Missing the Mark: Student Clinicians Write Psychological Reports for their Supervisors Instead of their Clients

by:

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Abstract

Decades of research revealed that effective psychological reports are those written at a lower reading level, are formatted by functional domain, and communicate the results in an integrated client-centered manner. However, psychological reports continue to be difficult to read for non-psychologists. Considerable research suggests service users (i.e., clients, parents, and teachers) find reports to be difficult to understand, overly technical, and not very useful. One factor that has been identified as contributing to these report-writing issues is the training practices of professional psychology programs. Despite a proliferation of research on test administration and scoring errors, there has been far less inquiry into graduate students' report writing developing competencies. This was the first study to examine graduate students' psychological report writing skills in a professional psychology program in Western Canada. A quantitative content analysis was used to analyze 63 psychological reports written by graduate students to reveal commonalities and differences in report writing style and content. Relationships between specific report writing characteristics such as presentation style, integration, and readability were also explored in the context of best practices. Overall, the results suggest students have difficulty writing accessible and integrated reports. Type of formatting may contribute to greater integration and therefore, should be considered when teaching students how to present information in the report. The findings of this study are discussed in terms of implications for psychologists, instructors, and students in training.

Keywords: psychological report writing, training, professional practice

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Preface

This thesis is an original work by Jessica Eriksen. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name “Parents Experiences Understanding their Child’s Psychoeducational Report” (Pro00115975). No part of this thesis has been previously published. This project is part of a larger study involving qualitative interviewing. Due to limited participation, only the quantitative portion of the study was pursued.

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Psychologists aim to write psychological reports in a manner that is both easy to understand and useful for their clients and those involved in their care. However, many readers of psychological reports (e.g., parents, teachers, and other stakeholders) find them challenging to understand, overly technical, and not particularly useful (Backnavage, 2007, Kannan, et al., 2021; Rahill, 2018; Rucker, 1967; Wiener & Kohler, 1986). Considerable research suggests psychologists have difficulty writing reports that are accessible to multiple audiences. For assessment information to be useful, psychologists must communicate the results in a way that is comprehensible to non-psychologists. In fact, psychologists are ethically obligated to communicate the results "in ways that are [...] meaningful and helpful" (CPA, Code of Ethics, p. 21). Despite this responsibility and a plethora of guidelines on report writing best practices, there has never been a professional consensus on how to write psychological reports (Groth-Marnat & Wright, 2016; Ownby, 1997; Sattler, 2008; Schneider, 2018; Wright et al., 2021). As a result, reports vary considerably among psychologists.

Presentation and writing style often depend on the purpose of the evaluation and for whom it is intended. For example, a medical-legal assessment report looks very different from a neuropsychological assessment report. Regardless of the purpose of the assessment, the extant literature on report writing suggests that effective psychological reports present assessment results clearly and succinctly (Dombrowski, 2020; Brenner, 2003; Groth-Marnat & Wright, 2016; Schneider, 2018; Wright et al, 2021). However, decades of research have consistently identified several issues that contribute to poor readability, understandability, and overall quality of reports. Some of these issues include reports that focus on test scores, have poorly integrated

interpretations, use psychological jargon, and contain generic recommendations for treatment (Baum et al., 2017; Brenner, 2003; Bucknavage, 2007; Harvey, 2006; Mastoras et al., 2011; Wiener, 1987; Wiener & Kohler, 1986; Wright, 2011).

One factor identified as contributing to these report-writing issues is the training practices of professional psychology programs (Dombrowski, 2020; Harvey, 2002, 2006; Mastoras et al., 2011). The challenge for professional training programs is to provide clinical training that facilitates graduate students to write reports that are comprehensible to clients and those involved in their care (parents, teachers, etc.) and help guide the provision of recommended services to children and families. Although graduate students agree psychological reports should be written in a comprehensible manner, many students have never been taught or shown how to write an accessible report (Harvey, 2002, 2006). Despite a proliferation of research on test administration and scoring errors among clinical psychology graduate students, there has been far less inquiry into graduate students' report writing competencies. Furthermore, the specific opportunities and supervision students receive in report writing differ considerably which creates variability in report writing styles and practices (Childs and Eyde, 2002).

Differences in report formatting or personal writing style are not problematic – what is concerning is despite these differences, psychologists continue to write reports that are difficult for non-psychologists to read (Baum et al., 2017; Bucknavage, 2007; Rahill, 2018; Wiener & Kohler, 1984). Given that students are closely supervised by registered psychologists, it is possible that without an awareness of empirically informed report-writing practices, sub-optimal report-writing habits could be passed down and carried on by students. Although psychologists may not all agree with how reports should be written, there is consensus in the field that

psychologists and professional training programs could be doing more to improve the accessibility of reports (Baum et al., 2017; Postal et al., 2018).

Chapter II: Review of the Literature

Psychological reports are written in a manner that is too complex for most non-psychologists to understand (Bucknavage, 2007; Harvey, 2006; Rahill, 2018). Considerable research suggests many psychologists believe their reports are written clearly and in an accessible manner, though when rated by service users (parents, teachers, stakeholders, etc.), clarity is not always achieved (Dombrowski, 2020; Mahoney et al., 2017; Michaels, 2005; O'Donohue et al., 2003; Pelco et al., 2009). Although several recommendations have been offered to improve current report-writing practices, these suggestions appear to remain aspirational ideals that are often not applied in training or practice (Brenner, 2003; Michaels, 2005; Mastoras et al., 2011). The purpose of this review was to (a) identify the specific features of effective psychological reports, (b) provide a discussion of the known psychological report writing issues, and (c) summarize the current methods used by accredited professional psychology programs to teach report writing skills.

Effective Psychological Assessment Reports

The psychological assessment typically includes gathering information from standardized tests, questionnaires, direct observation, and a clinical interview with the client or their legal guardians (Brenner, 2003). Regardless of the purpose of the assessment, it is designed to help better understand the individual's cognitive, academic, social-emotional, and behavioural profile, as well as to provide recommendations about how to best support their everyday functioning. Following the assessment, the psychologist spends time analyzing the information and translating the results into a written report.

Harvey (2006) proposed three major purposes of the psychological report: (1) to describe the current ability level of the client, (2) to provide recommendations that support the client's needs, and (3) to offer information that helps to improve the client's overall functioning. Although psychologists' report writing styles vary considerably, effective reports present the evaluation results clearly (Bucknavage, 2007; Mastoras et al., 2011), are written at a lower reading level with a reduced amount of psychological jargon (Bucknavage, 2007; Rahill, 2018) with a client-centred focus (emphasis on describing the client's performance as opposed to test scores), and include concrete and feasible recommendations for treatment (Brenner, 2003; Schwean et al., 2006). In addition, parents and teachers are better able to understand the results when they are organized by domain as opposed to specific tests (Beutler & Groth-Marnat, 2003; Pelco et al., 2009; Wiener & Kohler, 1986), and include graphs or tables to present test scores (Miller & Watkins, 2010). Thus, how the information is presented affects the overall understandability of the report and therefore its effectiveness to yield helpful assessment outcomes.

After the report is written and finalized, the results are usually debriefed. The feedback conference is particularly important because it offers clients (or their guardians) the opportunity to ask clarifying questions, gather recommendations for additional services, as well emotional support for coping with a potential diagnosis (Postal & Armstrong, 2013; Merkel, 2010). However, during the conference, there may be insufficient time to unpack every detail of the report, and therefore, clients may leave with an incomplete understanding of the information that was presented to them (Zake & Wendt, 1991). The report is essentially a static document that parents, teachers, and other members of support to the client can refer to at any time for guidance when making important intervention decisions. Thus, the information must be easily

comprehensible to all readers. For minors, parents' and teachers' understanding of the report is essential because it may influence how likely they are to adhere to the psychologist's recommendations regarding how best to support their child/student's needs (Geffken et al., 2006; Human and Teglasi, 1993; MacNaughton & Rodrigue, 2001; Merkel, 2010). Ownby and Wallbrown (1983) posit that the effectiveness of a report directly relates to the knowledge transfer of information. In other words, the degree to which it has an impact on devising subsequent intervention strategies for the referred client. Therefore, the effectiveness of a psychological assessment report may be determined by the extent to which it can be meaningfully understood by its readers (Brenner, 2003; Dombrowski, 2020).

Identified Issues with Psychological Reports

Readability

Reading Level. Much of the literature on improving professional psychological report writing has stemmed from research on parents' and teachers' understanding of their child/student's psychological report. Specifically, parents and teachers are better able to understand psychological information when the report is written at a lower reading level (Bucknavage, 2007; Rahill, 2018; Wiener & Kohler, 1986). There are many different formulas to calculate the readability of text, however, the Flesch Kincaid grade level score is the most commonly used to determine reading difficulty (Mueller & Mueller, 2010). It provides the best approximation of the equivalent grade reading level (between 0 and 19). The Flesch Kincaid score indicates the U.S. grade required to be able to understand the text material. The formula is .39(average sentence length) + 11.8(average syllables per word) – 15.59 (Kincaid et al., 1975). The average reading level for adults in Canada is in the range of 8th grade or lower (Statistics Canada, 2011; Jamieson, 2006). For this reason, most psychological report writing guidelines

and textbooks on report writing recommend a grade 6 level to be accessible for all audiences (Groth-Marnat, 2003; Groth-Marnat & Wright, 2016; Kamphaus and Frick, 2005; Schneider et al., 2018; Wright et al., 2021). However, psychologists are writing reports at a grade 15 level or higher, which is well beyond the grade level of most service users (Harvey, 1997, 2006; Mueller & Mueller, 2010). Consequently, graduate students are typically supervised by practicing psychologists and may be taught how to write their reports based on their supervisor's report-writing practices; therefore, it is possible many students do not come across reports that are easily understandable to most non-psychologists.

Indeed, training programs may not teach their students to write grade-level appropriate reports. Harvey (2006) surveyed psychology graduate students and found that their supervisors, professors, and textbooks all contributed to the issue of poor readability. First, students reported that their supervisors told them to define psychological terms but did not explicitly teach them how to incorporate these explanations in an integrated way, and second, students felt they were taught to "overemphasize test scores" and "underemphasize writing about the client as a person" (Harvey, 2006, p. 6). Lastly, the textbook exemplar reports that were offered to students to emulate were written at a grade 13 level or higher. Thus, it is possible students do not get to read reports written at a level understandable to most individuals. This is especially concerning because about 72% of clients and those involved in their care have about 12 or fewer years of education (Harvey 1997, 2006; Mastoras et al, 2011; Groth-Marnat & Wright, 2016) and 60% of adults in Canada struggle to understand health-care related information pertaining to their health or well-being (Mueller & Mueller, 2010; Murray et al., 2008).

Psychological Jargon. The readability of reports is also impacted by statistical and technical jargon. Psychological reports often contain some psychological jargon to a degree,

however, such terms should be thoroughly explained in accessible language (Groth-Marnat, 2009; Mastoras et al., 2011; Rucker, 1967). The use of jargon in reports has been found to contribute to poor comprehension of the material and misinterpretation of the results (Bucknavage, 2007; Rahill, 2018; Rucker, 1967). Conversely, psychological reports that explain jargon have been found to support the reader's comprehension and are generally preferred by most consumers (Bucknavage, 2007; Ownby, 1997; Wiener, 1987; Weiner & Kohler, 1984). For example, Pentyliuk (2002) found parents had trouble making sense of the term *learning disability* and it was ambiguous to them as to why their child was having difficulties at all. Thus, psychologists appear to write their reports for other psychologists; in other words, they might not explain terms that may be unfamiliar to the general population. Furthermore, students are not explicitly taught to define terms. Harvey (2006) found that psychology graduate students used jargon in their report writing to impress their supervisors and reported that writing at a higher level implied they understood the topic well. However, the same students reported that writing at a lower reading level would indeed make reports more understandable for service users and stakeholders. Specifically, students commented that terms such as *overall FSIQ* are arguably not familiar to non-psychologists, however, they reported that they did not receive instruction on how to explain the assessment data in a manner understandable to most readers (Harvey, 2006). Thus, students might need more explicit training on how to define and clarify technical terms in plain language.

Report Length. Report length can also significantly affect the readability of text. When sentences are shortened and simpler terms are used in place of jargon, the readability level increases i.e., the Flesch Kincaid grade level decreases. Therefore, writing concise reports is generally recommended, however, the literature regarding the effectiveness of shorter reports is

mixed. Bucknavage (2007) examined the effects of report length on parents' and teachers' recall and preference for different reports. They found that the length of reports did not impact parents' and teachers' subsequent recall of the material; further, parents and teachers showed no preference for longer or shorter reports. Conversely, Wiener and Kohler (1986) found parents preferred longer reports that were organized by functional domain (theme-based), described the client's strengths and problems clearly, and offered elaborate recommendations over shorter reports that did not include those elements. However, preferences for longer reports may be confounded by variables such as formatting or presentation style. Accordingly, the empirical literature on the impact of report length is not clear.

As psychologists incorporated routine feedback sessions into their practice, report lengths decreased (Postal & Armstrong, 2013). However, there remains considerable variability in report length and little literature to support what length is optimal. Regardless, psychologists' professional opinions concerning report length continue to vary. Donders (2016) posits that clinicians should only describe what is most important in detail and be concise about everything else including recommendations. Lichtenberger and colleagues (2004) agree psychologists should use accurate and concise language to reduce jargon and therefore the potential for information to be misinterpreted. Furthermore, report length may also vary depending on the client population served. For example, Postal et al. (2018) surveyed 423 psychologists and found report length differed greatly depending on their specialty. Specifically, child neuropsychologists' reports were longer (around 11.6 pages) compared to adult and geriatric neuropsychologists (approximately 7.8 and 6.3 pages, respectively). Postal et al. (2018) also surveyed referral sources (schools, hospitals, etc.) and discovered that they prefer shorter reports over lengthy ones. Despite this, psychologists reported a general unwillingness to write shorter

reports because of the belief that it may sacrifice comprehensiveness and thus, the ability to "capture the patient" and their presenting problem in its entirety (p. 16). Guidelines for report writing recommend shorter page lengths (Groth-Marnat & Wright, 2016; Schneider et al., 2018; Wright et al., 2021), however, there has yet to be a strong empirical basis for such suggestions.

Presentation Style and Formatting

Use of Bullet Points. Neurophysiological and psychoeducational reports have a reputation for being lengthy, overly focused on test results, and visually difficult to read (Baum et al., 2017; Donders, 2016). Reports often lack 'white space' and include blocks of text in paragraph form that is arguably more difficult to read than shorter sections of text (Schneider et al., 2018). Although the literature is limited, research suggests clients and stakeholders prefer reports that use bullet points where possible e.g., background information or history, diagnoses, and recommendations sections (Gomez, 2006; Mahoney et al., 2017; Postal et al., 2018). For instance, teachers prefer to read psychological reports that use bullet points because they find them easier to follow and they prefer bulleted diagnoses and recommendations sections to increase reading efficiency (Gomez, 2006; Mahoney et al., 2017). Schneider and colleagues (2018) suggest psychologists should format their reports in a stylish yet professional manner and decrease visual clutter by creating more white space. Bullet points are considered visually less taxing than block text (paragraphs) and create more white space in the document. They also allow psychologists to focus on the most pertinent information in a systematic way (Baum et al., 2017). Groth-Marnat and Wright (2016) recommend the use of bullet points to emphasize important areas of the report (e.g., diagnoses), and to break up large blocks of text to increase overall visual readability. There is some empirical basis for such suggestions; Postal and colleges (2018) found referral sources to prefer psychological reports that include a bulleted diagnosis

section (72.5%; as opposed to the diagnoses being integrated into a paragraph) and bulleted recommendations (86.5%). Regardless of these suggestions, no consensus has occurred on how best to use bullet points in psychological reports.

Visuals to Explain Results. Tables and graphs also break up text and capture the reader's attention to important data. Graphs and tables may improve the organization of the report and they may aid the reader's understanding of the material. Miller and Watkin (2010) had 144 parents read psychoeducational reports either with or without bar graphs and then tested their recall and satisfaction. Parents who read a report with bar graphs to support the results recalled significantly more information than parents who read a report without graphs. Parents were also more satisfied with reports when they included visuals to supplement the results (Miller and Watkin, 2010). Textbooks on report writing recommend the use of tables and charts to organize test scores and to emphasize important quantitative information (Groth-Marnat & Wright, 2016; Kamphaus and Frick, 2005; Schneider et al., 2018). For instance, Schneider and colleagues' (2018) textbook the *Essentials of Report Writing* is a commonly used text in graduate-level cognitive assessment courses. In addition to tables and charts, they recommend using visual aids such as a bell curve to explain the distribution of test scores and the concept of percentile ranks. Providing a visual may increase the likelihood that the information is accurately understood, however, no consensus has emerged regarding how best to use graphs, tables, or charts (Baum et al., 2017; Donders, 2016; Wright, 2011). The frequency with which psychologists use visuals in their reports varies considerably and it is unknown to what extent the use of visuals to explain assessment results is emphasized during graduate training.

Domain formatting vs. test-by-test. Students and novice psychologists tend to organize their reports by the source of information (e.g., test-by-test), contrary to the research evidence.

Such reports focus on the test scores and they tend to be filled with overly generic statements such as *test scores indicate that* (Groth-Marnat, 2009). Students may use a test-by-test format because integrating the assessment information is a challenging task that requires training and practice and reporting the results test-by-test is simply, easier (Groth-Marnat & Horvath, 2006). Further, students are often taught to organize their reports by source, which includes sections with headings such as background, tests used, behavioural observations, test results, summary and recommendations (Groth-Marnat, 2009; Wiener & Costaris, 2011). However, as previously discussed, consumers of reports (i.e., parents and teachers), prefer and are better able to understand reports organized by functional domain and written in a client-centred manner i.e., relate data to the client's presenting problems as opposed to merely reporting test scores (Beutler & Groth-Marnat, 2003; Rahill, 2018; Savango & Teglasi, 1987; Wiener & Kohler, 1986; Wiener, 1987). Reports organized by functional domain present the assessment results by domain (thematically) and describe the client's functioning by integrating the assessment information collected from multiple sources (Groth-Marnat, 2009; Wiener & Costaris, 2011). For example, if the main concern was depressive symptoms, an important domain to include in the report would be *depression* and within this section of the report the clinician would report on all the measures that identify levels of depression, such as the Personality Assessment Inventory for Adolescents, Mini International Neuropsychiatric Interview for Children and Adolescents, and the Revised Children's Anxiety and Depression Scale. In this manner, the clinician can demonstrate convergence among symptom endorsements. Domain-formatted reports also focus on describing the implications of the results and provide recommendations supported by the data (Brenner, 2003; Groth-Marnat, 2009; Groth-Marnat & Wright, 2016; Mastoras et al., 2011). When the assessment information is presented in this manner, reports are rated as being more *user-friendly*

and more useful than reports that focus on explaining test score results and contain lengthy history sections (Baum et al., 2017; Brenner, 2003; Donders, 2001; Pelco et al., 2009; Postal et al., 2018).

Test-by-test formatting is arguably an efficient way to organize the test-result information and clarify the source of data. However, Groth-Marnat and Wright (2016) suggest when clinicians use this approach, they are failing to integrate the data appropriately. Moreover, this format lends itself to writing overly generic interpretations (Groth-Marnat, 2009). Psychologists might base their interpretations on individuals with *similar test-score profiles,* rather than describing the individual client's performance within their unique context (Groth-Marnat and Wright, 2016, Wright, 2010; Wiener & Costaris, 2011). What is also problematic with test-by-test formatting is it may give the reader the impression the clinician prioritized the test-score data over other sources of relevant information (i.e., history, questionnaire data, clinical interviews, etc.), which might also suggest that the clinician has not adequately conceptualized all of the assessment data (Mendoza, 2001).

Integration and Individualization

Not Being Explicit about Diagnoses. Diagnostic uncertainty is common in psychological practice. Lack of sufficient information and complex cases often leave psychologists perplexed. Despite this common experience, most of the clinical reasoning literature focuses on issues about diagnostic accuracy rather than addressing how diagnostic uncertainty is inevitable in psychological assessment (Caudra and Albaugh, 1956; Santhosh, et al., 2019). Furthermore, both the psychological and medical literature on diagnostic uncertainty is scant regarding how best to train students to deal with it (Olsen, 2019). As a result, psychological reports may contain language that dances around a diagnosis or conclusions that

appear tentative. Language such as "*at risk for dyslexia*" or "*probably meets criteria for*" is not clear. There may be a few reasons for this: (a) student clinicians may be apprehensive in their clinical decision-making, and (b) ambiguous wording may be used by psychologists who are not confident in their formulation or conclusions (Russell et al., 2012). Vague wording and over-speculations are likely to be interpreted ambiguously by parents and teachers and nothing is likely to be achieved (Santhosh, et al., 2019).

Communicating being uncertain about a diagnosis is not only preferred by clients but has also been shown to increase their trust in their clinician because of the expert's honesty (Santhosh, et al., 2019; Olsen et al., 2019). Groth-Marnat and Wright (2016) propose psychologists should be held responsible for the conclusions they make about a client and therefore if there are uncertainties, the report should clearly communicate their apprehensiveness. For parents, the categorical label (diagnosis) may provide an explanatory function for their child's current functioning which could offer relief, and for teachers, the label is often necessary for access to subsequent interventions and school accommodations. Therefore, when reporting the diagnosis psychologists ought to present the information clearly and if a diagnosis is not made, or if there is insufficient or conflicting data, the written report should candidly reflect this. Ultimately, any reader of the report should be able to follow the logic behind the conclusions made (Wright, 2011).

Poorly Integrated Summaries. The summary or clinical interpretation section of the psychological report is the pinnacle. It should integrate all relevant sources of information and paint a cohesive picture of the client's functioning (Groth-Marnat & Wright, 2016; Schneider et al., 2018). However, the degree to which reports integrate information from different sources (e.g., interviews, psychological test data, questionnaires, etc.) varies considerably among

psychologists (Groth-Marnat & Wright, 2016; Groth-Marnat & Horvath, 2006). As mentioned, reports formatted test-by-test tend to have poorly integrated case formulations which result in a report that emphasizes the test scores. According to Groth-Marnat and Horvath (2006) reports low on integration read more like "a description of the test results" without a discussion of what the test scores mean for the client (p.75). Such reports do not explain important differences between scores or contradicting information, and they fail to put the assessment results into context for the individual being evaluated (Beutler & Groth-Marnat, 2003).

Writing an integrated report requires a comprehensive understanding of psychological assessment and interpretation as well as clinical judgment. Therefore, it is not surprising psychology graduate students struggle with integrating all sources of information in a meaningful way (Groth-Marnat, 2009; Wiener & Costaris, 2011). A particular challenge for students in training is linking the assessment results to the specific client's presenting issues (Groth-Marnat, 2003). Students are often not explicitly taught how to relate their interpretations and diagnostic formulations to the individual client (Groth-Marnat & Wright, 2016; Harvey, 2006; Mastoras et al., 2011). According to Mastoras and colleagues (2011), students appear to focus on reporting test results verbatim with minimal connections made to the client on a more personal level. For example, *a low score on the Visual-Spatial Processing Index on the WISC might indicate difficulties in understanding visual-spatial relationships*. Such statements result in reports being overly generic and full of jargon (Mastoras et al., 2011). Furthermore, students tend not to use qualitative descriptions to explain any psychological jargon in the report (Groth-Marnat, 2009; Harvey, 2006). For example, they might use the term *verbal working memory*, when they could supplement this term by explaining the client's performance as *the client had trouble repeating a string of numbers backwards* or *the client had difficulty recalling a list of words* (Groth-Marnat

& Wright, 2016). Students may need more opportunities to practice integrating the evaluation data before writing the psychological report (Groth-Marnat & Wright, 2016; Groth-Marnat, 2009; Wiener & Costaris, 2011).

Generic Treatment Recommendations. The very purpose of a psychological assessment report is the treatment recommendations because they reveal what can be done to ameliorate the client's concerns. Psychological reports with specific recommendations as opposed to general are rated as more useful by parents and teachers (Tidwell and Wetter, 1978; Ownby, 1990). For example, a recommendation such as, *the client should have therapy*, is not as useful as *the client would likely benefit from cognitive behavioural therapy techniques for reducing anxiety.* Parents and teachers also prefer reports that include concrete, practical, and appropriate recommendations for intervention (Brenner, 2003; Salvango & Telgasi, 1897; Tidwell & Wetter, 1978). To provide appropriate recommendations, clinicians must know what is feasible for the individual client. This includes working with the referral source, the client's family, and whoever else is involved in their care to develop obtainable and practical recommendations that can actually be applied (Groth-Marnat & Wright, 2016). Relatedly, the degree of congruence between parents and the psychologist's view of the child's presenting problem is important for buy-in (Merkel, 2010). Teglasi (1985) found when reports reflected that the psychologist thoroughly understood the child's needs, parents were more likely to adhere to the treatment recommendations provided. Parents are also more likely to adhere to recommendations if they perceive them to be useful (Geffken et al., 2006; Human and Teglasi, 1993; MacNaughton and Rodrigue, 2001; Merkel, 2010; Meichenbaum and Turk, 1987). Therefore, treatment recommendations need to be clear, feasible and most importantly, highly individualized.

Client-Centered Reports. Client-centred report writing is a style focused on emphasizing the client's attributes and performance, as well as describing their strengths and weaknesses (Groth-Marnat, 2009). In other words, psychologists who produce client-centred reports focus on describing the person before them, rather than reporting test data. Client-centred reports are usually organized by functional domain and each section clearly relates to the main concerns or referral question (Brenner, 2003). Several textbooks on psychological report writing encourage client-centred approaches, however, despite these suggestions psychological reports have often been criticized for focusing too much on test scores without explaining how the data relates to the client conceptually (Groth-Marnat, 2003; Groth-Marnat & Wright, 2016; Wright, 2011). Other issues include generic interpretations, a focus on the client's weaknesses over strengths, and unclear connections between the referral question and the results or recommendations made (Brenner, 2003; Mastoras et al., 2011; Harvey, 1997, 2002; Rahill, 2018). These concerns have existed for the past twenty-five years, which reveals the limited advances made despite several recommendations to change.

As previously discussed, the opposite of a client-centred, integrated report is one that is generic and usually formatted test-by-test. Psychological reports low on client-centeredness, are likely to have more generic interpretations because they focus on reporting the test data verbatim e.g., *X scored in the clinically significant range* (Mastoras et al., 2011). Another reason may be that clinicians often use computer-generated interpretive reports in their formulations; however, they should refrain from copying them verbatim into their reports (Groth-Marnat & Wright, 2016). First, the language used in computer-generated reports is difficult for non-psychologists to understand, and second, the data must be analyzed and integrated among the rest of the information gathered before interpretive statements can be made (Carlson and Harvey, 2004;

Groth-Marnat & Wright, 2016). Psychologists may also use report templates or hold a database of clearly written treatment recommendations (Carlson and Harvey, 2004). Consequently, there is the potential for psychologists to rely on one-size-fits-all statements to increase their report-writing efficiency (Harvey, 2006). Copy and pasting may save time, but without taking the time to link each recommendation to the assessment data, they are likely to appear generic (Wiener & Costaris, 2012). Therefore, it is considered best practice to individualize the language used in reports to the individual being assessed (Brenner, 2003; Groth-Marnat & Wright, 2016, Mastoras et al., 2011). According to Groth-Marnat and Wright (2016), for a report to be considered client-centred overall it must: (a) be written in an integrated manner and therefore, organized by domain, (b) the treatment suggestions need to directly relate to the presenting problem and provide what can be done, and (c) the report should focus directly on what *differentiates* the individual from another – in other words, instead of focusing on what was *average,* emphasize what is unique to the specific individual, and lastly, (d) the report should be written from the client or stakeholder's perspective (parents, teacher, etc.) which includes considering their level of education, cultural expectations, and their contextual situation.

How is Psychological Report Writing Taught?

The research regarding the teaching practices of accredited psychology programs is limited. The available literature suggests considerable variability among accredited programs regarding the depth and breadth of explicit training and practical experiences (Krishnamurthy et al., 2004; Ready et al., 2016). This is not surprising given the fact the guidelines used for accreditation review of graduate programs do not specify the specific content to be taught nor the method of instruction to be used to teach psychological assessment (Childs and Eyde, 2002). However, CPA and APA-accredited clinical psychology programs generally provide a similar

sequence of courses in the areas of test-based psychological assessment, diagnostic interviewing, psychometrics, and psychopathology (Ready et al., 2016; Wright, 2021). Some courses include a practicum component which offers students applied experience in clinical assessment. Despite the strong empirical support for certain types of psychological assessment reports, as discussed in this review, strategies for teaching psychological report writing have barely been deliberated in the literature.

The School and Clinical Child Psychology (SCCP) program at the University of Alberta has students learn report writing skills through direct instruction (lecture-based courses) and indirectly through their practicum opportunities. Throughout their training, students work with different clinical supervisors who likely have different practices and opinions regarding what constitutes a well-composed psychological report. For this reason, students often adapt their report writing to reflect their supervisor's preferences. Working with different clinical supervisors also exposes students to different perspectives and styles of professional report writing.

The SCCP program at the Ontario Institute for Studies in Education (OISE) uses a more systematic approach to teaching specific report-writing skills. Wiener and Costaris (2011) use a scaffolded and constructivist-based approach which includes the use of graphic organizers to help students organize and integrate the assessment data before writing their reports (Wiener and Costaris, 2011). According to Wiener and Costaris (2011), the greatest challenge for supervisors and professors teaching report writing is the scaffolding and support required to write an integrative report. In particular, they provide students with exemplar reports and encourage them to compare and contrast different reports to facilitate their learning. However, the authors note

they did not collect data to support the effectiveness of these strategies, although they are consistent with theory and are supported by the literature.

There is virtually no research on how best to teach report writing in professional psychology programs. A handful of research, however, suggests psychology graduate students do not receive sufficient training in report writing before their doctoral internship. Stedman and colleagues (2000) used the number of reports students have written prior to internship to measure pre-doctoral internship experience with assessment and report writing; they found only 25% of students had adequate report writing experience. Further, 25% of the students had minimal training in report writing before internship. Similarly, Clemence and Handler (2010) surveyed 382 accredited internship sites across North America. The most notable finding was that 56% of the sites indicated they had to provide introductory-level assessment training to their resident. Moreover, these findings were consistent six years later. Ready and colleagues (2016) surveyed the Association of Psychology Postdoctoral and Internship Centers (APPIC) in North America and found the majority of sites indicated that candidates were not adequately prepared in psychological report writing and clinical interviewing skills. Together, these results suggest professional psychology programs could be doing more to improve training in psychological assessment and report writing for their students.

Present Study

The discussed literature has identified several issues that contribute to poor readability and the overall quality of reports. A consistent factor that has been identified as contributing to these ongoing issues is the training practices of professional psychology programs. Research investigating graduate students' developing competency in report writing is necessary to understand how training programs can be improved. Furthermore, understanding the

relationships between report writing characteristics (presentation styles, integration, and readability) may provide important implications for training and practice.

To our knowledge, there has never been any inquiry into psychology graduate students' report writing competencies within a professional psychology program in Western Canada. The purpose of this study was to analyze graduate students' psychological assessment reports to reveal commonalities and differences in report writing style and content, and to compare them to the empirical literature regarding best practices. In addition, the relationships between specific report writing characteristics such as presentation style, integration, and readability were also explored. Given the lack of research on report writing in graduate students, and on improving training in clinical psychology more broadly, the findings substantially add to the existing literature.

Chapter III: Method

Sample

The sample consisted of seven master's psychology students who were in their second year of a professional psychology program in Western Canada. Each student wrote nine psychological assessment reports during their practicum. Student confidentiality was protected by replacing names with identification numbers. In total, sixty-three archived psychological reports were systematically coded and accessed digitally through a secure server.

Measures

Coding Scheme

Five broad categories of report writing were explored and systematically coded. The categories included: readability, comprehensiveness, presentation style, integration, and client-

centeredness. Appendix A provides details of the coding scheme including definitions and examples of how specific content was coded. Under *readability,* the following content was analyzed: report length, percentage of passive sentences, and readability (Flesch Kincaid grade level computed by Microsoft word). The following categories were dummy coded as either 1 (Yes, is present) or 0 (No, is not present). *Comprehensiveness* included coding: (a) whether the report stated an explicit diagnosis and if no diagnoses were made that was explicitly stated, (b) specific evidence for the diagnosis was present (c) DSM codes were included (d) whether a cross-battery approach was used, and (e), a statement regarding the validity of the results was made. *Presentation style* included coding the format used: (a) test-by-test, (b) domain-format, (c) question and answer format, (d) if bullet points were used to present information, and lastly (e), if visuals such as graphs were used to explain the results. Under *integration* the following content was coded: (a) the summary/clinical interpretations section is written in an integrated manner (b) the summary/clinical interpretations section restates the test data without interpretation or integration. Lastly, under *client-centeredness* the following content was coded: (a) the recommendations have clear and concrete examples, and (b) the individual test results are clearly about the individual (language is specific to the client being evaluated and not generic).

Procedure

The archived reports were accessed digitally through a secure server. In total 63 reports written between 2016 and 2017 were reviewed and each participant (owner of the report, i.e., parent) had previously provided consent for their child's psychological report information to be used in future research at the facility. For this reason, follow-up consent was not required. The a priori coding scheme was developed and the content was validated by an expert reviewer (i.e., a registered psychologist with over a decade of report writing experience). The coding scheme was

reviewed, piloted on one report, and revised before being finalized by the primary researchers (see Appendix A). The datum was then systematically coded using the coding scheme in Microsoft Excel and each code was tabulated to gain a better understanding of the commonalities in report writing practices among graduate students in training. I completed the coding and an external research assistant was employed to code ten randomly selected reports (17% of the sample) to ensure reliability and consistency. The ten reports were then compared, and inter-rater reliability was calculated using Cohen's Kappa statistic. Cohen's Kappa is commonly used to assess the reliability of coding schemes and rating scales in psychology (Neuendorf, 2010). Generally, scores of about 80 percent agreement are considered excellent in most situations (Neuendorf, 2010; refer to results section).

Research Questions

In this study, the following research questions were explored:

1. How do students present the information in their psychological reports?
2. Are students reports understandable for most readers?
3. How comprehensive and client centered are students' reports?
4. What is the relationship, if any, between integrated interpretations (integrative versus non-integrative summaries) and report formatting (test-by-test versus domain-based reports)?
5. Is there a difference in reading levels between two formatting types (test-by-test and domain-based) in the given sample of reports?
6. What is the association, if any, between document length, percentage of passive sentences, and the Flesch Kincaid grade score of reports?

Research Design

Quantitative content analysis consists of tabulating the occurrence of codes to characterize and describe written information in a systematic and quantitative manner. An a priori coding scheme was developed considering the existing literature and research questions. Classification rules to assign coding units to particular categories were developed by consulting the literature and an expert reviewer (i.e., a registered psychologist/ professor) to validate content as well as the face validity of the coding scheme. The coding scheme specified how and what to code to ensure systematic and replicable coding of the data. The majority of the codes were categorical and, therefore, they were dummy coded. Descriptive statistics and appropriate inferential statistics were used to answer the given research questions.

Analyses

All analyses were conducted in IBM Statistical Program for the Social Sciences Version 24 (SPSS-24). First, I ran descriptive statistics to observe if there were any trends in the data within the means, standard deviations, and frequencies for all variables. Descriptive frequencies were reported to answer research questions one through three and to summarize the data for the purpose of discussion. Second, I ran a chi-square test with Yates' continuity correction to determine whether there is a significant relationship between integrative versus non integrative reports and formatting type (test-by-test versus domain-based). Third, I ran an independent samples t-test to test for differences in readability level scores between test-by-test and domain-formatted reports. Lastly, I ran correlations to look for associations between the Flesch Kincaid grade level score, percentage of passive sentences, and document length for the 63 reports.

Chapter IV: Results

Inter-Rater Reliability

Inter-rater reliability was calculated for agreement between two raters across 10 reports (17% of the total sample). Percent agreement was recorded for each variable and Cohen's kappa coefficient was used to determine the expected agreement by chance. The percent agreement across the 10 reports was 92.89% and the chance agreement was 0.657. Cohen's kappa was calculated to be 0.635 ($p < .001$), indicating substantial inter-rater reliability between the two raters. These findings suggest the two raters generally agreed on the variables evaluated in the reports more than expected by chance and their ratings can be considered consistent and reliable.

Presentation Style

(1) How do students present the information in their psychological reports? Out of the 63 reports, 28 used bullet points, 24 used domain formatting and 39 used test-by-test formatting. No reports used question-and-answer formatting or visuals to explain the results (refer to Table 1).

Table 1

Presentation Style Descriptives

Presentation Style Variables	Frequency (n)	Percentage (%)
Test-by-Test	39	60.9%
Bullet Points	28	43.8%
Domain Format	24	37.5%
Visuals	0	0.0%
Q & A Format	0	0.0%

Readability

(2) Are students reports understandable for most readers? Out of the 63 reports, the average Flesch Kincaid grade level was 12.7, which means a reader would need to have completed high school (grade 12) to be able to read the text. The Flesch Kincaid grade level reveals how many years of schooling are required to understand a given text. For example, a score of 8 means an individual who has mastered eighth grade curricular content should be able to understand the text. Grade-level readability scores ranged from 5.1 to 17.0. As shown in Table 2, average report length was 23.25 pages and the mean percentage of passive sentences occurring in reports was 21%.

Table 2

Readability Descriptive Statistics

Variables	M	SD	Mode	Min	Max
Length	23.25	3.79	26	12	31
Flesch Kincaid Reading Level	12.68	1.42	12.0	5.20	17.0
Percentage of Passive Sentences	20.55%	8.30%	20.0%	5.2%	71.0%

Note. All reports were single-spaced.

Comprehensiveness and Client Centeredness

(3) How comprehensive and client centered are students reports? Out of 63 reports, 46 provided an explicit diagnosis/diagnoses, 16 included DSM codes, and 27 provided specific evidence for the diagnosis/diagnoses given. In terms of client-centeredness, 22 reports had recommendations that used clear and concrete examples and 45 reports presented the assessment results in a client-centred manner. These and other variables are summarized in Table. 3

Table 3

Descriptives for Comprehensiveness and Client-centeredness

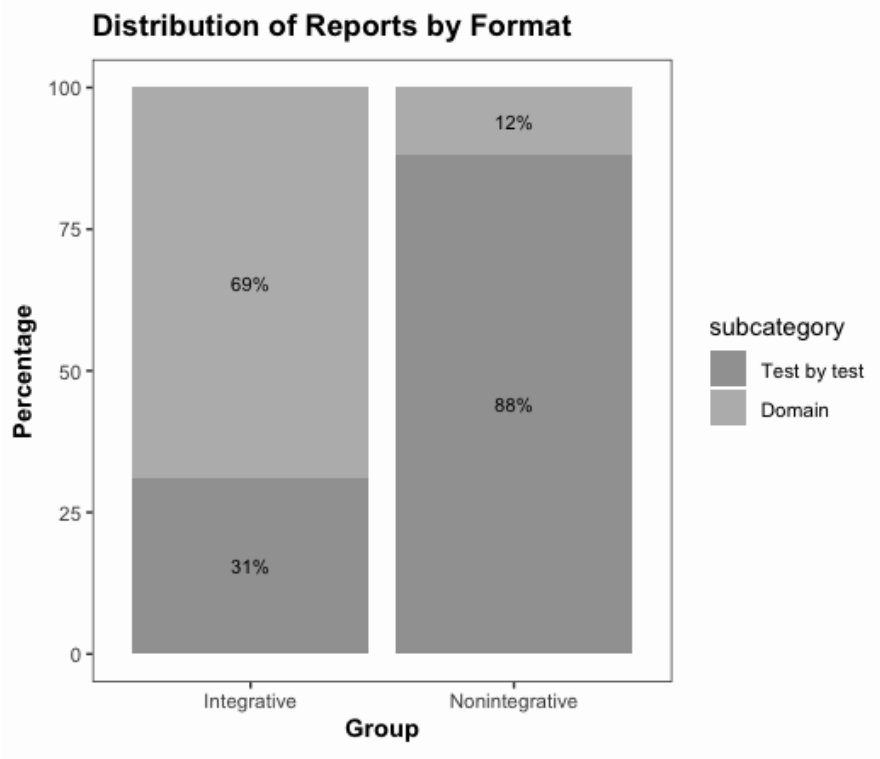
Variables	Frequency (n)	Percentage (%)
DSM Codes included	16	25.0%
Recommendations are concrete & clear	22	34.4%
Results are client centered	45	70.3%
Includes Test Scores	61	95.3%
Statement about Validity	62	96.6%

The Relationship between Integration and Format

(4) What is the relationship, if any, between integrated interpretations (integrative versus non-integrative reports) and report formatting (test-by-test versus domain-driven reports)? A chi-square test with Yates' continuity correction was conducted to examine the association between integrative versus non integrative reports and formatting type (test by test versus domain). The sample included 63 reports, with 9 in the Integrative Test by Test category, 20 in the Integrative Domain Format category, 30 in the Nonintegrative Test by Test category, and 4 in the Nonintegrative Domain category. Results revealed a significant association between the integration of interpretations and format type, $\chi^2(1, N = 63) = 19.36$, $p < .001$, with a medium effect size (Cramer's $V = .42$). Therefore, a statistically significant and moderate association exists between the type of report (integrative vs nonintegrative) and the formatting type (test by test vs domain). Figure 1 shows, within integrative reports, a higher percentage were formatted by domain.

Figure 1

Format Type within Integrative and Nonintegrative Reports



Note. X-axis represents report categories, Y-axis represents frequency, and the bar colour represents subcategories (test by test and domain).

The Relationship between Readability and Format

(5) Is there a difference in reading levels between two formatting types (test-by-test and domain) in the given sample of reports? An independent samples t-test was conducted to compare the mean reading level scores between the test-by-test and domain formats. The test-by-test format group (n = 39) had a mean reading level score of M = 12.749 (SD = 1.1443), while the domain format group (n = 24) had a mean reading level score of M = 12.579 (SD = 1.8151). Prior to the t-test, Levene's test was conducted to test for equality of variances between the two

groups. The results indicated the assumption of equal variances was met, $F(1, 61) = 1.785$, $p = .187$. The t-test did not reveal a significant difference between the two groups, $t(34.381) = .410$, $p = .684$, two-tailed.

Relationships Among Readability Variables

(6) What is the association, if any, between document length, percentage of passive sentences, and the Flesch Kincaid grade score of reports? A correlation analysis was conducted to examine the relationship between document length, percentage of passive sentences, and Flesch Kincaid grade level. The results indicated a significant positive correlation between percentage of passive sentences and Flesch Kincaid grade level ($r = .350$, $p = .005$). The relationship between document length and Flesch Kincaid grade level was not significant, and there was a non-significant correlation between document length and percentage of passive sentences. All correlations between the readability variables are presented in Table 4.

Table 4

Correlations for Readability Variables

Variables	1	2	3
1. Kincaid grade level	-	-.125	.350**
2. Document Length	-.125	-	.030
3. Percentage of Passive Sentences	.350**	.030	-

Note. **p < 0.05, *N*= 63

Chapter V: Discussion

Overall, the findings suggest students have difficulty writing accessible and integrated reports. On average, reports formatted by domain were significantly more likely to have integrated summaries (i.e., clinical interpretations) compared to reports formatted test-by-test.

However, the majority of reports were formatted using a test-by-test approach and they were poorly integrated. These results suggest formatting choice significantly influences integration. Additionally, I found a positive relationship between the complexity of sentences (percentage of passive sentences) and the difficulty of text (Flesch Kincaid grade level). These results suggest the use of passive sentences in psychological reports may contribute to poor readability.

Readability

In this study, the average Kincaid grade score was 12.7, which means a reader would need to have at least a high school education to be able to understand the report. These results are consistent with previous studies which revealed that psychological reports tend to be difficult to read (Harvey, 1997, 2002; Weddig, 1984). Although the results indicate a lower reading grade level than the exemplar reports found in most cognitive assessment textbooks (grade 13-15; Harvey, 2006), a grade twelve reading level is still far too high to be accessible for most service users. As discussed, the average reading grade level in Canada is in the range of 8th grade or lower (Statistics Canada, 2011). For this reason, the National Work Group on Literacy and Heath recommends all healthcare-related documents be written at a 5th grade reading level to ensure accessibility (Murray et al., 2008). Despite this suggestion, psychological reports continue to be difficult to read for most non-psychologists (Backnavage, 2007, Kannan, et al., 2021; Rahill, 2018; Wiener & Kohler, 1986).

In the current study, the lowest reading level found was a 5th grade level, which indicates it is indeed possible. As discussed in the review, there are several factors that contribute to poor Flesch Kincaid readability scores. I found passive sentences to be strongly associated with worse (i.e., higher) readability scores, while report length did not have a significant impact on readability. There may a few reasons for this trend. First, passive sentences may be associated

with higher Flesch Kincaid grade scores as they tend to be longer and more complex than active sentences (Kim et al., 2007). Second, passive sentences also tend to be less clear and concise, which can make them more difficult to understand. Thus, most textbooks on report writing recommend writing in an active voice whenever possible to make reports more accessible (Groth-Marnat & Wright, 2016; Schneider, 2018). In terms of report length, longer documents generally have higher Flesch Kincaid grade scores as they contain a greater number of words overall. However, it is important to note the relationship between document length and Flesch Kincaid grade score is not always linear (Zheng and Yu, 2017). For example, a very short document with highly complex sentence structures could still have a high Flesch Kincaid grade score, even though it contains relatively few words. Thus, it may be more important to focus on using active voice and formatting the report in a manner that can be easily interpreted than to focus on the optimal length. Furthermore, parents and teachers do not have a preference for shorter or longer reports and document length does not seem to influence their subsequent recall of the material (Bucknavage, 2007). Conversely, parents and teachers consistently prefer and are better able to understand psychological reports that contain less jargon, are written at a lower reading level and explain the results in simple terms (Bucknavage, 2007; Pentyliuk, 2002; Ownby, 1997; Wiener, 1987). In an attempt to produce a report at a lower reading level, psychologists may want to consider writing in active voice as that may be easier than arbitrarily trying to wordsmith the document down to a lower readability level.

Difficulties with Training

As suggested by the results, most students need more explicit training and supervision on how to write a report at an appropriate reading level. According to Harvey (2006), students would like to write reports at a lower level but have difficulty doing so. Further, the exemplar

reports students have access to are written at a higher reading level. Harvey (2006) reviewed 20 commonly used professional psychology textbooks that contained model reports. Although all 20 textbooks advised reports to be written at a lower level (grade 6 or 7), the average readability level of the model reports was 18.49. Consequently, it is likely that graduate students in the course of their training rarely encounter psychological reports that can be easily understood by most non-psychologists. It is also possible novice report writers do not have sufficient background knowledge or experience to be able to write in the simplest terms. Throughout their training, students are exposed to psychological terms that are likely unfamiliar to non-psychologists (Groth-Marnat, 2009). Writing at a lower level requires a comprehensive understanding of the content. Only second-year masters level students' reports were analyzed in this study, therefore, I was not able to look at change over time. However, it is likely that report readability improves as content knowledge and clinical experience accrue. Further research is required to determine such a learning curve specifically for the development of report writing skills.

The Impact of Format on Readability

The formatting or presentation style of a psychological report may also have an impact on readability. There is no universally agreed upon method for producing a clear and concise report. However, domain (theme-based) formatting tends to be easier to read than test-by-test (Groth-Marnat and Horvath, 2006; Mastoras et al., 2011). The current study did not find a significant difference in mean readability levels and format type. Overall, the mean reading grade level for reports formatted by domain was slightly lower than for reports formatted test-by-test. However, further research is needed to confirm an association between format and the readability of text. As previously discussed, domain formatting is not only preferred, but also better understood by

clients, parents, teachers, and other stakeholders (Beutler & Groth-Marnat, 2003; Mastoras et al, 2011; Wiener & Kohler, 1986). This is not surprising given test-by-test formatting is more likely to contain psychological jargon by focusing on test scores and explaining the tests themselves (Mastoras et al., 2011; Wright, 2021). In contrast, domain formatting involves describing the client's functioning, presenting the information by practical domain and is written in a client-centred manner. The impact of psychological jargon was beyond the scope of this study, regardless, its influence on readability is well established (Bucknavage, 2007; Rucker, 1967). In general, psychological reports are rated as more effective when they are written using clear and basic language (Baum et al., 2017; Brenner, 2003; Bucknavage, 2007; Harvey, 1997; Ownby, 1997). In fact, even stakeholders with sufficient background knowledge to understand technical terms prefer reports written in plain language (Baum et al., 2017; Mahoney et al., 2017; Ownby, 1990,1997). Of course, other factors in addition to jargon affect the readability of a report including comprehensiveness and cultural appropriateness for its intended reader. Nonetheless, if presentation style or formatting impacts how the text is written by psychologists this has important implications for training and practice.

Presentation Style and Integration

In this study, the majority of reports were formatted test-by-test and had poorly integrated clinical interpretations. Forty-three percent of the reports used bullet points to present important information such as treatment recommendations or diagnoses. However, none of the reports used visuals such as graphs to present the assessment results. Several report writing textbooks encourage the use of bullet points and visuals to aid the reader's understanding of the information, however, the literature regarding how best to use them is limited (Groth-Marnat, 2003; Schneider et al., 2018; Wright et al., 2021). As discussed in the literature review, the

extent to which students are taught to use visuals and bullet points in their reports is unknown. Although the literature is limited, a few studies have found clients and stakeholders to prefer reports that use bullet points and graphs to explain the test results (Gomez, 2006; Mahoney et al., 2017; Postal et al., 2018). Miller and Watkin (2010) found parents recalled more information when they read a psychological report that used graphs to supplement the findings. However, further research is needed to reveal whether the use of visuals in reports contributes to a greater understanding of the material for service users.

Format Type and Integration

Reports that were formatted by domain were significantly more likely to have integrated interpretations, while reports formatted test-by-test were more likely to be poorly integrated. As discussed in the literature review, students often use a test-by-test format and focus their interpretation on the test scores which ultimately produces a report with poorly integrated formulations (Groth-Marnat, 2009). As discussed, there are several issues with test-by-test format, including poor integration as this style of report writing lends itself to writing overly generic formulations and reflects a failure to integrate the data appropriately (Groth-Marnat and Wright, 2016; Schwean et al., 2006). In contrast, reports formatted by domain, tend to focus on the assessment information as a coherent narrative as opposed to disparate portions of test data. In other words, this style of report writing describes the client as a person rather than listing and summarizing scores like a laboratory test (Groth-Marnat, 2009; Groth-Marnat and Wright, 2016). As suggested by the results, domain formatting may help students to focus less on the tests and test scores and more on how the results describe the individual being assessed. Several studies have found domain-based reports to be better understood by service users and stakeholders (Harvey, 2006; Rahill, 2018; Pelco et al., 2009; Umańa et al., 2019). It is presumed that domain-

formatted reports promote greater comprehension because the "integration serves to help the reader organize and accurately encode new information" (Pelco et al., 2009, p. 24-25). Contrary to the literature, students and novice report writers often use test-by-test formatting (Harvey, 2006). This may be for a few reasons. First, this report writing style is considered more efficient and easier as it does not require the clinician to explicitly integrate all of the assessment data (Groth-Marat & Wright, 2016; Groth-Marnat, 2009). Writing an integrated report requires greater synthesis by the writer which likely involves more time writing (Rahill, 2018; Pelco et al., 2009). Second, it might be easier for novice students to conceptualize the report in this manner because they have a limited understanding of the assessment measures. Third, it is likely easier to teach students to use test-by-test formatting because it requires less time (Groth-Marnat, 2009). Training programs and supervising psychologists may sacrifice quality for efficiency, because the amount of time it would take to review and provide feedback on an integrated report may not always be feasible (Mastoras et al., 2011). Further, programs may not be spending time reviewing the empirical literature on report writing best practices with their students (Pelco et al., 2009). Consequently, it is likely that most graduate students are not explicitly trained on how to write integrated domain-based reports (Harvey, 2006). However, reports written in a test-by-test manner are not well received by service users. Most notably, parents and teachers have difficulty comprehending the report information in a meaningful way, and as a result, this style of report writing may undermine the overall usefulness of the report (Mastoras et al., 2011).

Poorly Integrated Summaries

The findings also suggest most students struggle with writing an integrated summary or clinical interpretation. The summary section is one of the most important sections of the report and is the most read section by stakeholders (Mahoney et al., 2017; Postal et al., 2018). In

addition to summarizing the main findings of the evaluation, this section often includes the formulation and presentation of the diagnostic impressions (Mastoras et al., 2011). Most often this section is used to persuade the reader of the diagnostic decision, which requires considerable integration of the assessment data (Schwean et al., 2006). Readers of psychological reports from varying backgrounds consistently prefer and are better able to understand summary sections when they are written in a thorough and integrated manner (Baum et al., 2017; Mahoney et al., 2017). Groth-Marnat (2003) explains a particular challenge for students in training is linking the assessment results to the client's presenting problem. Just over half of the reports analyzed in this study (53%) wrote summary/clinical interpretations sections that recited the entire report without integrating or linking important findings. Students may need more explicit training on how to integrate all sources of information to produce a meaningful and accurate formulation. However, within reports that did write well-integrated summaries, the majority were formatted by domain. These results may have important implications for training as they suggest that type of format may improve integration within students' clinical interpretations. Wiener and Costaris (2011) stress that faculty and supervising psychologists need to provide adequate scaffolding to support students in learning how to write an integrated report. The SCCP program at the University of Toronto uses graphic organizers with questions as headings to promote students to think about what messages they want to get across to the reader (Wiener and Costaris, 2011). Domain formatting may also provide a graphic organizer-like structure as the clinician must create an outline of the primary domains assessed and then decide which domains need to be further broken down. Mastoras and colleagues (2011) suggest this outline could then be used to organize findings from the evaluation. Such an approach would likely help students see connections among the evaluation results and linkages between different domains, which may assist their

diagnostic interpretations. However, such teaching methods have not been empirically tested, therefore more research is required to determine whether this scaffolding strategy is effective.

Comprehensiveness and Individualization

Overall, reports varied in terms of how comprehensive they were. Deciding what to include in a report is a challenging task for psychologists as they must consider what information is important and what is less relevant for each case. A common consideration is whether to include test scores (Groth-Marnat and Horvath, 2006). Almost all the reports reviewed in this study included test scores (95.3%). Reporting the test scores may provide context for other healthcare professionals interested in the quantitative data. The literature is unanimous in recommending test scores be supplemented with interpretations regarding how the scores apply to real-life contexts for the individual (Brenner, 2003; Mastoras et al., 2011; Rahill, 2018). In fact, service users and stakeholders, including teachers and parents, prefer psychological reports that include interpretive statements over quantitative statements (Salvagno and Teglasi, 1987). Groth-Marnat and Wright (2016) advise only the test scores that contribute to a better understanding of the client should be included.

Addressing the Lack of Clarity

Careful consideration should also be given to how the diagnoses are presented in the report. As discussed in the review, a common problem is the lack of clarity in psychological reports, particularly, with the clinical formulation and diagnosis section (Caudra and Albaugh, Groth-Marnat, 2003; 1956; Harvey, 2006; Rahill, 2018). In this study, 71 % of the reports provided an explicit diagnosis (e.g., *Given the evidence presented, X meets criteria for X disorder*), and if no diagnoses were made that was explicitly stated (e.g., *"X did not meet criteria for any specific diagnoses at this time").* However, for 29% of the reports it was unclear what

the diagnosis was or if one was even made. Moreover, the conclusions were unclear to the primary researcher who has significant experience reading psychological reports. Such reports would likely be incomprehensible to a reader with limited background knowledge. Some reports appeared to dance around providing a diagnosis by using overly speculative statements. For example, five reports used phrasing such as, "*probably meets criteria for a diagnosis of X"* and "*likely has X disorder*." There may be a few reasons why student clinicians are hesitant to use assertive statements when making a diagnosis. They may not be confident in their formulation and conclusions, or there may be insufficient information available to come to a conclusion (Russell et al., 2012). For example, report card history, questionnaire results, or corroborative information may not be accessible, and without such data, the assessment results may be inconclusive. Student clinicians may have particular difficulty writing reports with conflicting or inclusive findings (Groth-Marnat, 2009). Another problem is psychologists and students in training have particular difficulty addressing diagnostic uncertainty (Olsen et al., 2019). Despite this common experience, research on best practices is quite limited. Groth-Marnat and Wright (2016) recommend clinicians should feel certain about their clinical impressions and if that is not possible, they should be candid about their uncertainty. Perhaps the best reason to write clear formulations is that it is both professionally and ethically expected of psychologists (O'Donohue et al., 2003). According to principle III in the Canadian Code of Ethics for Psychologists, psychologists are to "*make every reasonable effort to ensure that psychological knowledge is not misinterpreted or misused*" (CPA, Code of Ethics, p. 13). Wording that is overly speculative or ambiguous is significantly more likely to be misinterpreted by non-psychologists. Research on how best to teach students to manage diagnostic uncertainty is warranted.

Addressing the Lack of Cohesion

Students have difficulty linking important findings to their conclusions in the report (Mastoras et al., 2011; Schwean et al., 2006). In this study, less than half of the reports (42%) linked the assessment data to the findings in their clinical interpretations. Although psychologists must integrate all of the assessment measures to come to their conclusions, making these links explicit in the psychological report helps to support the reader's understanding of the client (Groth-Marnat, 2009; Mastoras et al., 2011). Explicitly providing evidence for a diagnosis helps to paint a cohesive narrative which may prepare readers for the final conclusions (Mastoras et a., 2011). Several textbooks used in psychological assessment courses strongly recommend a problem-solving approach when reporting the results and diagnoses (Groth-Marnat and Wright, 2016; Wright et al., 2011, Sattler, 2008). This includes linking and integrating pertinent findings from multiple methods of data collection (e.g., clinical interviews, questionnaire results, performance test scores, etc.) to demonstrate convergence of evidence for the diagnosis or lack thereof (Groth-Marnat and Davis, 2014). It is also considered best practice to report multiple sources of evidence when reporting the diagnosis, as opposed to highlighting a single finding from a single test (Brenner, 2003; Hass and Carriere, 2014; Mastoras et al., 2011). Although that may be tempting, the notable finding should be contextualized with all the other sources of information from the assessment in a manner that it is not overstated (Groth-Marnat and Davis, 2014; Groth-Marnat and Wright, 2016; Sattler, 2008). In this study, 58% of the reports analyzed did not adequately link the assessment data (performance test results, questionnaire data, clinical interview information, etc.) to the findings or conclusions about the person being evaluated. In four of the 63 reports, the diagnosis was presented with mention to only a single test (e.g., "*According to the results from the Conners-3, X meets criteria for Attention Deficit Disorder").* Not only does this suggest a lack of comprehensiveness, but also a failure to consider and

integrate other sources of data which is required for accurate psychological assessment (Groth-Marnat, 2009; Hass and Carriere, 2014; Mastoras et al., 2011; Wright, 2021). Students may feel more comfortable highlighting a prominent finding when presenting the diagnosis, or they may have difficulty contextualizing how it relates to other results from the assessment (Groth-Marnat, 2009; Groth-Marnat and Wright, 2016).

Client-Centered Report Writing

I also analyzed whether the results section of reports was written in a client-centered manner. As discussed, client-centered reports relate the assessment results or test scores directly to the individual client's presenting problem, referral question, and or observed behaviour (Groth-Marnat and Wright, 2016; Wright et al., 2011, Sattler, 2008). In this study, 70% of the reports reported the results in a client-centered manner. This suggests most students did not have difficulty conceptualizing how the assessment data or test scores relate to the individual client's presenting problems. When clinicians report the test results with minimal connections to the individual client, they often come across as generic rather than client-centred (Baum et al., 2017; Brenner, 2013). Mastoras and colleagues (2011) advise psychologists to provide interpretations of the test-score results rather than reporting the results verbatim. For example, *"X's overall cognitive ability was Average."* This statement does not provide any interpretation nor does it offer any meaning for the individual client. The same information could be written as "*X's overall cognitive ability was Average, indicating they have typical cognitive development for an individual their age. Their Average intelligence is a major protective factor that has likely contributed to their success thus far."* Such an in-depth and sufficient interpretation of the results is likely to enable the reader to better understand the client's functioning, which should be the goal of psychologists.

Generic Recommendations

The majority of the reports analyzed in this study presented the results in a client-centered manner but did not offer client-centred or individualized recommendations for treatment. Only 34% of reports offered recommendations that directly stated what specifically can be done for the assessed individual. According to Mastoras and colleagues (2011) client-centred recommendations provide individualized intervention suggestions which clearly address the client's presenting problems or the referral question. For example, "*X may benefit from individual counselling to strengthen his social skills with an emphasis on how to interact with peers."* In contrast, 66% of the reports provided general recommendations. For example, "*I recommend counselling through X services."* It is not only considered best practice to provide recommendations that are both specific and practical but it is also preferred by teachers and parents (Brenner, 2003, Mastoras et al., 2011). Parents are more likely to follow through with implementing recommendations that include clear and concrete examples for intervention (Teglasi, 1985; Human & Teglasi, 1993). Therefore, presenting the recommendations in a client-centred manner is recommended to promote helpful assessment outcomes (Brenner, 2003; Mastoras et al., 2011; Teglasi, 1985). In addition, studies have found offering a few feasible recommendations over a laundry list of general ones is preferred by most service users and stakeholders (Rahill, 2018; Tharinger et al., 2008). Novice students may have difficulty tailoring recommendations to their specific clients' needs because they are still acquiring the knowledge necessary to be able to provide helpful intervention suggestions. As a result, students may rely on recommendations from databases which tend to have a generic quality (Harvey, 2006; Wiener and Costaris, 2011). If such recommendations are used they must be feasible and tailored to the individual client's assessment results (Groth-Marnat, 2009; Mastoras, et al., 2011). According to

Groth-Marnat and Wright (2016), the reader of the report should be able to logically follow why each recommendation was made. Thus, tying the recommendations back to the referral question or the purpose of the assessment is advised by several report-writing guidelines and textbooks (Groth-Marnat, 2003; Groth-Marnat & Wright, 2016; Schneider et al., 2018; Wright et al., 2021). Wiener and Costaris, (2011) propose students ask themselves questions about the recommendations they offer their clients (e.g. "does this information contribute to my core message?") to guide treatment and intervention suggestions (p. 14). However, strategies for teaching specific report writing skills have yet to be empirically tested, and thus, further research examining their effectiveness is needed.

Limitations of Study

The results of the current study need to be considered in light of the following limitations. First, quantitative content analysis methodology has some inherent limitations. By focusing on pre-determined categories and variables quantitative content analysis may miss important information that is not captured by those categories. For this reason, content analysis can fail to provide explanations for particular findings where the source of the explanation lies outside of the data itself. Therefore, the results of this study are limited to the specific content analyzed.

Second, the reliability and validity of the results are likely affected by factors such as the development of the coding scheme and the agreement among coders. Developing the coding scheme inherently involves interpretation and therefore contains some degree of researcher bias. The primary researcher in this study is experienced with reading psychological reports which is both an asset and a limitation of the study. Having prior knowledge and experience with report writing aided the development of the coding scheme, however, inherent biases may have predisposed the researcher to code specific variables of interest. In an attempt to control these

threats to validity, the primary researcher consulted with an expert reviewer during the development of the coding scheme, and it went through revisions to ensure the face validity of the content. The data was also coded by a single researcher. However, to ensure the reliability of the coding scheme, inter-rater reliability was calculated and indicated a substantial amount of agreement ($k = 0.635$) between the raters which suggests the coding scheme is consistent and replicable.

Third, the sample used in this study was small due to pragmatic constraints, and therefore the results may not accurately reflect the broader population of graduate students. Only 7 graduate students' report writing skills were analyzed, and therefore, the results are of limited generalizability. Furthermore, the sample size might not have been large enough to detect significant differences or relationships between the variables analyzed, which may have led to false negatives or missed opportunities to identify important findings. The sample used was also conveniently selected from one practicum site and the reports were written by a single cohort of graduate students. Therefore, the study is subject to biased sampling issues, such as susceptibility to random error and therefore, may not be representative of the broader population of graduate students in the program. The reports were also written several years ago (between 2016 and 2017), therefore, it is possible the report writing characteristics observed in this sample were specific to the time period and cohort of graduate students. Finally, because only second-year masters' students' reports were analyzed, I was not able to examine change in report writing over time. To address these limitations, future research should consider a sample that includes all program years and that reaches a broader number of professional psychology programs in Canada.

Implications

Despite the limitations of the study, the results hold important implications for psychologists, supervising faculty, and students in training. First and foremost, our results suggest psychological reports formatted by domain are significantly more likely to also have integrated clinical formulations. Consistent with the literature, domain-formatted reports lend themselves to an integrative report writing style (Brenner, 2003; Harvey, 2002; Mastoras et al., 2011), and integrated reports are not only preferred, but also better understood by parents, teachers, and other stakeholders (Baum et al., 2017; Mahoney et al., 2017; Pelco et al., 2009; Postal et al., 2018). As discussed in the literature review, parents' and teachers' understanding of the psychological report significantly impacts whether the recommendations are followed through (Geffken et al., 2006; Meichenbaum and Turk, 1987, MacNaughton and Rodrigue, 2001). Thus, to yield helpful assessment outcomes for the child, the report must be understandable and meaningful to its readers. For this reason, the extant literature discourages test-by-test report writing because it is not well received by service users and instead strongly recommends a client-centred, integrated approach that enables all readers to better understand the client's functioning (Groth-Marnat, 2003; Groth-Marnat and Wright, 2016; Wright, 2011). As suggested by our results, test-by-test formatting may lend itself to poorly integrated clinical formulations or summaries, and might even affect the readability level of the report. Teaching students how to format psychological reports by functional domain may aid their ability to conceptualize the information in an integrated manner. However, further research is warranted to establish any causal effects. Should our results hold in future research across a broader sample of professional psychology programs, this finding may have important practical implications for teaching report writing skills.

A second implication gleaned from the current research is the issue of report readability level. Our results suggest writing at a lower reading grade level is difficult for most students, which is consistent with the findings of previous studies (Harvey, 2002, 2006). Harvey (1997) found that graduate students had significant difficulty wordsmithing their reports down to an acceptable Flesch Kincaid score and several students had to rewrite their reports which took up a substantial amount of time. Indeed, many studies have found time to be a barrier to producing accessible psychological reports (Baum et al., 2017; Harvey, 2006; Mastoras et al., 2011; Postal et al., 2018). Thus, strategies to use time more effectively are needed. The current study found the percentage of passive sentences in reports to be strongly associated with higher Flesch Kincaid grade scores. Therefore, writing in an active voice may remedy the time involved in writing an accessible report. In addition to writing reports at a lower grade level, students are often advised to write shorter reports (Schneider et al., 2018). However, as suggested by the results, report length does not seem to affect reading grade level. Although the research is mixed, no strong empirical support exists for writing shorter reports. Several studies have found that report length does not impact parents' or teachers' understanding of the information (Bucknavage, 2007; Wiener and Kohler, 1986). Thus, time might be better spent focusing on presentation style (domain-based) and writing in active voice, rather than aiming for an optimal length.

Future Research

Decades of research have found effective psychological reports to be written at a lower reading level, formatted by functional domain, and communicate the results and recommendations in an integrated, client-centred manner (Kannan, et al., 2021; Mastoras et al., 2011; Pelco et al., 2009; Rahill, 2018; Rucker, 1967; Tidwell & Wetter, 1978; Umańa et al.,

2019; Wiener & Kohler, 1986). Despite these consistent findings, few advances have been made. Part of this issue is virtually no research exists on how to teach psychological report writing to graduate students that reflect best practices. Given the variability among psychological reports, however, it is likely professional programs have differing approaches. The results of the current study suggest graduate students would benefit from learning about the empirical literature regarding what report writing characteristics are better understood by parents, teachers, and other stakeholders.

Research investigating the effectiveness of teaching strategies to encourage reports that are consistent with the empirical literature is needed. Currently, during their professional training, students do not encounter exemplar reports that are easy to understand and formatted in a manner that is well received by clients and stakeholders. Researchers are encouraged to investigate whether providing students with exemplar reports written at 5th grade level would facilitate their learning and lead to better report writing outcomes. In the future, it will also be important to examine whether domain formatting actually contributes to producing an integrated and more client-centred report. It is evident graduate students need more practice with linking and integrating assessment information, and students may need more scaffolding to be able to write an integrated report (Harvey, 2002; 2006;Weiner and Costaris, 2011). Wiener and Costaris (2011) as well as Mastoras and colleagues (2011), recommend encouraging students to use graphic organizers or outlines to help them see convergence across evaluation methods (e.g., clinical interviews, questionnaire results, test scores, etc.) and to see linkages between the different domains assessed. Future research should consider examining the effectiveness of this scaffolding strategy in terms of how it might enhance students' ability to produce psychological reports that are consistent with what we know to be effective for clients and stakeholders.

Recommendations for Training and Practice

Given the importance and amount of time psychologists spend report writing during their career it should be a major focus in training programs. However, professional psychology programs focus direct instruction heavily on test administration and scoring (Groth-Marnat, 2009; Wright et al., 2021). I recommend report writing be given the same amount of attention. Faculty and supervising psychologists should be aware of the empirical literature and strive to teach their students to produce reports that are in accordance with best practices.

The comprehension of the information in psychological reports by clients and stakeholders is an ongoing concern in the literature. More specifically, difficulties with readability, generic or limited interpretation of the results and test-by-test formatting of the information have been identified as problematic for non-psychologist readers. As discussed, several report-writing methods can be used to improve comprehension. Such methods should be the focus of training programs in teaching assessment and psychological report writing. Wiener and Costaris (2011) recommend supervisors take a constructivist-based approach to supervising their students. They encourage their students to ask questions to facilitate independent problem-solving to foster self-questioning skills. Given that the goal of supervision is to eventually produce competent and self-sufficient psychologists, the practice of self-questioning one's own work is a prudent skill to develop early on in training.

Based on the results of the current study, I recommend faculty and supervising psychologists focus their training efforts on providing direct instruction regarding how to devise a client-centred and integrated report that is readable for all audiences. Students should also have the opportunity to review exemplar reports that are formatted by domain with well-integrated summaries and clinical interpretations. Exemplar reports should be written at 5th grade level, in

an active voice and with reduced jargon (Harvey, 2005; 2006; Baum et al., 2017). In addition, students may benefit from developing graphic organizers using the different domains as headings before report writing. This strategy may facilitate further integration of the assessment data which might help students write more integrated summaries and clinical interpretations. Lastly, I encourage students in training and psychologists to get in the habit of using the Flesch Kincaid grade level score as a means for checking the readability level of their psychological reports to ensure accessibility.

Conclusion

Psychological report writing is a challenging task for students to learn and for faculty to teach. Despite best practice guidelines and empirical support for specific report writing characteristics, psychologists continue to write reports that are difficult to understand by non-psychologists. A particular concern is professional psychology training programs may be unintentionally contributing to these report-writing issues. Teaching report writing skills from an evidence-based lens would help produce students who write reports consistent with the literature. Despite the limitations discussed, this study was the first to review graduate students' report-writing competencies and revealed some of the report-writing difficulties students face during their training. Overall, students' reports were poorly integrated and written at a higher reading level. Domain formatting may contribute to greater integration and therefore should be considered when teaching students how to present information in the report. Future research should examine the generalizability of these findings across different graduate student populations and accredited professional psychology programs within Canada.

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Appendix A

Coding Scheme

Readability

- Report length: Identify the length of the document using Microsoft Word descriptives (page-length function)
- Percentage of passive sentences: input the percentage of passive sentences using Microsoft Word Editor (document insights function)
- Reading level: This is determined using the Flesh Kincaid grade level formula computed by Microsoft Word Editor (document insights function).
- Used bullet points: If they used bullet points at all in the report (usually in the background or recommendations sections) code 1 (yes) and if they did use them and code 0 (no) if they did not.

*For each of the following variables, reports are to be coded as either 1 (Yes) or 0 (No)

*Comprehensiveness

- Explicit diagnoses: If a diagnosis was made, it is explicitly stated (e.g., *"Given the evidence presented, X meets criteria for X disorder*), and if no diagnoses are made that is explicitly stated (e.g., *"X did not meet criteria for any specific diagnoses at this time")* Code yes if diagnosis (or no diagnosis) is explicitly stated. Example of a diagnosis that is <u>not</u> explicitly stated *"X probably meets the diagnosis for ADHD"*(this would be coded as 0 because it is not clear) if no diagnosis is made they <u>must</u> write that no diagnoses were found, if not, it cannot be coded as 1 (yes).
- Evidence for diagnosis: In the interpretations section of the report, they refer to <u>specific data</u> to support the diagnosis statement, in other words, they use evidence to support their claims. Code yes if they provide evidence and no if they do not (see examples for reference).
    - An example that provides evidence: *"X's scores in math calculation are lower than expected given, X's intelligence scores, X's difficulties with math have persisted despite intensive intervention, X showed a processing weakness that is associated with math challenges, given X's history and continued difficulty in math, X meets the criteria for a diagnosis of SLD in math"*
    - An example that does not provide evidence: "*The presented results indicate that X meets criteria for ADHD"*
- DSM codes included: 1 (Yes) if the DSM code number is included and 0 (No) if not.
- Cross-battery approach: Code 1 (Yes) if they integrate subtests from other test batteries or used multiple performance subtests tests to assess achievement or executive functioning (e.g., used some of the WIAT or WJ and some of the KTEA or some of the CTOPP, piecemeal). Code 0 (No) if they did not.

- WISC + one academic battery: (WIAT or WJ, no other performance tests used). If this was the case, code 1 (Yes) if they included other performance tasks (e.g., WRAML, WMS, etc.) code 0 (No).
- A general statement is made regarding the validity of the assessment results: In the behavioural observation section, Code 1 (Yes) if they indicate results are reliable/valid (e.g., *"Overall, X put forth effort on all of the activities, therefore the results presented are considered reliable and valid estimates of X's functioning at this time").* Code 0 (No if no statement is made).
- Included test scores (performance tests scores/and or questionnaire data test scores: Code 1 (Yes) or 0 (No).

*Presentation Style

- Test-by-Test Format: Presenting the test results in one test at a time (e.g., WISC, WIAT, BASC; Groth-Marnat and Wright, 2016). The headings of each section are usually by test name (WISC, WIAT, CTOPP etc.) and focus only on test scores. Code 1 if yes and 0 if no.
- Domain (thematic) format: report is organized by the functional domain (e.g., have headings such as main concerns, intellectual and academic abilities, social-emotional functioning, etc.), is written in a client-centred manner (relates data to the client's presenting problems, opposed to merely reporting test scores) and integrates the test results and behavioural observations throughout the report to paint a cohesive picture of the client's functioning (Rahill, 2018; Savango & Teglasi, 1987; Wiener & Kohler, 1986; Wiener, 1987). Code 1 if yes and 0 if no.
- Question and answer Format: The report is organized by questions posed and then answered using the data gathered from the report (e.g., "*How is X functioning socially and emotionally?;* Weiner and Costaris, 2012). Code 1 (yes) if it is organized by questions and 0 (no) if not.
- Graphs are included to explain results: code 1 (yes) if graphs are used in the report and 0 (no) if not. A "Graph" includes a picture of a bell curve (Schneider et al 2018) it may also include a graph of the child's cognitive or academic performance; Miller & Watkin, 2010).

*Integration

- The battery used uses at least 3 methods of data collection: Usually, self-report, performance-based tests, interviews, etc. Code 1 if yes, 0 if no.
- Cross-method interpretations are made (conclusions in the 'interpretation/summary' section) include data from multiple methods of data collection (self-report, performance, interview, etc.), code yes if interpretations are made that include more than one method (e.g, *"during the interview, X reported that she felt "down" for most days. X also endorsed feeling sad on the BDI and BASC, which indicates that….").*
- The summary/interpretations section merely restates the data without any integration or interpretation: code yes if the data is just re-summarized through restating (*e.g. "X*

overall cognitive ability was XXX" "on the Conners 3 X's teacher reported significant hyperactivity at school").

*Client-centred report writing

- The referral question is addressed adequately in the conclusions section. In the conclusions section, they restate the reason for referral or main concerns, and the following conclusions are tied back to the referral question. Code yes if the referral question is restated and no if it is not mentioned at all.
- Individual Test results are clearly about the individual being evaluated (e.g. language is specific to the client and not generic or copied from computer report forms or reporting test results as *verbatim* with minimal connections made to the client on a more personal level. For example: "*a low score on the Visual-Spatial Processing Index on the WISC might indicate difficulties understanding visual-spatial relationships"* (Mastoras et al., 2011)
- Recommendations have clear and concrete examples or they relate to the client on a personal level (are not generic and are very clear). Code yes if they have clear examples and/or are not generic, and code no if they do not have examples and/or are generic.
    - An example of a generic unclear recommendation is "*Provide X with cues in the classroom of situations where he is able to ask questions, and when he is supposed to be seated and listening."* Another example of a generic recommendation is: "*X would benefit from therapy for X's anxiety and depression."*
    - An example of a non-generic clear recommendation is "*X struggles with understanding the information she has read, to foster greater reading comprehension, have X read a chapter and then describe to you in as much detail as possible what happened*." Another example of a non-generic recommendation is "*X may benefit from dialectical behavioural therapy techniques to help manage her strong emotions."*