from the Scopus database (articles, reviews, and conference papers) published in English, from 1963 to 2025. Data were analyzed using VOS viewer, employing various bibliometric indicators to create a scientific map that illustrates the trajectory of this field. Overall, the findings indicate that the psychology of celebrity worship has increasingly addressed issues related to personality and health psychological correlates in recent years. Furthermore, the expansion of social media has significantly influenced research in this subject area. The findings underscore the increasing significance of celebrity worship in psychological research, particularly with regard to personality and health. Moreover, the influence of social media is evident across this growing body of literature, suggesting a dynamic evolution in this field.

Introduction:

In the past three decades, the terms "celebrity" and "celebrity worship" have emerged as significant concepts across various academic disciplines, including psychology, sociology, management, advertising, economics, politics, and media studies. Celebrity worship refers to an intense form of attraction towards a favored celebrity, typically measured using the Celebrity Attitude Scale (CAS) in one of three versions (see Maltby et al., 2011; Zsila et al., 2024, for further discussion). In the 23-item version the CAS comprises three dimensions of which the entertainment-social dimension refers to a healthy engagement with an admired celebrity, whereas the intense-personal and borderline-pathological dimensions reflect problematic levels of absorption in the personal life of favorite celebrity. A phenomenon known as "celebrity culture" has attracted recent attention, prompting psychologists to investigate the meanings and implications that celebrities hold in the lives of their audiences (Brooks, 2018). Extensive research has shown that celebrities have the power to influence audiences' beliefs, attitudes, and behaviors, particularly in contexts such as purchasing decisions and political views (Austin et al., 2008; Locker, Jr. et al., 2024; Malik & Guptha, 2014). The present study examined the trends in scholarships on celebrity worship using bibliometric analyses to determine the trajectory of this research area over time. Results will highlight prolific researchers and investigatory topics in the study of celebrity worship, in addition to providing direction for future studies on celebrity fandom.

A large and growing body of research has explored correlations of celebrity worship (e.g., Griffiths, 2024; Maltby et al., 2011; McCutcheon et al., 2016; Zsila et al., 2020). Findings indicate that some fans develop strong attachments to their favorite celebrities, highlighting a one-sided relationship that is crucial to the identities and emotional lives of these fans (Hackley & Hackley, 2015; McCutcheon et al., 2002). Building on this foundation, the first theory of celebrity worship, known as the Absorption-addiction Model (A-aM), was developed by McCutcheon et al. (2002). The A-aM suggests that predisposed individuals seek to strengthen their identity structure through their admiration for celebrities,

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Keywords: celebrity worship, celebrity, psychology, bibliometric

which can manifest as a behavioral addiction in extreme cases. This dynamic may lead to excessive and potentially delusional behaviors that reinforce a one-sided para social relationship. Celebrity worship can also yield positive outcomes. Individuals who engage in celebrity worship for entertainment and social reasons tend to exhibit greater levels of optimism, sociability, and happiness. Conversely, those who worship celebrities for intense personal reasons often display more obsessive tendencies, along with higher levels of depression, anxiety, loneliness, impulsiveness, antisocial behavior, and other problematic traits (e.g., Ashe & McCutcheon, 2001; Griffiths, 2024; Maltby et al., 2011).

As celebrity worship has increased, so has academic interest in its psychological implications. Studies have linked intensely personal and borderline pathological levels of celebrity worship with neuroticism (Maltby et al., 2011) and a range of negative psychological and interpersonal consequences, including suicidal behavior (Zsila et al., 2020), eating disorders (Aruguete et al., 2014), dissatisfaction with life (Aruguete et al., 2019), and problematic social interactions (McCutcheon et al., 2016).

One of the most significant reasons for the growing importance of celebrities has been the rise of social media such as Instagram, Facebook, Twitter, and other platforms (Britt, 2015; Brown & Tiggemann, 2016; Stever & Lawson, 2013). Social media has transformed the dynamics of relationships between celebrities and their fans. Enhanced communication between celebrities and their followers has the potential to deepen the attachment fans feel towards their favorite celebrities. Overall, celebrity worship has significantly increased over the past 20 years (McCutcheon & Aruguete, 2021). This trend is logically connected to greater access to social media during this period. The ability to continuously seek information about celebrities, coupled with social isolation, loneliness, and declining mental health, may contribute to rising levels of celebrity worship over time (Ashe & McCutcheon, 2001; McCutcheon & Aruguete, 2021).

Given the upward trend in celebrity worship and the substantial number of studies in this area, bibliometric analysis and the creation of a scientific map could be beneficial for a thorough examination of the research trends in this field and for outlining potential future directions for investigation. The current study explores the literature on celebrity worship using bibliometric methods to create a visual representation of the scientific landscape. This research emphasizes the growth of publications, the contributions of various countries and authors, as well as patterns of citation, co-citation, and keyword usage.

Method:

Data collection and search strategy

The volume of scientific research across academic fields has seen a significant increase in recent years (Bornmann & Mutz, 2015). Consequently, tracking relevant literature within specific scientific domains has become increasingly challenging (Zupic & Čater, 2014). To address this issue, the application of quantitative bibliometric methods is essential. Bibliometric research designs are a widely acknowledged method for exploring and mapping the structure of academic output related to specific topics (Piotrowski, 2023). In fact, over the last 20 years, this methodology has been utilized across different sub-disciplines within psychology, as well as in analyses of specific psychology journals (e.g., Piotrowski, 2021; Piotrowski & Watt, 2024). Within this framework, two primary uses of bibliometric analysis are identified: performance analysis and science mapping (Cobo et al., 2011). Additionally, one of the crucial features of bibliometrics is the creation of scientific maps, which provide a unique perspective on the field (Zupic & Čater, 2014).

For the current bibliometric study, data were sourced from Scopus, recognized as one of the most comprehensive databases, surpassing others such as Web of Science and PubMed (Falagas et al., 2007; Singh et al., 2021). The search was conducted using the term “celebrity” or "celebrity worship" in

the titles, abstracts, or keywords of articles across all English-language publications in the field of psychology. To ensure specificity, articles, reviews, and conference papers were included through precise filtering. The results were extracted, encompassing key attributes such as authorship, journal information, and citation counts. Descriptive statistics derived from Scopus, along with visualization tools like VOS viewer, were employed to analyze and present the data effectively.

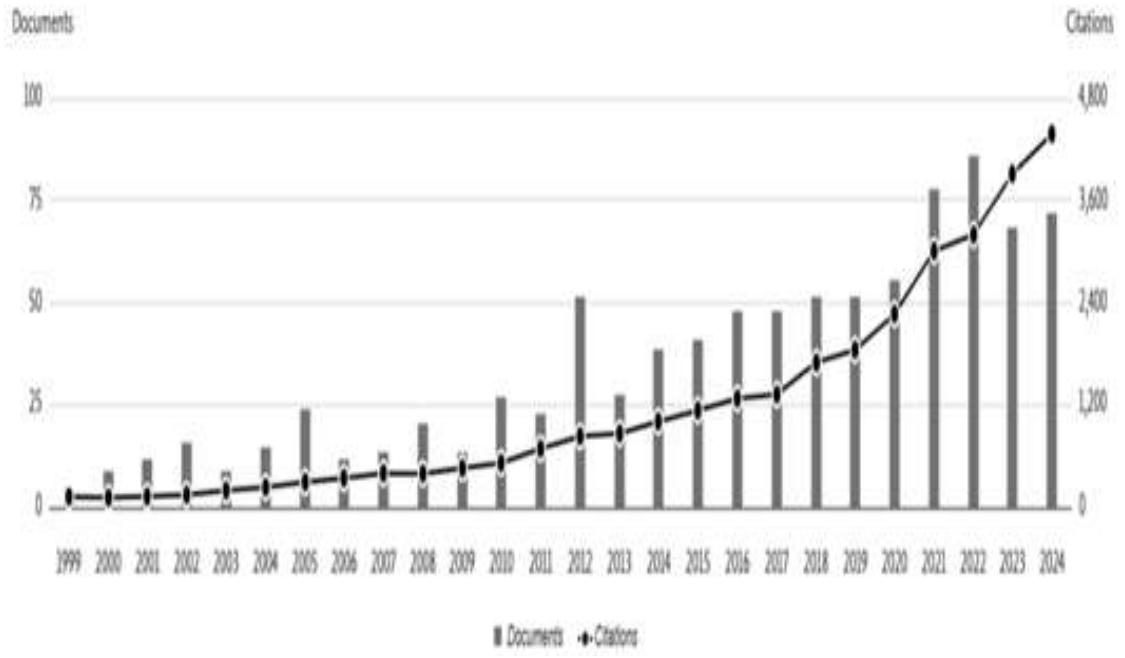
Data analysis and visualization

After collecting the data, descriptive graphs and tables were generated to highlight key features of the field, such as the most prolific authors and countries. Additionally, VOS viewer was utilized for visualizing bibliometric maps, as this software is specifically designed for analyzing bibliometric networks. It can produce three types of visualizations: network, overlay, and density visualizations (Anglada-Tort & Sanfilippo, 2019; Van Eck & Waltman, 2009).

Results:

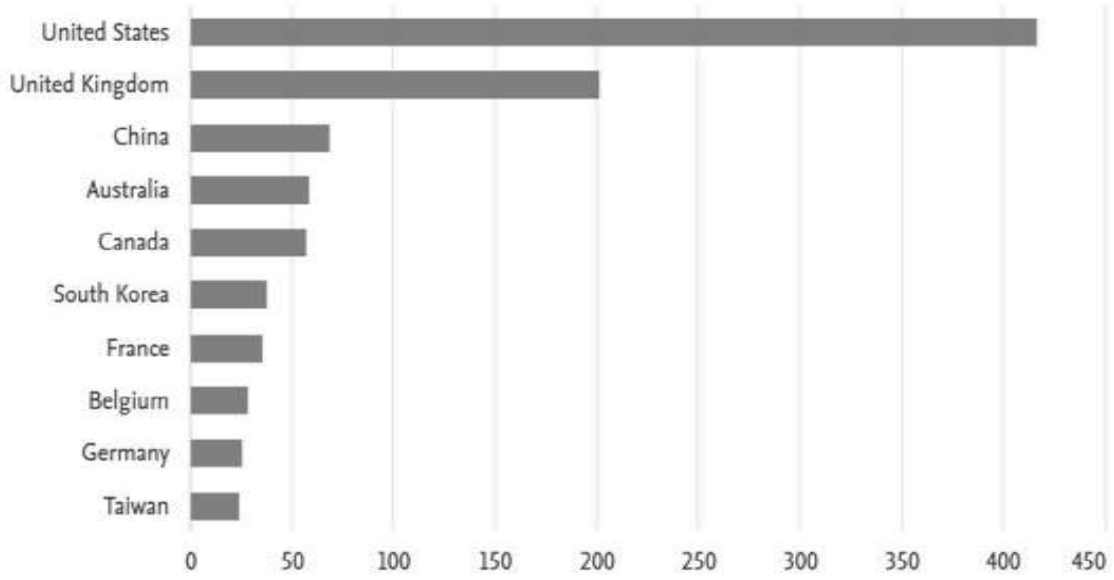
A total of 983 documents from 1963 to 2024 were identified on the Scopus website. The trend indicated that publication in this field has experienced significant growth since the early years of the 21st century, showing a general increase up to the present. As illustrated in Figure 1, the number of publications has increased over time, reflecting the widespread phenomena of "celebrity worship" around the world. Additionally, the trend of citations for these articles has shown a steady upward trajectory, with no declines observed over time. This trend indicates the increasing significance of this topical domain in academic environments worldwide.

Figure 1: Trend of publications and citations over time



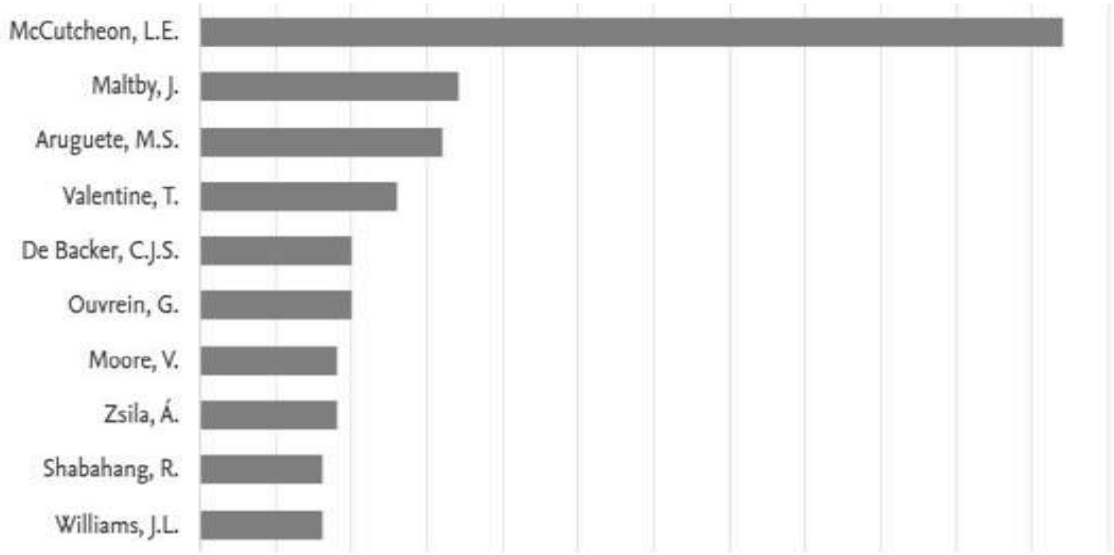
Scientific research in this area has been global. As shown in Figure 2, English-speaking countries have the highest output of scientific publications in this field. Notably, three East Asian countries also appear in the list of the top 10 most prolific nations in this area.

Figure 2: The most prolific countries



Another noteworthy feature of the analysis is the prolific authors in this field. The most productive author is from the United States, followed by an author from the United Kingdom. As shown in Figure 3, Lynn E. McCutcheon has authored or co-authored over 50 works during these years, whereas J. Maltby has contributed to more than 15 articles.

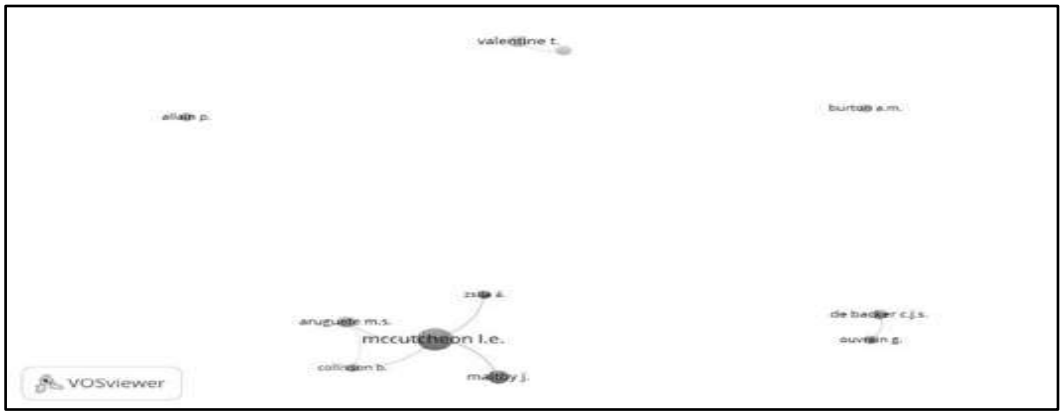
Figure 3: The most prolific authors



It is important to highlight that several prolific journals have published a significant number of manuscripts on celebrity and celebrity worship, including "Psychology of Marketing," "North American Journal of Psychology," "Frontiers in Psychology," "Body Image," and "Computers in Human Behavior," in chronological order from the past to the present.

Figure 5 represents the collaborative ties among authors who have published at least seven manuscripts. The clusters represent the largest collaboration networks, featuring prominent scholars such as McCutcheon, Maltby, and Zsila, as well as McCutcheon, Aruguete, and Collisson, who are based in the USA, the UK, and Hungary. Additionally, two other clusters depict other collaborative networks within this field.

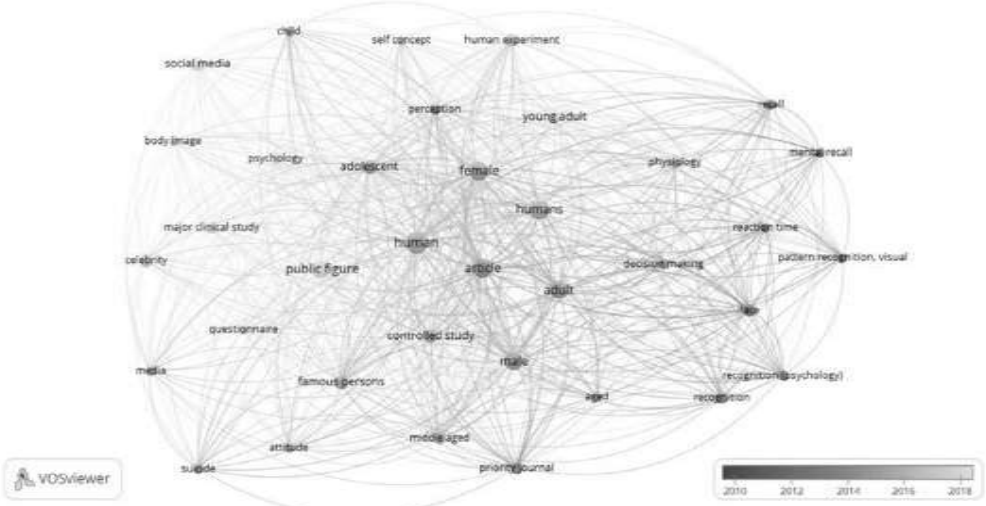
Figure 4: Collaborative research networks between researchers



For conceptual structure, this study addresses the topical foci through the common keywords used in research publications. Figure 6 presents, common keywords explored in the subject area of celebrity worship. Older keywords more closely related to cognitive psychology and neuroscience, such as "recall," "reaction time," and "pattern recognition" were noted. Over time, the influence of social and personality psychology has been increasingly evident, leading to the emergence of keywords like "public figure," "social media," and "self-concept."

Another influence of psychology has been the focus on psychopathology (e.g., keywords related to "major clinical studies", "body image", and even "questionnaires" designed to evaluate its dimensions).

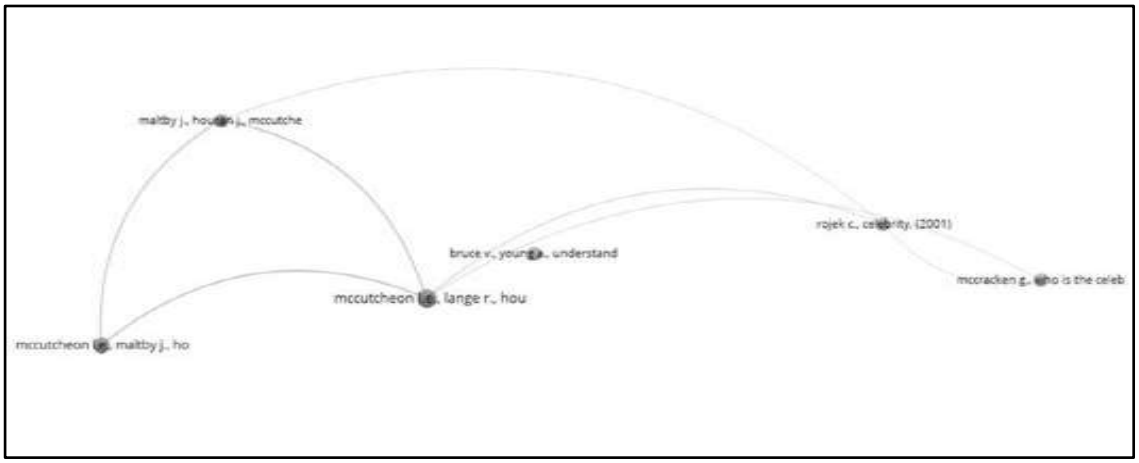
Figure 5:Timeline of Common Keywords



- *Only keywords with 30 or more occurrences were considered in the analysis*

One of the most prevalent methods in bibliometric analysis is co-citation analysis (Ding et al., 2001). Co-citation refers to the occurrence of two publications being cited together within a single article. This analytical approach is employed to uncover the intellectual structure of scientific research (Leung et al., 2017). According to this, Figure 6 illustrates the co-citation analysis within this field. This map highlights the most significant articles that have been frequently cited together. At the top of the list is "Conceptualization and Measurement of Celebrity Worship," authored by McCutcheon, Lange, and Houran (2002).

Figure 6: Co-citation analysis of most frequently cited articles



Discussion:

The findings of this investigation confirm that the number of celebrity worship publications has been on the rise, with a significant increase in the number of citations in this field. In 2024, a total of 74 documents were published, accumulating 4,482 citations, resulting in an average of 61.40 citations per document (noting that data collection occurred prior to the conclusion of the year). When compared to other disciplines, such as neuroscience, which has an average of 187 citations per article, experimental psychology at 67 citations, and clinical psychology at 68 citations (Patience et al., 2017), it is evident that the field of celebrity psychology and celebrity worship is experiencing significant growth. The increase in the number of publications and citations indicates that the importance of this topic in psychological literature is steadily rising. Several Asian countries, in addition to American and European nations, have substantially contributed to this field of study. The majority of the leading authors in this field are from the United States and the United Kingdom.

As evidenced by analysis of the most prolific journals in the field, the topics of celebrity and celebrity worship have been closely linked to marketing psychology since the late 20th century. These phenomena have gradually evolved into important issues in other areas of psychology, even extending into clinical domains, with the journal "Body Image" becoming notably active in this area. In examining the network of authors in this field, the largest share attributed to the leading author in this area (L.E. McCutcheon). This illustrative map indicates that multi-authorship collaborations are relatively uncommon among authors with at least seven articles in this field, potentially due to the discipline's relatively nascent status. However, this research review indicated that multi-authored papers can reduce individual authors' workloads and increase overall publication rates (Anglada-Tort & Sanfilippo, 2019), which can contribute to a greater volume of research on this select topic. The present analysis can serve to assist new researchers in the field identify authors with whom to collaborate.

The keyword map generally illustrates which keywords have been frequently used in research studies, with the size of each circle indicating the frequency of each keyword, while the lines between words showed their co-occurrence. The terms "human," "female," and "humans" are the most common expressions. Over time, certain keywords have become more significant and prevalent; for instance, the term "social media" has gained prominence due to the increasing importance of social media. Indeed, studies indicate that social media has a deep, significant relationship with celebrity worship (Britt, 2015; Brown & Tiggemann, 2016; Griffiths, 2024). The keyword map shows the significance of clinical fields, as research has presented a model for pathological indicators of celebrity worship (Aruguete et al., 2024; McCutcheon et al., 2002), with studies exploring the relationship between celebrity worship and other psychological disorders (Lian et al., 2019; Maltby et al., 2011; Maltby & Day, 2015; McCutcheon, Rich, et al., 2016).

Co-citation analysis indicated that the most significant paper in this field (McCutcheon et al., 2002) is the one that first proposed a hierarchical model for celebrity worship, differentiating between healthy and problematic levels of celebrity admiration. This study has established a network for co-citation analysis. Since co-citation analysis is an important tool for identifying the structure and evolution of a specific scientific domain (Liao et al., 2018; Zupic & Čater, 2014), this map illustrates that the trajectory of research in this field has increasingly focused on psychological problems associated with the phenomenon of celebrity worship.

In conclusion, this study demonstrates an increase in the rate of publications on celebrity worship. This aligns with other research, suggesting that celebrity worship has been primarily examined by psychologists from the perspective of psychological pathology. For future research, it may be beneficial to investigate specific features of celebrity worship further and develop new therapeutic methods. One limitation of the current study is that our documents were sourced from a single database (Scopus), which may not fully represent extant scholarship indexed in other academic databases. Such investigations would expand bibliometric overviews of this emerging field.

Declarations

Availability of data and materials

The datasets analyzed during the current study are available from the corresponding author on *reasonable request.*

Competing interests

The authors have no competing interests to declare relevant to the content of this article.

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SIS J. Proj. Psy. & Ment. Health (2025) 32: 2, 100-112

The Magic of Interpersonal Decentering: Perspective-taking Maturation in the Harry Potter Series

Kylie Jones, Violet (Katayoun) Tehrani & Sharon Rae Jenkins

In studies of children's reading, children who read more fiction showed increased scores on their theory of mind complexity tasks. Mature perspective-taking facilitates people's understanding of themselves and others by enabling them to anticipate other people's responses to their actions. The current study explored a hypothesized developmental feature of fiction content that might relate to theory of mind maturation observed in readers of J. K. Rowling's *Harry Potter* series. Since the seven-book series spans the main characters' transition from late childhood to late adolescence (approximately ages 11-18), the text content should reflect the characters' theory of mind/perspective-taking maturation from Piaget's concrete operational reasoning to mature formal operational cognition. Interpersonal decentering is a storytelling measure of perspective-taking based on Piaget's theory applied to social interaction. In the current design, interpersonal decentering was scored for 25 pages from each Potter book by trained, non-Potter-reading scorers. The hypothesis of a linear trend showing increased decentering maturation was supported at the page sequence level for books 2 through 7. These findings suggest that the compelling nature of *Harry Potter* lies in part in its trajectory of theory of mind maturation as well as its larger themes. These results may highlight elements of a compelling narrative that sharpen students' interpersonal skills and prosocial behaviors.

Introduction:

The impact of J. K. Rowling's *Harry Potter* series on children's interest in reading, and on researchers' interest in studying the consequences, has been almost magical. Popular media are studied as factors influencing children's theory of mind development based on the potential for observational learning. Narrative fiction-reading has been associated with the development of verbal abilities (Mar & Rain, 2015) and social-emotional skills such as empathy (Black & Barnes, 2021; Mar & Oatley, 2008). The association of reading the Potter series books with academic skill development and self-efficacy found by Dempster et al. (2016) even supported its use as the basis for a psycho educational intervention (Klim-Conforti et al., 2021).

Novel and varied magical elements throughout the series are apparently attractive to young readers (and adults). But what else might readers be learning that is less obvious as the characters mature from late childhood to the verge of adulthood? Social cognitive maturation, which includes theory of mind and perspective-taking abilities, plays an important role in interaction with others since it involves role-taking to understand others' perspectives (Carpendale & Lewis, 2010). Emerging evidence indicates that young readers of this series show improved social-relational skills (Das, 2013; Vezzali et al., 2015).

The current exploratory study examined features of the *Harry Potter* narratives that might be related to social cognitive maturation, specifically perspective taking, in young readers as the series moves from the first book (*Harry Potter and the Sorcerer's Stone*) to the seventh (*Harry Potter and the Deathly Hallows*). Throughout the series, the main characters mature from late childhood (approximately age 11) to late adolescence (approximately age 18), in parallel with Rowlings' own children; the text content and language perhaps follow their theory of mind maturation. Feffer's interpersonal decentering scoring system (Feffer et al., 2008), a developmental content analysis scoring system for interpersonal

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Keywords: Perspective-taking, interpersonal decentering, theory of mind, Harry Potter, fiction reading

narratives, was used to quantify the increasing maturity level of perspective-taking in each book. The following sections discuss the issue of social cognition in literature, Feffer's interpersonal decentering scoring system, and the application of interpersonal decentering in the measurement of social cognitive development in the Potter series.

Social Cognition in Literature

When exploring adolescent-to-adult social cognitive complexity in literature, Peskin et al. (2010) argued that fiction writers have a responsibility for building social cognition since they must pay respect to both the characters' and audiences' mental states. In their meta-analysis, Peskin and colleagues (2010) concluded that plays and dramatic novels are media that require the most social cognitive complexity due to the amount of internalization and emotion involved. Though their study notes differences in social cognitive complexity between literature genres, little is known about fantasy narratives specifically. Fantasy's reliance on imagination, which has strong associations with social cognitive complexity according to meta-analyses on creativity, could place it as a genre well-related to social cognition (Crespi et al., 2016).

Regarding the *Harry Potter* books, Das (2016) identified the manner in which adolescent readers discuss and apply concepts about relationships, emotional life, and maturation through the series. The series elicits ongoing introspection in young readers by suggesting alternative interpretations of people and relationships (Das, 2013). Vezzali et al. (2015) noted inter-group conflict, social hierarchies, and prejudices as salient themes. These authors tested the extended-contact hypothesis of prejudice reduction to examine the possible bias-reducing impact of reading these books and found that, among readers not identifying with Voldemort, reading the *Harry Potter* books was related to self-rated perspective-taking, which was in turn associated with less anti-refugee bias.

Thus, dramatic fiction and fantasy, especially if social in nature, and specifically the *Harry Potter* books, appear to enhance social cognition. Crespi et al. (2016) and Peskin et al. (2010) identified the expected social cognition required by each genre. Bhavnagri and Samuels (1996) found that a socially complex narrative produced improved scores on the Social Knowledge Interview over asocial narratives. Das (2013) and Vezzali et al. (2015) observed effects specific to the *Harry Potter* series on social understanding and prejudice reduction, but did not identify a mechanism. What qualities of the Potter texts might be related to these effects?

Piaget and Interpersonal Decentering

Young Harry Potter readers are typically on the cusp of cognitive maturation from Piaget's (1926/1959) stages of concrete operations to formal operations, including decentration from one's own perspective to that of another person. Piaget's Three Mountains Task (Piaget & Inhelder, 1969/2008) marks the child's transition from egocentrism to decentration, as represented by the child's ability to describe their own view of the mountains while differentiating the doll's angle of view on the same scene (Piaget & Inhelder, 1969/2008). During the concrete operations stage, children seven to twelve years begin to express more logical patterns of thinking, their egocentrism decreases, and they show an awareness of others' internal states (Enright & Lapsley, 1980; Piaget, 1952). The formal-operations stage, spanning adolescence to adulthood, is marked by more advanced cognitive activities like abstract and symbolic thinking (Piaget & Inhelder, 1969/2008). Individuals in this stage can consider their own and others' perspectives with increasing sophistication (Enright & Lapsley, 1980; Piaget, 1926/1959). Thus, readers could theoretically analyze their own thoughts along with others' perspectives in an interactive narrative.

However, Piaget's theory lacked consideration of the abstract properties of interpersonal interaction such as the capacity for mental representation of self and others that allows for anticipation of

the outcomes of social exchanges, as seen in children's theory of mind. The relational qualities of theory of mind may be seen in fictional stories where some of the driving force of the narrative comes from increasing complexity of how the characters interact. According to Carpendale and Lewis (2010), the interpersonal aspects of social cognitive development have been subordinated to the purely cognitive aspects, and yet it is these relational qualities that allow individuals to better understand themselves in relation to others.

Feffer (1959) defined interpersonal decentering as a maturing social cognitive skill in which an individual can consider and modify their own behavior from multiple perspectives simultaneously in the context of interaction with others (Feffer & Suchotliff, 1966). This interpersonal capacity is aligned with mature perspective-taking (Feffer & Jahelka, 1968; Feffer & Suchotliff, 1966), role-taking (Enright & Lapsley, 1980), and mentalizing (Fonagy, 2006). One challenge of measuring relational behavior by self-rating scales is that such methods overweight cognition (i.e., the self-concept and impression management) relative to relational interaction processes. Thus, measuring interpersonal decentering requires the use of narrative-based assessment instruments because narratives are behavioral measures of people's social cognitive schemas about how relational interactions typically go (Annotti & Teglasi, 2017; Feffer, 1959; Jenkins, 2017). The narrative-based Role-Taking Task (RTT) was developed to measure an individual's schemas for perspective-taking when they are anticipating another person's reaction to that individual's behavior (Feffer & Suchotliff, 1966). The RTT requires participants to retell their previously told fictional story from the perspective of each character in the picture that inspired the first story. The scoring manual identifies evidence of interpersonal coordination of perspectives along with differentiation of individual viewpoints. Enright and Lapsley's (1980) review of role-taking measures covers most of the RTT literature to that point.

The present-day scoring system for interpersonal decentering (Feffer et al., 2008) was validated against and simplified from the RTT (Feffer & Jahelka, 1968). This system identifies text features associated with developmental levels of social cognition from concrete operational reasoning to mature interpersonal mentalizing. It quantifies increasing social cognitive maturity ranging from lack of differentiation (egocentrism, no decentering) through concrete sequential interactions (closer to theory of mind) to increasingly abstract patterns of internalization (mentalization). It has been scored on fictional stories or autobiographical narratives to evaluate social cognitive maturity in relation to psychotherapy processes (Jenkins & Nowlin, 2018), characteristic interpersonal problems (Jenkins et al., 2022), interpersonal versus impersonal stressful life events (Jenkins, Shamji, Straup, & Boals, 2023), and cognitively complex language in stress narratives (Jenkins et al., 2013).

The Present Study

Prior studies, mainly Dempster et al. (2016), have shown improvements in academic skills and feelings of self-efficacy associated with the Harry Potter series, and Das (2013, 2016) and Vezzali et al. (2015) found associations with social cognition and perspective-taking. Theoretically, increasingly mature interpersonal decentering scores in the later books would form a template for the readers' perspective-taking, theory of mind, empathy, and prosocial behavior development (Mar & Oatley, 2008). Multiple studies on reading and social cognition indicate that modeling of advanced social cognitive complexity often results in the audience experiencing some form of social cognitive maturity (Bhavangri & Samuels, 1996; Black & Barnes, 2021; Peskin et al., 2010).

The present study explores the theory that one possible reason for the popularity of the *Harry Potter* series with both children and parents is that, along with the child characters' physical growth and development, their theory of mind undergoes significant maturation as represented in the text of each book. If J. K. Rowling's first books were directed at younger children, they would be written in a developmentally appropriate manner with concrete simplicity, and one would expect to see less mature

decentering scores in the earlier books. Likewise, the later books should show more interactions that would warrant higher decentering scores as the characters develop their formal operational capacity for abstract internalization and anticipation of the effects of their interpersonal actions on self, others, and their relationship.

We predicted first that average interpersonal decentering scores would be higher in the later *Harry Potter* books than earlier books, showing an upward linear trend. Since about a year passes within each *Harry Potter* book, we predicted that, within each book, interpersonal decentering scores would increase from the beginning to the end of the book. Since older characters might be expected to interact more maturely than younger ones, an exploratory analysis addressed the age of interacting characters in relation to interpersonal decentering scores.

Method:

Data Sampling and Procedure

The present study sampled 25 pages in each book of the *Harry Potter* series using stratified sampling, the strata being the seven books, creating a sample size of 175. Pages were selected within each book by dividing the total number of pages in the book by 25 to make the selected pages equidistant within books. Sampling started with a page number determined by the total page number of the book divided by 25 to avoid scene-setting at the start of the volumes. The beginnings of *Harry Potter* books have considerable description and exposition, offering few interactions that can be scored for interpersonal decentering, which could add error variance or bias the scores.

Trained scorers were given the same copied 25 pages per book, using all seven books, presented in the same order, which was randomized across all books. During copying, researchers wrote code numbers for the book and page number on the back and removed page numbers on the front, to be replaced with a Subject ID. A random-number-generating table without repeats was used to assign a Subject ID to the pages and to keep the Subject ID order random. This table process matched the generated number to the closest available page. If a number was repeated or beyond a book's page number, the researchers dropped the last digit. After that, pages were scanned into a data file for scorers. After completing scoring and before data analysis, researchers reorganized the scores in chronological order by page number across and within books using a Microsoft Excel table to match Subject IDs to book and page numbers.

Measures

Interpersonal decentering (Feffer et al., 2008). Following standard procedure, trained scorers who had neither read any Potter books nor seen a Potter film first separated each page into interaction units, which are distinguished by changes in characters present (someone enters or leaves the physical situation), relocation to a different situation, or breaks in time. Each of these interaction units is then assigned a maturity score. The score for each page is the average of interaction-unit maturity scores, provided by dividing the sum of the page's maturity scores by its number of interaction units. Scoring began with the first complete sentence on the page and ended with the last complete sentence of that page.

Interpersonal decentering has nine scores (see Table 1), but only the highest plausible score is applied to each interaction unit Scores 1,2, 3, and 4 concern concrete physical relationships corresponding to Piaget's concrete operational functioning. The lowest score, 1, indicates undifferentiated egocentrism; characters are described by their similarity. A score of 2 indicates a nonreactive directional relationship; one person directs an action or emotion towards another with no response from the second person. A score of 3 adds a response from the second person. A score of 4

contains an exchange of responses between two people, with the first person responding to the second person's response to the first person's initial action toward them (Feffer et al., 2008).

Table 1. Definitions and Examples of Interpersonal Decentering Maturity Scores

Score	Definition	Example
1	Undifferentiated/egocentric: Multiple people are described by their similarity.	"As they entered November, the weather turned very cold."
2	Nonreactive directional: One person's activity is directed to another person.	"He shot a nasty look sideways at Harry."
3	Reactive directional: One person's activity is a response to another person's activity directed to the first person.	"There's nothing like a good witness, is there, Dumbledore?' 'Nothing at all, Cornelius,' said Dumbledore gravely."
4	Interactive directional: One person directs an action towards another person, who responds with an activity directed with the first person, who then responds to the second person with another directed action.	"Instantly, about six house-elves came trotting up behind him, bearing a large silver tray laden with a teapot, cups for Harry, Ron, and Hermione, a milk jug, and a large plate of biscuits. "Good service!' Ron said, in an impressed voice. Hermione frowned at him, but the elves all looked delighted; they bowed very low and retreated."
5	One person is internalizing another person without particular features (internalized simple representation).	"Harry was too busy feeling sorry for Neville to notice immediately that he had a letter too."
6	One person is internalizing another person with particular externally manifested features (internalized surface characteristics).	"Once they arrived at Hogwarts and took their places in the Great Hall, looked up and down the Gryffindor table a few times, and finally realized that he was not there, he no doubt, would be halfway back to London."
7	One person is internalizing another person's thoughts, feelings, or other internal state (internalized other's internal state).	"Harry had the impression that Lupin wanted to leave as quickly as possible."
8	One person is internalizing another person's internalization of a third person (internalized other's internalized other).	"Harry left to look for them, wondering where they could have got to and feeling slightly hurt that they weren't interested in whether he had his bones back or not."
9	One person is contemplating their own thoughts, feelings, or actions in relation to another person (internalized self-other interaction).	"He wanted to find Ron, to tell him about Gregorovitch, but Ron was dancing with Hermione in the middle of the floor.

Note: The underlined text determines the score.

Scores 5 through 9 involve internalization (mental representation of another character), with scores that also increase in complexity. A score of 5 indicates one person's simple representation of another, listing no features of the other person. A score of 6 describes one person's simple internal representation of another with only external features of the other person, such as physical or behavioral description. A score of 7 requires a more complex representation of another that involves the other person's internal state, such as their thoughts, feelings, or experiential perspective. A score of 8 describes

one character's internalization of a second character's internalization of yet another person(s). The highest score, 9, represents a person contemplating their own thoughts, feelings, or actions in relation to another person(s) (Feffer et al., 2008).

The two scorers were trained together following the procedures described by Jenkins (2008). Study of the scoring categories and procedures was followed by practice scoring using the stories provided in the Feffer et al. (2008) manual, comparison with the expert scoring, and discussion and resolution of scoring differences for these and additional practice sets developed for this project. These materials are archived at the authors' university's depository. The same two scorers scored all pages independently, then and discussed scoring differences weekly to arrive at the consensus scores that were used for analysis and inter-scorer reliability (r). Inter-scorer reliability for each scorer with their consensus was $r_1 = .849$, $r_2 = .815$ for number of interactions; reliability for interpersonal-decentering average was $r_1 = .755$, $r_2 = .678$ respectively.

Character age scores. To determine whether the ages of interacting characters might be related to decentering maturity scores, for each page the same scorers recorded age-identified interactions for the highest-scoring interaction. Given the differences in social cognition found in Piagetian stages, these scores were expected to increase with age of characters. Child-child interactions were scored 1, child-nonhuman interactions were scored 2, child-adult interactions were scored 3, nonhuman-nonhuman interactions were scored 4, nonhuman-adult interactions were scored 5, and adult-adult interactions were scored 6. Characters under the age of 18 years were classified as children while all over the age of 18 years were identified as adults. The main characters were treated as children throughout the series. Nonhumans and humanoid creatures, like elves or me folk, were treated as separate categories due to their unclear or indistinct age. Inter-scorer reliability (Cohen's k) for each scorer with their consensus was Cohen's $k_1 = 0.83$ and Cohen's $k_2 = 0.67$.

Data Analysis Plan

All analyses used SPSS (IBM SPSS Statistics, v. 27.0.1.0) with significance determined at $p < .050$. The study utilized a Linear Trend by page order to determine whether interpersonal decentering scores increase as the series progresses. A linear Pearson correlation between interpersonal decentering scores and time passed in the series (as quantified by the sequence of page numbers) tested the linear trend, with significance at $p < .050$. A further time-series analysis monitored changes in social cognitive complexity as the series advanced. The time-series analysis involved a linear regression done on the Curve Estimation on SPSS, an autoregression done on the Linear Regression on SPSS with Autoregressive Predictions as the explanatory variable.

While the first analysis covered the whole series, a second analysis examined each book. Each book in the *Harry Potter* series covers one year, appropriate for time-series an analysis, so analyzing each book separately to determine if an upward linear trend also occurs within each volume would reveal if each book separately demonstrates increased social cognitive complexity. To analyze the role of characters' age combinations in interactions, researchers assigned a number to each age dyad and compared their interpersonal decentering means using analysis of variance.

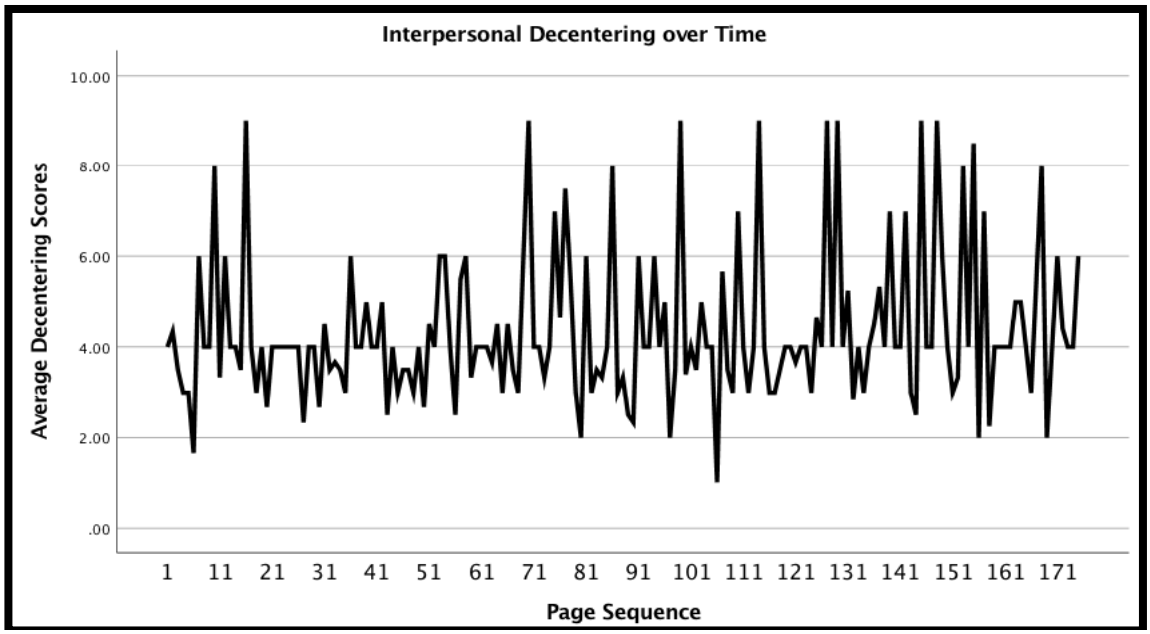
Results:

Graphical Analyses

The graphical presentation of the data in Figure 1 shows noticeable differences between the relatively low scores and smaller standard deviations of decentering scores in Books 2 and 3 (data points 25 to 70) and those in Books 1 and 4 to 7. Similarly, Figure 2 presents the decreasing frequency of scores

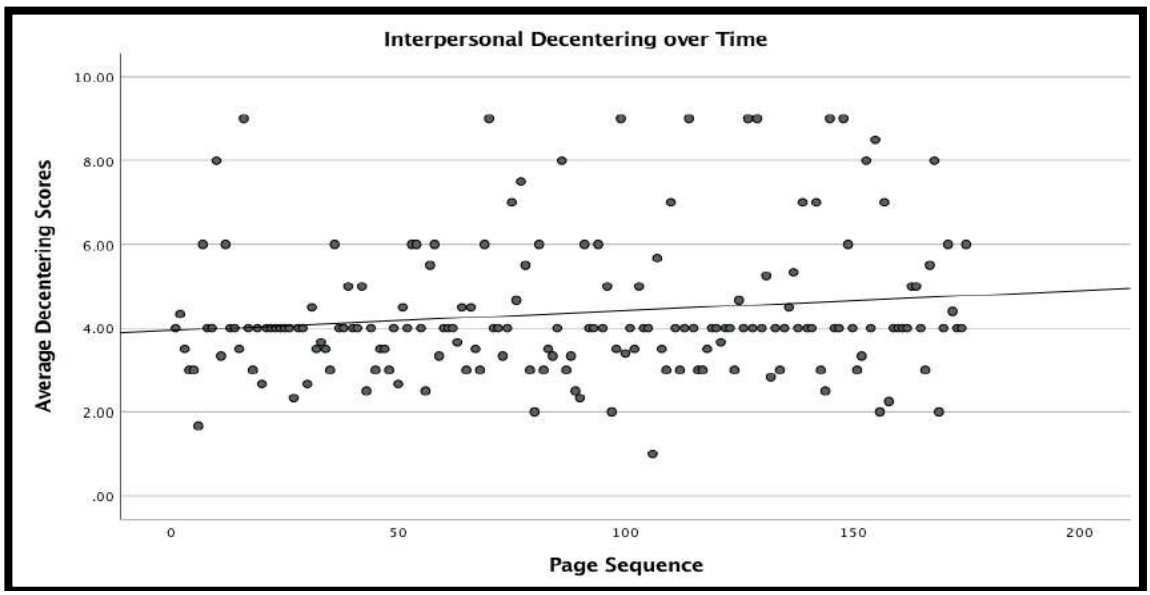
of 2 and 3 and increasingly frequent scores of 7 and above in the later books. Figure 3 presents the by-book data, collapsing the within-book variation into the book's average.

Figure 1. Interpersonal Decentering Average Scores over Time



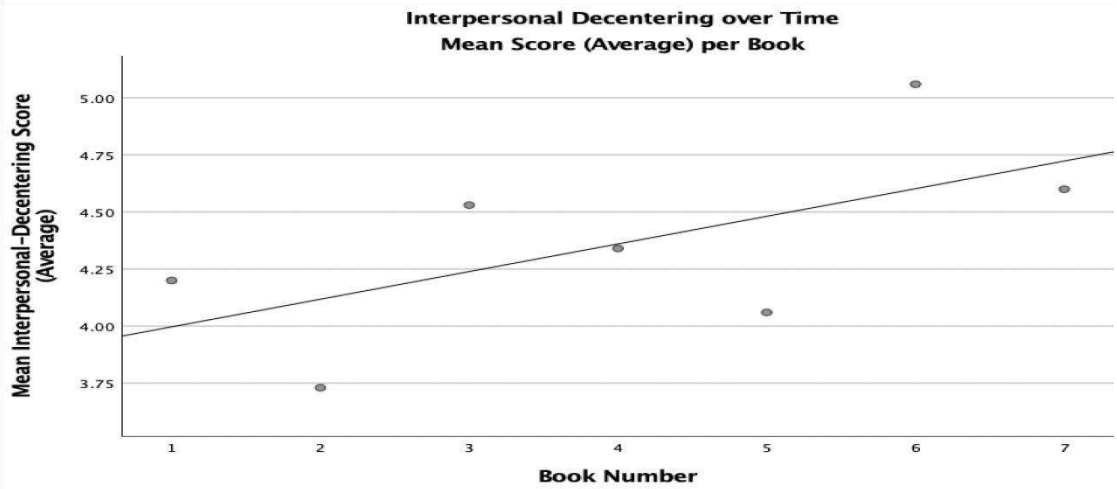
Note. Line graph of interpersonal decentering scores that show social cognitive complexity over time in the series (page sequence number, 1 – 175).

Figure 2. Linear Regression of Decentering Average over Time (Page Sequence Number)



Note. Scatter plot of the Series Linear Regression showing average interpersonal decentering scores over time passed in the *Harry Potter* series from SPSS Curve Estimation Regression; data presented in Table 3.

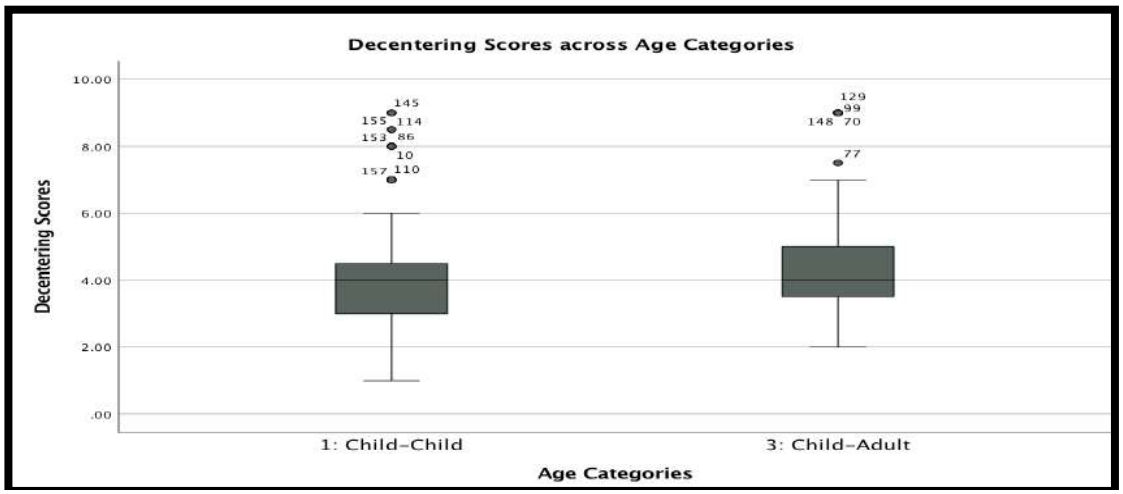
Figure 3. Comparison of Mean Interpersonal Decentering Scores between Books within the Series



Note. Illustrates mean of each book's interpersonal decentering score within via dots for each mean and a linear regression.

Examining the boxplots of decentering maturity scores by the characters' age categories Figure 4), with the high outlier scores identified by sequence number, it appears that most of those for the child-child interactions are in Books 5, 6, and 7 (sequence number range 100-175; n = 7 of 9). They represent scores of 7, 8, and 9 (abstract internalization range). For the child-adult interactions, only 2 of 5 high-scoring interactions were from Books 5-7. This difference is not statistically significant (Fisher exact test = .2657, p = ns). However, the frequencies of these interaction categories differed considerably among the books.

Figure 4. Comparison of Interpersonal Decentering Scores between Child-Child and Child-Adult Character Age Categories



Note. Illustrates means and standard deviations of interpersonal decentering score in relation to characters' age combination in interactions throughout the series via box plots; high outliers are marked with page sequence number (1-175).

Descriptive Statistics

For the reader's convenience, given the linear hypothesis, the books are identified by their order in the series rather than by their titles. All univariate analyses showed approximately normal distributions without outliers. Throughout the series, the books show similar number-of-interaction means for interpersonal decentering with little difference in standard deviation, shown in Table 2. However, consistent with Figure 1, the decentering means hover around 4, which is the most frequent score in the books (n = 63). Most notable among the univariate descriptive analyses is the high standard deviation of maturity scores in Book 1 (SD = 4.57), which is more than double that of the highest other book (Book 6), and more than 5 times that of Book 2, which also has the lowest mean, below the internalization range that begins with a score of 5.

Table 2. Interpersonal Decentering Average Scores and Number of Interactions per Page, for Series and by Book

	Decentering Average			*Number of Interaction Units*		
Book	*N*	*M*	*SD*	*N*	*M*	*SD*
Series	175	4.36	1.65	175	1.69	0.94
Book 1	25	4.20	4.57	25	1.72	0.79
Book 2	25	3.73	0.85	25	1.80	0.71
Book 3	25	4.53	1.46	25	1.52	0.71
Book 4	25	4.34	1.87	25	1.96	1.02
Book 5	25	4.06	1.49	25	1.52	0.77
Book 6	25	5.05	2.07	25	1.64	1.29
Book 7	25	4.60	1.80	25	1.68	1.15

Regarding the character age combinations in highest-scoring interactions on each page, across the series there were 69 child-child interactions, 10 child-nonhuman interactions, 77 child-adult interactions, 0 nonhuman-nonhuman interactions or nonhuman-adult interactions, and 15 adult-adult interactions in the pages sampled. Only the child-child interactions and child-adult interactions had even marginally acceptable frequencies for analysis.

Interpersonal Decentering Results:

Primary analysis results compared later books with earlier books. This hypothesis was tested first at the page level (N = 175) and again at the book level (N = 7). No linear-trend statistics were significant at the page level for all seven books, including correlation (r = .10, p = .186, see Table 3 and Figure 2) and linear regression (β = 0.003, p = 0.186). A quadratic and cubic regression were performed under Curve Estimation; however, neither quadratic (F (2, 172) = 1.93, β = .0, p = .149) or cubic (F (3, 171) = 1.33, β = -.01, p = .268) regression had significant results. However, the autoregression between expected values and observed values of the interpersonal decentering average scores using Gottman's (1981) estimate, $x_t = ax_{t-1} + e_t$, was significant (F = 90.44, β = .59, p < .001, r^2 = .34). X here refers to the interpersonal decentering score at the time, in which time is denoted as t (Gottman, 1981); a refers to the autocorrelation coefficient, and e refers to the error at a particular time (Gottman, 1981). The parameter value did not exceed unity (a = .24). Regardless, these findings did not show a significant linear trend, contrary to the study's hypothesis.

Table 3. Linear Statistics (Correlation, ANOVA, Linear Regression) for Averages of Interpersonal Decentering Scores over Time, for Series and by Book

Book	***r***	***F***	***b***	***p***
Series	0.10	1.77	0.003	0.186
Book 1	0.04	0.03	0.01	0.869
Book 2	-0.09	0.17	-0.01	0.683
Book 3	0.08	0.13	0.02	0.720
Book 4	0.00	0.00	0.00	0.996
Book 5	-0.02	0.01	0.00	0.926
Book 6	0.02	0.01	0.01	0.918
Book 7	0.01	0.00	0.00	0.956

*p <.050. **p <.010.

Within each book, there was no significant linear trend for correlation or regression. Autoregression did provide significant results for the series at the page level, shown in Table 4. Within-book analyses showed that earlier books had stronger correlations between passed time and interpersonal decentering than the later books. As predicted, the series and books had similar trends, but significant results only came from the autoregressions, which were not detrended.

Table 4. Autoregression of Averages of Interpersonal-Decentering Scores over Time without De-Trending

Book	*F*	*b*	*p*	r^2
Series***	90.44	0.59	< .001	0.34
Book 1	00.28	-0.11	.605	0.01
Book 2***	190.80	0.95	< .001	0.89
Book 3***	86.71	0.89	< .001	0.79
Book 4***	37.05	0.79	< .001	0.62
Book 5***	58.72	0.85	< .001	0.72
Book 6***	23.22	0.71	< .001	0.50
Book 7***	28.17	0.74	< .001	0.55

*p < .050. **p <.010. ***p<.001.

The very large standard deviation and lack of significant autoregression for Book 1 compared to the remaining books suggested that Book 1 might not be representative of the sample. Thus, analyses of the series were rerun without Book 1. Without the highly variable Book 1 scores, linear-trend statistics at the page level were statistically significant, including Pearson correlation (r = .16, p = .045, Figure 2) and linear regression (β = .006, $F(1,148)$ = 4.09, p = .045). Quadratic and cubic trends were again non significant.

Age and Social Cognitive Complexity

The analyses of the characters' age during interactions used chi-square and t-tests to determine whether age had any significant association with interpersonal decentering scores that would suggest an age-combination-related relationship with social cognitive complexity. Only age combinations 1 (Child-Child) and 3 (Child-Adult) could be compared due to the absence or low frequency of other age combinations. Figure 3 provides visual comparisons of decentering scores for these categories, but these interactions did not differ significantly in mean decentering scores, either for the series or by book.

Discussion:

Figures 1 and two graphs call attention to the lower average scores and constricted range of the decentering scores in Books 2 and 3, none of which reach above the concrete internalization scores of 5 and 6. This is the social cognitive operational level (approximating theory of mind) that decentering theory would predict for most children ages 11-13, the approximate age of the Potter child characters in those two books; most of the scores are in or near the concrete 1-4 range of sequential interactions. For Books 4 and later, scores appear more variable and include increasing numbers in the abstract internalization range (scores 7-9) and fewer in the concrete operations range. This is consistent with adolescent social cognitive maturation: increasing use of abstract thinking and the complexity of interactions involving internalization of two or more people simultaneously.

Rather than the hypothesized smooth linear trend, it appears that a) Book 1, which has more scene-setting than the rest of the series, is highly variable in decentering maturity and disrupts the expected linearity; b) Books 2 and 3 are notably less variable and lower in average decentering; and c) with increasing maturation comes increased score variability and a small but statistically significant increase in average decentering maturity. In planning the study, we anticipated and avoided the possible consequences of the first 25 pages of each book being largely exposition, but we failed to consider that Book 1 might show the same effect for the series as a whole.

While the data did not support the original linear hypothesis, inspection of the descriptive statistics and the graphical analyses suggested a slight modification that produced statistical significance for the linear model. Given that interacting characters' age combinations did not have a significant association with time or with scores, it is unlikely that characters' age alone can explain the findings. It appears from the graphical analysis that the classification of characters by generation into "child" and "adult" might have been too crude, given that interactions among the main "child" characters gained considerable maturity by Book 5 and thereafter; those appearing in Books 5-7 show the abstract internalization expected of young adults. Perhaps a continuous rather than categorical linear classification that considers the main characters' maturation over the book series might have been more effective.

One competing explanation for the popularity of the *Harry Potter* series other than the depicted social cognitive maturation is its consistency with the narrative line known as The Hero's Journey, which is present in many popular stories, including *The Wizard of Oz* and *Star Wars* (Robbins, 2006). Like those examples, The Hero's Journey narrative employs metaphoric reasoning, which may encourage increases in social cognitive complexity over time in stories such as *Harry Potter*. Robbins (2006) argued that exposures to the Hero's Journey may accelerate development of social cognitive complexity and skills, improving individuals' perspective-taking by providing examples through fictional characters.

Limitations

In narrative research, defining the unit of analysis is a challenge of accurate data representation that parallels that of sample selection in survey research and random assignment in experimental design (Jenkins, 2017). The study sampled only 25 pages per book in the *Harry Potter* series; a larger sample, though more burdensome to score, would improve representation and increase statistical power. The sampling process used equal spacing between the sampled pages to create a metric and gain an adequate representation of the novels' progression of social cognitive development. However, the relatively low average number of interactions per page (less than 2) suggests that defining larger units (e.g., two pages vs. one) might have improved the continuity of the interactions that was lost by using the single page regardless of the beginning and end of naturally occurring interaction units. Thus, many pages might contain one or two incomplete interactions, which would likely underrepresent the maturity score. Future studies of interpersonal decentering in literary works should sample at least two adjacent pages as the

unit of analysis. Doing so would allow for stronger narrative coherence and continuity typical of the briefer individual autobiographical essays about stressful experiences and the fictional stories about pictures told by participants in previous interpersonal decentering studies.

Future Research

This first-of-its-kind exploratory analysis suggests further studies examining social cognitive maturity of text content as a possible explanation of observed associations between text consumption and reader growth in theory of mind and perspective-taking. Future studies should provide a point of comparison for the gradual coming-of-age demonstrated in *Harry Potter*. To do so, future studies could include a similar control story without the gradual coming-of-age of characters to see if this sequence in *Harry Potter* is implicated in young readers increased interpersonal decentering maturity. A book with a quick or nonexistent coming-of-age sequence would serve as an ideal control, for example the *Lord of the Rings* series. Like *Harry Potter*, it fits within the fantasy genre and has lengthy literature (McComas, 1993). While the *Lord of the Rings* series retains the Hero's Journey element of the story, it eliminates the coming-of-age aspect found in *Harry Potter*. Frodo starts as an adult and apprentices with Bilbo and has more of a coming-to-volition with his adventure than a coming-of-age (McComas, 1993). If the scores done with the same method and a similar sample of pages are similar, the Hero's Journey narrative might merit exploration as a source of modeling increases in interpersonal decentering maturity.

Conclusion:

In addition to the statistically small effect of interpersonal decentering maturation over the series, the *Harry Potter* series has other elements that may also contribute to improvement in educational skill and confidence, including the coming-of-age sequence or the Hero's Journey. Studies with a similar design can investigate what elements in certain literature prompt academic improvement in both students' theory of mind and perspective-taking skills and their self-efficacy, which can inform parents' and teachers' choices of literature to increase students' social cognitive development. Overall, these findings have theoretical implications for maturational development as children transition into adolescence.

Acknowledgements:

We thank our Interpersonal Decentering scoring team, Kathleen Castano and Kalyn Prothro, for their work. The dataset and additional information generated for the current study are available athttps://digital.library.unt.edu/ark:/67531/metadc2178093/

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SIS J. Proj. Psy. & Ment. Health (2025) 32: 2, 113-121

Marital Conflict and Couple Therapy: A Case Study

Vijay Pathak, Deepali Batra & Bankey Lal Dubey

This case study examines marital conflict in a couple who sought therapeutic intervention. The Somatic Inkblot Test (SIT) was administered to assess the individuals' psychological dynamics. The husband's SIT responses revealed a desire for relational preservation, alongside indications of emotional distress and social withdrawal. Conversely, the wife's responses highlighted somatic concerns, a yearning for spousal affection, and frustration stemming from incongruence between marital expectations and experienced reality. Collectively, the findings from both cases evidenced significant marital discord, characterized by emotional pain and perceived disconnection. Therapeutic interventions, incorporating both pharmacological and psychotherapeutic modalities, were implemented. Follow-up assessments within a six-week period indicated a positive shift towards improved relational harmony.

Introduction:

Marital conflict is a complex issue with profound implications for the well-being of individuals and families. Research has consistently demonstrated the damaging effects of maladaptive communication patterns on marital satisfaction. Gottman's work, for instance, has identified specific negative communication behaviors, such as criticism, defensiveness, contempt, and stonewalling, as strong predictors of relationship dissolution (Gottman, 1999). These patterns can create a cycle of negativity, eroding emotional intimacy and leading to feelings of disconnection and resentment, mirroring the dynamics observed in the case report where both the husband and wife express significant emotional pain and a lack of connection.

Furthermore, individual factors, such as past experiences and emotional regulation abilities, play a crucial role in shaping marital dynamics. Attachment theory provides a valuable framework for understanding how early childhood experiences can influence adult relationships. Bowlby's theory, for example, posits that individuals with insecure attachment styles may exhibit heightened anxiety or avoidance in their relationships, contributing to conflict and instability (Bowlby, 1969, 1988). In this case, the wife's history of childhood abuse and the husband's struggles with self-confidence are important individual factors that likely contribute to their marital difficulties.

Effective therapeutic interventions for marital conflict often address both communication patterns and individual issues. Couple therapy approaches, such as Emotionally Focused Therapy (EFT) developed by Sue Johnson, aim to improve emotional regulation, enhance empathy, and create more secure attachment bonds between partners (Johnson, 2004). Additionally, individual therapy can provide a space for each partner to process past trauma, develop healthier coping mechanisms, and improve self-awareness, ultimately fostering healthier interactions within the relationship.

The present study aims to discuss the issues among a couple having marital conflict approached for help. Both took Somatic Inkblot Test online. The findings of the SIT, and therapeutic progress have been discussed in the paper.

Case A (the Husband):

The Client, a 37-year-old Hindu married male who is currently self-employed, has been experiencing emotional difficulties related to his marital life and stagnant professional growth. These

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Keywords: Marital Conflict, Somatic inkblot Test, unresolved unconscious issues,

challenges have contributed to feelings of low energy, frequent impatience, and a sense of isolation. Over the past five years, he has become increasingly reserved and feels that he may be disappointing or letting down those around him. His interests frequently change, and he struggles with persistent negative thoughts, low motivation, and occasional suicidal ideation. He took the SIT online test on Feb 2, 2025.

He reports that the onset of his difficulties was insidious, with a fluctuating course, though he perceives his overall emotional and mental well-being deteriorating over time. He was diagnosed with depression in 2017 and was prescribed medication. In addition to his mental health struggles, he underwent cholecystectomy surgery in 2020, which may have further impacted his physical and emotional state.

During his childhood, he was an active child but often felt pressured by his parents to participate in sports, which may have contributed to his struggles with low self-confidence. At present he lives in a joint family and tries to be present for his parents, though he feels they may still be disappointed in him. Academically, he performed at an average level in school, maintaining neutral relationships with teachers and authority figures. He had a limited social circle and a small number of friends. He describes his premorbid personality as happy, motivated, and balanced. While he perceives himself as an assertive individual, he has noticed a significant decline in his emotional well-being over time. Additionally, he has developed a habit of frequent vaping, which may be a coping mechanism for his emotional struggles.

Behavioral observation (During assessment sessions):

He was cooperative, having adequate attention, concentration, comprehension and psychomotor activity. His interest and motivation are present with no behavioral problems. The assessment was done in one session.

Test administered:

The following tests along with clinical screening were used for the purpose of assessment-

- Interview & Observation
- Bender Visual-Motor Gestalt Test (BVMG)
- Somatic Inkblot Test (SIT) (Online version).

Test findings:

1. Bender Visual Motor Gestalt Test: The test measures perceptual motor skills along with perceptual motor development and gives an indication of neurological intactness along with assessing emotional problems (Bender, 1946). As per Client's performance on the test, he has ***adequate visuo-perceptual and/or visuo-motor skills.***

2. The significant responses projected on the **Somatic Inkblot Test** are analyzed ahead using symbolic and psychoanalytic interpretation (Cassell & Dubey 1990, 2003, Dubey et al, 2019; Dubey & Dubey, 2023; Philips & Smith, 1993):

Image 1: Heart and inside heart a couple is holding each other's hand, in a way they are falling apart but somehow managing to hold their hands tightly". The response indicates his desire to keep relations intact with his wife. It's a very good sign and positive indicator and I hope couple therapy will bring them together again.

Image 2: "Lord Krishna standing with crossed legs". The crossed leg concept of lord Krishna may indicate a pleasant mood and happiness along with spiritual help to resolve his differences with his wife.

Image 3: 1. "Man carrying big heart on his shoulder" may indicate his feelings to continue his relationship even in odd situations.

2. “Cartoon with big open mouth laughing” indicates his happy mood. The “open mouth” may also indicate craving for affection, which is clear from his case history.

Image 4: “A child excited and happy to see a small teddy”, indicates his happy childhood. It’s a normal response.

Image 5: A lady in dancing pose with a big prop in air”. The response may indicate his wishful thinking to see his wife happy and in a way desire to have a happy interpersonal relationship with her.

Image 6: Man looking at the lady from behind, in assumption their heart is connected with each other”. Man looking from behind may indicate his avoidance to have eye to eye contact probably because of conflict with his wife, and “heart is connected with each other “indicate his desire and wishful thinking to have again loving relationship with his wife.

Image 8: “A hand asking for help, to be pulled out” clearly indicates his inner cry for help. This may also indicate his desire to get help from the significant family members to save his marital life on the verge of divorce.

Image 9: “Two birds kissing each other”. The response indicates his feelings to have smooth interpersonal relationship with his wife, and a sign of good prognosis.

Image 10: “Mans chest with heart divided” may indicate the feelings of separation among the couple and the conflict with his wife. “Divided heart” may also indicate his extra marital relationship with someone which the client has accepted and narrated the story of his affairs. This is also a major source of conflict with his wife.

Image 11: “Upper body of giraffe with heart garland” is a normal response

Image 13: “Man wearing black gown trying to protect two kids, he has big heart” may indicate his desire as a father to protect the life of his two children who suffer most if divorce takes place. This further indicates the bond between the father and children, a great source of unity for the family.

Image 14: “Spinal cord” is a normal response in this image.

Image 15 “Face with big ears and third eye of Shiva”. Face with big ears might be a symbol of suspicious attitude and third eye may indicate perceived aggression, which must be addressed during therapy sessions

Image 16: “Ultrasound with fetus inside mother’s womb”, is a normal response in this image.

Image 17: “Small portion of fashion model photograph”. Normally people perceive breast in this image which may indicate good interpersonal relationships with a mother or mother figure. Avoiding perceiving breast may indicate conflict and poor relationship with opposite sex. In this case the projection of disturbed relationships with wife is brought on the surface

Image 18: “Two couples talking but both have different minds” The response further projects difference of opinion among the couple which is a major source of conflict among couples. Couple therapy might be of great help in such cases where they learn to listen patiently and respect each other.

Image 19: “Man whispering into ears of other man” may indicate his suspicious attitude and paranoid ideation.

Image 20: “Couple sitting face to face exchanging words’ clearly indicates their aggression towards each other.

Image 21: "Girl trying to protect herself from the attack" may further projects active aggression to the extent of physical abuse which must be addressed during therapy session.

Image 22: "Soft heart" indicates his concern and affection towards his wife which is a positive indicator helping them to unite again.

Image 23: "Landscape with monument in between". Male phallic part is a common response in this image avoiding perceiving this theme may indicate frustrated erotic relationship and sexual conflict.

Image 24: "Broken, venomous heart" clearly indicates their broken relationships with lots of bad feelings for each other which should be addressed during couple therapy sessions.

Image 25: "Gun with blasted barrel" has brought to the surface the theme of image 20 and 21 again in this image. Pent-up aggression is obvious among the couple which must be addressed during therapy sessions.

Image 28: "Mother hugging her child" is a normal response in is this image.

Image 29: "Man running" is a normal response in this image.

Image 30: Complete family of four- two kids' husband and wife" is a normal response in this image. The response further projects his desire to save the family from the present crisis. It is also an indication of good prognosis in this image.

Quantitative Indices:

Human responses = 19 (50%), Animal responses = 2 (5.26%), Anatomical responses = 10 (26.32%), Sex responses = 1 (2.63%), other responses = 6, Most typical responses = 12, Typical responses = 4, Movement responses = 15 (39.47%), Depression=1, Hostility Aggression Scale = 3, Depression= 1, Paranoia = 1, Total number of Responses = 38.

The symbolism in the response may predominantly express

- Desire to hold onto the relationship despite difficulties.
- Spiritual coping mechanisms and his attempt to find inner peace amidst emotional turmoil.
- Themes of death and detachment, possibly reflecting DSH ideation and feelings of hopelessness.
- Desire for support.
- Emotional pain and possible resentment.
- Desire for a harmonious family life.

Summary & Impression:

His low animal responses may indicate withdrawal, aloofness, and loneliness, while high anatomical responses may suggest a preoccupation with somatic concerns, poor self-image, and possible hypochondriacal tendencies. Low sex responses may reflect suppressed sexual desires or deep-seated conflicts, potentially linked to marital difficulties. High movement responses highlight creativity and active engagement but also suggest inner restlessness and emotional turmoil. Symbolically, his responses express a deep desire to hold onto his relationship despite difficulties, reliance on spiritual coping mechanisms, and an attempt to find inner peace. Themes of death and detachment hint at feelings of hopelessness, while a longing for support, emotional pain, resentment, and a wish for a harmonious family life further underscore his psychological distress. The Most typical responses are 12 indicates his awareness with his surroundings and his contact with reality. He is able to manage his odd situation after therapeutic support.

Case B (the Wife):
Presenting problems:

The client is a 37-year-old married Hindu female working as a trainer. She took the SIT online test on Feb 3, 2025. She reports significant difficulty managing anger and emotional distress stemming from psychosocial stressors related to her marriage. She has a history of anger issues and has previously undergone marital therapy to address these challenges. She experiences frequent mood swings, oscillating between moments where she feels everything is fine and periods where she feels annoyed, disheartened, and betrayed. At times, she also feels vindictive. When angry, she often cries, whereas in the past, her anger manifested as outbursts involving yelling. These emotional episodes typically last for 2-3 days.

Her childhood was marked by significant adversity. Her mother was physically abusive, creating a frightening, painful, and humiliating environment. However, her mother passed away when she was 10 years old, after which she moved to her grandmother. This transition brought a dramatic change in her life, as her grandmother's home had a lovely and peaceful environment. About 4 years after the death of her mother, she excelled academically, became an admired student, had many friends, and enjoyed a happier life. She shared a close and positive relationship with her father.

Professionally, she worked as a teacher for nine months before her marriage but had to leave the job when her in-laws fell ill. She has been working in her current role as a trainer for the past eight months.

Behavioral observation (During assessment sessions):

She was cooperative, having adequate attention, concentration, comprehension and psychomotor activity. Her interest and motivation are present with no behavioral problems. The assessment was done in one session.

Test administered:

The following tests along with clinical screening were used for the purpose of assessment-

- Interview & Observation
- Bender Visual-Motor Gestalt Test (BVMG)
- Somatic Inkblot Series (SIT) (online version)

Test findings:

1. Bender Visual Motor Gestalt Test: The test measures perceptual motor skills along with perceptual motor development and gives an indication of neurological intactness along with assessing emotional problems. As per her performance on the test, she has *adequate visuo-perceptual and/or visuo-motor skills.*

2. The significant responses projected on the **Somatic Inkblot Test** are analyzed ahead using symbolic and psychoanalytic interpretation:

Image 1: (1) "cancerous tissue". It may indicate her constant suffering and somatic problems.

(2) "a man offering a bunch of flowers to a woman" this may indicate her wishful thinking and desire to get affection from her husband.

Image 3: "It's a cartoon of a happy, kind, welcoming, educated man. The heart is the face reflecting kindness, arms spread welcomingly, and the cloud is his brain". The theme of image 2 is brought back in this image. She has a picture of an ideal man as her husband who is happy, kind, educated, with welcoming attitude but her husband is almost opposite to her expectation.

This is a kind of conflict with her expectation and present reality which has brought lots of frustration and anxiety in her life. The therapist must create a balance to resolve such conflict.

Image 4: "I can see a teddy bear who is sad and an icon of a stiff mother". The response clearly projects her suffering during early childhood and deprivation of affection from her mother. Her case history confirms this.

Image 5: "A dancing lady and an apple". This indicates her intact ego state and healthy body imagery. This also indicates a sign of good prognosis.

Image: 6:"Two ladies exchanging hearts" Two persons, a male and a female would have been a better response in this image. Since the client has disturbed intimate relationship with her husband, she has avoided perceiving a male and female.

Image 8: *"*A hand seeking help. Maybe he is trapped somewhere and could only raise his hand seeking help. I can see him in walls, barriers" The response clearly indicates the feelings of the wife and her projection that her husband is trapped in a situation (probably with other female which she is aware of)-and wanted her help. The therapist should deal with such situation during couple therapy sessions. Both may come with workable solutions

Image 9: "This is a picture of two animals. The Mamma mammal is feeding the baby mammal, and the baby will grow up like the mother soon. The heart at the bottom denotes love and growth with this love". The response clearly indicates her feelings of separation and looking after her baby girl without emotional support from her husband. This also indicates her pensive mood.

Image 10: "This is a picture of two goats or horses stuck together and share a heart" may indicate her current situations where she feels trapped and has no choice but to share her feelings with each other.

Image 11: "A zebra princess with a garland of red flowers". The response may project her wishful thinking to be looked after well by her partner

Image 12: "Dysfunctional Kidney" may indicate severe health concern with her own body or with some significant family members.

Image 13: "A magician showing some magic tricks to two kids" indicate slightly poor interpersonal relationship between father and son/daughter.

Image 15: "A flower captured black and white". Female phallic part is the normal response in this image. Though the flower maybe the symbolic representation of female body, the black and white may indicate her low self and poor body imagery with deep rooted sexual conflict.

Image 16: "Ultrasound image of a womb showing a baby enjoying and swimming in the womb" may project her regression and take her back in time when she was in her mother's womb, and she was feeling secure and happy without any tension. It may also indicate concern for a secure environment for her daughter.

Image 17: "Picture of a semi naked women showing her shoulder". The response may project her desire to attract her husband and have an intimate relationship.

Image 18: "A sad woman and an angry man. Both with a negative state of mind" The response may indicate her pensive mood and aggressive behavior of her partner. It also indicates conflicting interpersonal relationships. This is a second response giving an indication of her pensive mood which must be addressed during therapy sessions. She also needs pharmacological intervention.

Image 19: "A man showing a face to the world but in real is faceless" indicates her feelings towards her husband who projects himself to be a good person, but he is not.

Image 20: "A man and a women conversing about food. Man is angry, the women trying to explain about something". The response may indicate their conflict on a routine basis and the perceived aggressive behavior of her husband.

Image 21: "An abstract drawing with a lot of knives and sharp objects. The dark red scratching reflects anger and resentment of the artist". The response projects severe conflict and aggression, to the extent physical abuse, which must be addressed during therapy sessions.

Image 22: "The picture denotes love. It's confused and disoriented from outside, but it goes deeper its intense and strong and…" The response may project their concern for each other and a desire to understand each other. It is a sign of good prognosis for the couple.

Image 23: "Painting of a baby dinosaurs trying to come out of a dig" Male phallic part is the normal response on this image. However, baby dinosaurs coming out of the dig may symbolize sexual connotation and dissatisfaction with her husband. It also indicates conflict in intimate relationships.

Image 24: "Picture reflects earth which has love here and there but is trapped with negativity and diseases" may clearly indicates his disturbed interpersonal relationship and pensive mood. The theme of image 15 and 18 is reflected again in this image.

Image 25: "A cartoon image of a gun with a blast mouth after a shot" It may indicate flared-up aggression and hostile attitude which might be the reflection of her situation. In any case such aggression must be dealt with pharmacological aid and psychotherapy.

Image 26: "A dead body and footprints of the soul which just left" is a normal response in this image.

Image 27: "The soul of a fetus looking at a fetus in a womb it must enter" The theme of image 16 is brought back in this image and it indicates her regression at Fetus stage.

Image 28: "A mother lifting her child, the child wants to hug and climb up his mother's arms", may indicate her loving relationship with her children.

Image 30: "A happy family, end of a story, returning back". This indicates a desire to resolve all differences and make a family again. It's very good prognostic indicator.

Quantitative Indices:

Human responses =16 (44%), Animal responses =2 (5 %), Anatomical responses = 10 (26%), Sex responses =1, Other responses = 6, Most typical responses =13, Typical responses =4, Movement responses =15 (40%), Depression=1, Hostility Aggression Scale =4, Depression= 1, Paranoia =2, Total number of Responses =38. The Hostility and Aggression indices are more than average which indicates pent-up aggression.

The symbolism in the response may predominantly express

- A fragmented self-image, oscillating between distress and hope for reconciliation or healing.
- Her unmet emotional needs or aspirations in her marital relationship.
- Unresolved childhood trauma
- Longing for emotional connection, mutual understanding, and nurturing relationship(s).
- Longing for safety, comfort, and unconditional nurturing, possibly reflecting a desire to return to a state of emotional security and protection.
- Internalization of negative emotions and unresolved tension in her relationship.
- Identity conflict or emotional masking. It may reflect client's perception of inauthenticity—either in herself or others—where outward appearances hide an inner void or lack of true self.
- Tensions or conflicts related to intimacy, control, or identity.

- Idealized longing for harmony, closure, and emotional fulfillment in her family life.

Conclusion of both cases and therapeutic plan:

Both individuals underwent clinical screening and the Somatic Inkblot Test (SIT).

Husband (Case A):

The husband's SIT responses indicate a desire to maintain his relationship with his wife, reliance on spiritual coping mechanisms, and feelings of emotional pain and resentment. There are also indications of withdrawal, aloofness, loneliness, preoccupation with somatic concerns, and suppressed sexual desires, potentially linked to marital difficulties. His responses also suggest inner restlessness and emotional turmoil, along with a desire for a harmonious family life.

Wife (Case B):

The wife's responses reveal potential somatic problems, a longing for affection from her husband, and feelings of frustration and anxiety due to a perceived conflict between her expectations and the reality of her marriage. Her childhood experiences of maternal deprivation are also evident. She displays a fragmented self-image, oscillating between distress and a desire for reconciliation, and expresses unmet emotional needs, unresolved childhood trauma, and a longing for emotional connection and nurturing. There are also indications of internalized negative emotions, tension in the relationship, and potential identity conflict. The wife's responses also suggest feelings that her husband is not genuine.

Relational Dynamics:

The findings from both cases point to significant relational distress. Both individuals express feelings of conflict, emotional pain, and a sense of disconnection within the marriage. The husband's avoidance of eye contact and the wife's perception of her husband's inauthenticity suggest communication difficulties and a lack of emotional intimacy. The wife's anger and the husband's potential for aggression indicate a pattern of conflict that may escalate further.

Overall Impression:

The couple is experiencing significant marital conflict characterized by emotional distress, communication problems, differing expectations, and unresolved individual issues, including the husband's depression and the wife's childhood trauma. These factors appear to be contributing to a negative cycle of interaction, impacting their emotional well-being and the stability of their relationship.

Therapeutic Applications

- **Pharmacological interventions:** Both were put on pharmacological management which rapidly controlled their anxieties and mood swings. A good control on anger and impulses made psychotherapeutic intervention more effective. With a six-week regimen both report a significant improvement in clinical symptoms.

- **Therapeutic Interventions**: Both were started with individual therapy to focus on self-reflection, emotional regulation, and addressing underlying conflicts. Sessions of couple's therapy were started under a specialist addressing relationship dynamics and improving emotional intimacy. By focusing on emotional awareness, vulnerability, and self-esteem, these therapeutic approaches are reportedly supporting them in creating more fulfilling connections and managing emotional challenges in healthier ways. Within six weeks of follow-ups report that they have achieved a better harmonious relationship.

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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:	Mr. Shiva
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Published by Dr. Naveen Gupta, on behalf of Somatic Inkblot Society at Shiva Printers and Photo State Centre, Shop No. 1/43, C/5/30, Mahatma Gandhi Road, Hariparwat, Agra, U.P.- 282002	

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

SIS JOURNAL OF PROJECTIVE PSYCHOLOGY AND MENTAL HEALTH

Volume: 32 **Number: 02** **July 2025**

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