UiT The Arctic University of Norway

Faculty of Health Sciences

User Satisfaction in Child and Adolescent Mental Health Services: Validating the Norwegian Version of the Experience of Service Questionnaire and Investigating Predictors and Associations

A conceptual model of user satisfaction in Child and Adolescent Mental Health Services.

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Preface

Since I began working with children and young people during my psychologist training in 2004, I have always been curious about how they truly perceive the help they receive from me and my colleagues at the service I represent. When entering Child and Adolescent Mental Health Services (CAMHS) two years later, I also began to ponder on the experiences of parents and carers.[1] It was disheartening to realize there is a limited understanding of families' perspectives regarding the care given to their children at vulnerable times, and whether our service met their needs. Naturally, this agony has been shared by many of my colleagues. The most substantial contributions to filling this knowledge gap, are found in research by the Child Outcome Research Consortium (CORC; for more information visit https://www.corc.uk.net/). For the past two decades, this membership organization has paved the way for services that are invested in collecting data for improvement purposes. In 2013, CAMHS at the University Hospital of North Norway (UNN), where I work, became a member of CORC. Together with my colleagues Børge and Anita, I embarked on the initial work for what has since become this thesis. Our work and being part of CORC has inspired and shaped the shift in CAMHS at the UNN, which is now in pursuit of becoming a service that is invested in understanding and tailoring its service to the needs of families. This shift involves a targeted focus on shared decision-making and person-centredness. That said, adopting psychometric resources, clinician training, financial management, and IT-based infrastructure across the United Kingdom (UK) and Norway has been both a blessing and a curse. I have lost track of how many staff and student workshops on different routine outcome measures I have hosted over the years. To my surprise, CAMHS at the UNN is still the only Norwegian member of CORC, despite the many other international members. Needless to say, improvement is still needed and this is an ongoing process. During challenging moments, the

[1] For brevity, the "parents" referred to in this thesis include both parents and carers.

following famous lyric repeats in my mind, reminding me that flaws or imperfections are sources of enlightenment that challenge us to seek ways to improve and transform:

"There is a crack, a crack in everything. That's how the light gets in."

Anthem, Leonard Cohen, 1992

Acknowledgements

The ethos of "It takes a village" resonates with my journey through the PhD, as I balance academic pursuits and personal commitments. Beginning the work to enhance services at Child and Adolescent Mental Health Services (CAMHS) in 2013, I never anticipated it leading to this thesis. The efforts and support many dear to me have been invaluable.

First, I extend my heartfelt gratitude to Anita Kristiansen, aka “BUP-orakelet”, for her drive and efficiency. Thank you for attending to detail and for all your support. Next, mastermind and project-lead, co-supervisor, colleague, mentor and friend, Børge Mathiassen: thank you for your guidance that has extended from statistics to dog-training tips. I'm deeply grateful for your time, everything you have taught me, for pushing me forward, and for knowing when coffee was needed! Additionally, Bjørn-Helge Handegård, your expertise in statistics, patience, and teaching have been invaluable to me. I'm deeply thankful for the chance to collaborate with you. In addition, I extend my gratitude to Ingunn Skre, my main supervisor at the inception of this journey, and co-supervisor Monica Martinussen: thank you both for your exceptional academic guidance and for making me feel welcomed in academia after years in clinical work. I wholeheartedly thank my main supervisor, Kjersti Lillevoll, for her invaluable support and guidance throughout my academic journey. Your direction, feedback, and assistance in navigating challenges have propelled my progress forward. I am also thankful to Elin Gullhav at the University Hospital of North Norway (UNN) for being supportive and flexible during the last year of this process.

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Lastly, heartfelt gratitude extends to my cherished "village" - family, dear friends, kind neighbours, and my dedicated handball team. Their presence provide vital distraction and joy. To Mom and Dad, your endless emotional and practical support has always been a steadfast foundation for me. Dad, your calmness, and dedication to learning and understanding are truly inspirational. Mom, your warm-heartedness and tireless work ethic have shaped me in profound ways. To my beloved siblings with their wonderful families, each of you make unique contributions to my life and I appreciate the time we spend together.

Finally, to my loved ones at home, Agnes, Jenny, and Selma, I am filled with immense pride and joy because of each of you – being your mom is the greatest gift of all. Dearest Øyvind, my rock, your support and resilience have carried us through every challenge we have faced. Thank you for your endless love and patience throughout this journey. I love you all to the moon and back!

List of Papers

This thesis is based on the following papers:

Paper I

Arnesen, Y., Handegård, B.-H., Mathiassen, B., Lillevoll, K., Martinussen, M., da Costa Silva, L., Harju-Seppänen, J., Rennick, A., Jacob, J., & Edbrook-Childs, J. (Submitted April 2024 to Administration and Policy in Mental Health and Mental Health Services Research). User satisfaction with Child and Adolescent Mental Health Services: Factor structure of the Experience of Service Questionnaire (ESQ) in Norway and the UK.

Paper II

Arnesen, Y., Lillevoll, K. R., & Mathiassen, B. (2023). User satisfaction in child and adolescent mental health service: Comparison of background, clinical and service predictors for adolescent and parent satisfaction. *Health Expectations*, *26*(6), 2608–2619. https://onlinelibrary.wiley.com/doi/full/10.1111/hex.13861

Paper III

Mathiassen, B., & **Arnesen, Y.** (2024). User satisfaction with child and adolescent mental health services: the association between user satisfaction and clinical outcomes. *BMC Psychiatry* **24**, 279. https://doi.org/10.1186/s12888-024-05715-1

The papers are referred to using the Roman numerals I, II, and III throughout the thesis.

Summary in English

The primary aim of this thesis is to address the knowledge gap concerning user satisfaction with Child and Adolescent Mental Health Services (CAMHS) from the perspectives of young people and their parents. The objectives are threefold: (1) establish the construct validity of the Experience of Service Questionnaire (ESQ) (Paper I), assess the predictors of user satisfaction (Paper II), and explore the impact of user satisfaction on clinical outcomes (Paper III). By utilizing registry data collected from ordinary CAMHS in Norway (Papers I to III) and the United Kingdom (UK) (Paper I), and employing rigorous data analysis and statistical modelling, this thesis delves into the complexities of user satisfaction, uncovering insights into the factors that shape user satisfaction with CAMHS. In Paper I, a bifactor model was found to be the best fit for the English and Norwegian versions of the ESQ, revealing a General Satisfaction (GS) factor along with two subordinate factors: Satisfaction with Care (SWC), and Satisfaction with Environment (SWE). However, the Norwegian version for young people retained a unidimensional model. Paper II explored the specific predictors for young people and parents, revealing the distinct influences of these predictors on satisfaction levels. Paper III found that discrepancies in user satisfaction between young people and their parents were linked to poorer outcomes for young people, with both young people and parent-reported satisfaction found to be predictors of these outcomes. In particular, the interaction between young people and parent satisfaction emerged as a significant predictor of young people's reported outcomes and explained a substantial proportion (10%) of the outcome variance. The collected findings of this thesis are consolidated in the form of a proposed conceptual model for user satisfaction in CAMHS. This model highlights the interconnection between satisfaction factors and emphasizes the necessity of personalized, effective care that addresses the distinct needs of young people and their parents in CAMHS settings. Overall,

this thesis highlights the importance of prioritizing user satisfaction to improve clinical outcomes and enhance mental health services for children and adolescents.

Sammendrag på norsk

Formålet med denne avhandlingen er å øke kunnskapen om brukertilfredshet i Barne- og Ungdomspsykiatriske tjenester (BUP) fra ungdom og foreldres perspektiv. Hovedmålene med forskningen er å etablere konstruktvaliditeten til brukertilfredshetsmålet Experience of Service Questionnaire (ESQ) (Paper I), analysere hvilke faktorer som predikerer brukertilfredshet (Paper II) og utforske hvilken innvirkning brukertilfredshet har på behandlingsresultat (Paper III). Problemstillingene ble undersøkt ved å analysere registerdata fra ordinær klinisk praksis i BUP i Norge (Paper I-III) og Storbritannia (Paper I). I første artikkel fant vi at en bifaktormodell best forklarte den underliggende faktorstrukturen til den engelske og norske versjonen av ESQ, med en generell tilfredshetsfaktor (GS), samt to underliggende faktorer: for tilfredshet med omsorg (SWC) og tilfredshet med miljøet (SWE). For den norske ungdomsversjonen av ESQ ble en unidimensjonal modell beholdt. I den andre artikkelen avdekket vi spesifikke prediktorer for ungdom og foreldres brukertilfredshet. I den siste artikkelen fant vi at uoverensstemmelser i brukertilfredshet mellom ungdom og foreldre var knyttet til dårligere behandlingsresultat. Spesielt viste det seg at interaksjonen mellom ungdom og foreldres tilfredshet var en betydelig prediktor for ungdomsrapporterte behandlingsresultater, der hele 10% variansen ble forklart av interaksjonseffekten. Basert på disse resultatene foreslås en konseptuell modell for brukertilfredshet i BUP. Modellen fremhever sammenhengen mellom tilfredshetsfaktorer og understreker nødvendigheten av skreddersydd behandling til familier som har behov for et tilbud i BUP. Samlet sett understreker denne avhandlingen viktigheten av å prioritere brukertilfredshet for å forbedre kliniske resultater og styrke psykiske helsetjenester for barn og ungdom.

Abbreviations

CAMHS	Child and Adolescent Mental Health Services
CFA	Confirmatory Factor Analysis
CGAS	Children's Global Assessment Scale
CORC	Child Outcome Research Consortium
DAWBA	Development and Well-Being Assessment
EFQ	Everyday Feeling Questionnaire
ESQ	Experience of Service Questionnaire
FSS	Family Stress Scale
GS	General Satisfaction
HoNOSCA	Health of the Nation Outcome Scales for Children and Adolescents
MI	Multiple Imputation
ROM	Routine Outcome Measurement
SDQ	Strengths and Difficulties Questionnaire
SWC	Satisfaction with Care
SWE	Satisfaction with Environment
UNN	University Hospital of North Norway

Introduction

On a global scale, mental health disorders are prevalent (Caspi et al., 2020; Copeland et al., 2011), with a significant number emerging during childhood and adolescence (Kessler et al., 2007). The world pooled prevalence of mental health disorders affecting children and young people is estimated to be 13.4% (Polanczyk et al., 2015). According to a recent longitudinal cohort study spanning two decades, 15% of children and young people are diagnosed with a mental health disorder by the age of 18 (Dalsgaard et al., 2020). In England, the post-COVID-19 pandemic rates have increased to 18% for children and young people aged 7–16 years and to 22% for those aged 17–24 (Newlove-Delgado et al., 2023). For those facing moderate to severe mental disorders, treatment is usually offered at specialist Child and Adolescent Mental Health Services (CAMHS). However, the involvement of children and young people (Gondek et al., 2017) and the overall quality of mental health care, especially for meeting the needs of families, remains suboptimal (Kilbourne et al., 2018). Evidence also points to the need for improvement regarding the effects of psychotherapy on children and adolescents (Bear et al., 2019; Brattfjell et al., 2023; Cuijpers et al., 2023; Fonagy et al., 2017; Hoagwood et al., 2001; Ludlow et al., 2020). In pursuit of improved care, services are obliged to measure both healthcare outcomes and the experiences of children, young people and their parents. While family experiences and satisfaction have long been recognized as crucial in evaluating mental health services, limited information on user satisfaction in CAMHS restricts our understanding of the underlying construct encompassing user satisfaction (Westby & Schei, 2021). Due to the imbalance in young people–parent representation in user satisfaction research, it is not yet clear whether the concept of user satisfaction can be interpreted in a conceptually similar way across different age groups.

It is well-established that including the voices of users is essential for evaluating service quality, and is preferable to traditional measures of process and activity (Norman et

al., 2016). However, until recently (Bear et al., 2022), the uptake of measuring user satisfaction in ordinary clinical practice has been slow (Batty et al., 2013; Hall et al., 2013), there are few valid and reliable measures of user satisfaction (Attride-Stirling, 2002; Ayton et al., 2007; Brannan et al., 1996; Day et al., 2011; Haugum et al., 2019; Stüntzner-Gibson et al., 1995), and there is little understanding of the effect that user satisfaction has on treatment outcomes and patient-centredness (Rise & Steinsbekk, 2015). Developing a comprehensive understanding of user satisfaction would provide insights into the distinctive perspectives of children, young people, and parents, allowing an assessment of whether the services align with their expectations, needs and preferences, which will ultimately contribute to the quality of care. For example, satisfied users may more easily express levels of trust and communicate better with their clinicians; on the other hand, dissatisfied users may highlight concerns, such as waiting times, limited choices or inadequate information (Davison et al., 2017). User satisfaction can also play a role in treatment adherence and outcomes (Mahin et al., 2004). Satisfied users are more likely to engage positively with treatment plans, which increases the likelihood of better outcomes (Fitzpatrick & Hopkins, 1993); conversely, dissatisfaction may signal areas for improvement or potential barriers to effective care (Davison et al., 2017).

As mental health services transition towards care that integrates shared decision-making and person-centredness (Krause et al., 2022), it becomes more pressing to obtain systematic knowledge of user satisfaction in CAMHS. This shift emphasizes collaboration between clinicians and users and reinforces the call for a comprehensive understanding of user satisfaction to guide decision-making. However, the existing literature on user satisfaction in CAMHS is primarily explorative and lacks a well-defined theoretical framework to drive the field forward. The dearth of a comprehensive understanding of user satisfaction hinders the development of effective and personalized mental health services that

are tailored to the diverse needs of different groups of service users, such as young people and parents.

To address this research gap, this thesis investigates the user satisfaction of young people (<11 years of age) and their parents in CAMHS. The focus is on gaining insight into the construct of user satisfaction and filling the theoretical framework void on this construct through validation of the Norwegian version of the Experience of Service Questionnaire (ESQ). In parallel, this thesis pioneers the analysis of routinely collected data on user satisfaction from young people and their parents who seek treatment at CAMHS in Norway.

Aligned with the evolving focus on shared decision-making and person-centred approaches in mental health services, this thesis has three main objectives: first, to validate a measure for evaluating user satisfaction; second, to identify and analyse the predictors that influence levels of user satisfaction; and third, to investigate the consequential impact of user satisfaction on clinical outcomes in CAMHS.

1.1 Thesis Structure

To enhance theoretical frameworks in the field and inform clinical practice, the three papers constituting this thesis investigate user satisfaction in CAMHS. To provide the reader with insights into the field, the remainder of this chapter of the thesis reviews pertinent research in child and adolescent mental health. It provides the background context, summarizes previous research on user satisfaction in CAMHS, and describes the ESQ. The research aims and objectives are presented in Chapter 2, the research methods are presented in Chapter 3, and a results summary (Papers I to III) is presented in Chapter 4. The discussion chapter of the thesis (Chapter 5) first presents a general discussion of the key findings and a detailed analysis of each paper. This is followed by a broader discussion covering the methodological reflections and theoretical implications. A conceptual model for user satisfaction in CAMHS

is then proposed. The final segment of Chapter 5 outlines the clinical implications of the research and discusses avenues for future research.

1.2 Background

1.2.1 Mental health of children and young people

Mental health care for children and young people spans a broad spectrum, from prevention to specialized intensive or inpatient treatment for severe mental disorders. Multiple stakeholders in the mental health care field provide psychosocial support and promote the well-being of children, young people, and their families. Given their high prevalence and negative impact, mental health disorders in early life have emerged as a significant health priority both internationally (Brohan et al., 2023; Polanczyk et al., 2015), and in Norway (Barneombudet, 2020; Helse- og omsorgs departementet, 2023; Helsedirektoratet, 2023b). In many countries, services for children are categorized into community services and specialized CAMHS; the latter address severe and complex conditions, while community services handle milder cases.

1.2.2 Child and Adolescent Mental Health Services (CAMHS)

In 2023, Norway had a population of 1.1 million children and young people below 18 years old (Statistisk sentralbyrå, 2023). Around 65,000 (5.8%) of this group avail themselves of CAMHS annually, with only 4% receiving inpatient as well as outpatient care (Grøholt et al., 2018; Helsedirektoratet, 2023a). Since 2019, referrals have risen by 21% (Helsedirektoratet, 2021, 2023a). Approximately 100 publicly funded CAMHS offer outpatient assessment and treatment for children and young people with mental health disorders. General practitioners, community psychologists, and social services can refer children, young people, and their families to CAMHS. Treatment modalities encompass individual, group or family-based psychological interventions, psychosocial support, and medication. The primary consultation mode is face-to-face, while post-COVID-19 pandemic video consultations have stabilized at around 20% in densely populated areas (Gullslett et al., 2021).

CAMHS operates with multidisciplinary teams, including psychologists, educational therapists, social workers, nurses and psychiatrists. This structure ensures that families encounter one or more team members during their pathway depending on the complexity of their and their child's needs and the available resources. Norwegian healthcare legislation and patient rights are aligned with the mental health services shift towards increased shared decision-making; this makes healthcare services responsible for maintaining high standards and ensuring that everyone gets comprehensive and coordinated services (Lovdata, 1999). These rights extend to children, initially through parental decision-making, with a gradual transition to full autonomy at age 16. Understanding the differing perspectives of children, young people, and parents, is crucial for shaping user satisfaction and enhancing mental health service quality (Turchik et al., 2010; Aarons et al., 2010).

The main goal of CAMHS is to improve the well-being of children, young people, and families by delivering effective treatments that mitigate mental health issues and enhance daily functioning. Clinicians are expected to work within the principles of evidence-based practice, which combines scientific research, clinical expertise, and the individual's unique needs and preferences (American Psychological Association, 2008; Psykologforening, 2007). Recent evidence indicates that CAMHS provides equitable contact and treatment duration, which is determined by need rather than parental socioeconomic or educational level (Bøe et al., 2021). Despite this, a treatment gap persists in Norway, which has led to extended waiting times and patient rights refusals for approximately 20% of young individuals who seek services (Barneombudet, 2020; Brattfjell et al., 2021). In response, Norwegian health authorities have instituted national clinical guidelines and standardized care pathways, to ensure comprehensive care focused on user involvement and minimizing unnecessary delays (Helse- og omsorgs departementet, 2023; Helsedirektoratet, 2018).

1.2.3 Users of CAMHS

Families seek support at CAMHS for diverse reasons, and parents are often the first to identify and initiate mental health care (Yeh & Weisz, 2001). It is essential to acquire a parental perspective on the impact of CAMHS on family life (Byas et al., 2002). Furthermore, the involvement of the intricate family unit is regarded as vital in both assessment and treatment. Thus, parents are considered to be users of CAMHS alongside the individual. Meanwhile, despite clear recommendations for person-centred care, the active participation of children and young people in their treatment is still rare (Gondek et al., 2017). Young people often seek the support of parents, yet as they mature, they may perceive their parents as being overly intrusive; hence, the child's need for autonomy and confidentiality regulations potentially isolate parents from adequate involvement (Harper et al., 2014). The interplay of parental involvement and evolving autonomy in children shapes service use, presenting CAMHS with a delicate balancing act to ensure proper care for both groups.

There are limited epidemiological studies on the prevalence of mental health disorders and service utilization among children and young people in Norway are limited. However, the available data suggest an overall prevalence of 7% for mental health disorders, which is lower than findings from international studies (Dahlgren et al., 2023; Heiervang et al., 2007; Wichstrom et al., 2014). National health registry data from Norwegian CAMHS show that the gender distribution is equal (51% girls), with boys typically being referred earlier than girls (Helsedirektoratet, 2023a). A majority of referrals to CAMHS (44%) lack specific labels, but those that are specified primarily cite suspicion of attention deficit hyperactivity disorder (ADHD) (15%), depression (11%), anxiety (9%), conduct disorder (5%), acute trauma reactions (4%), eating disorder (3%), autism (3%), obsessive-compulsive disorder (OCD) (2%), serious concerns for children under 6 years (2%), school avoidance (1%), and psychosis (1%) (Helsedirektoratet, 2021). In CAMHS in Norway, age, gender, socioeconomic status and

level of parental education have little impact on help-seeking (Brattfjell et al., 2021; Bøe et al., 2021). However, in line with findings from other Nordic countries (Hansen et al., 2021), Posserud and Lundervold (2013) highlight that children and young people referred to CAMHS frequently receive additional academic or psychosocial support in schools. Brattfjell and colleagues (2021) note that behaviour disorders are predictive of CAMHS versus community-level care. Additionally, these authors report that parental perceived need for help increases the likelihood of receiving services in CAMHS, independently of diagnosis and impairment (Brattfjell et al., 2021). Services are aware that, as consistently indicated in the literature, the accumulation of risk is a more potent predictor of maladaptive outcomes than any individual risk factor (Bryce, 2018; Felitti et al., 1998; Rutter et al., 1976; Sameroff et al., 1987). Therefore, the notably low CAMHS utilization for children and young people in residential care raises considerable concern (Barne- og familiedepartementet, 2023; Barneombudet, 2020; Jozefiak et al., 2016).

1.2.4 Methods to evaluate outcome in CAMHS

Current national healthcare policies in Norway (Barne- og familiedepartementet, 2023; Barneombudet, 2020; Helse- og omsorgs departementet, 2023) and the United Kingdom (UK) (Chitsabesan & Dubicka, 2021; Fonagy et al., 2017; Garratt et al., 2024), are aligned in pursuing high-quality mental health care, which means prioritizing continuous evaluation and quality improvement to ensure that services are effective and meet the needs of young people and their families (Wolpert et al., 2017). There are two primary approaches for evaluating outcomes in CAMHS: (1) routine outcome measurement (ROM) (Batty et al., 2013; Bear et al., 2022; Bickman et al., 1998; Hall et al., 2013) conducted through pre- and post-evaluations, and (2) session-by-session-monitoring (Bickman, 2008; Harding et al., 2011; Lavik et al., 2023; Miller et al., 2015). Seminal work by Lyons et al. (1997) called attention to ROM and management of clinical data for improving outcomes in mental healthcare, which is

supported by substantial research (Bickman et al., 2011; Bickman et al., 2016; Knaup et al., 2009; Lambert et al., 2003; Lambert et al., 2018; Noser & Bickman, 2000; Riemer et al., 2012; Weisz et al., 2017). Additionally, research on parents shows they have nuanced views on measuring outcomes and experiences in CAMHS (Merry et al., 2004; Moran et al., 2012). Moran and colleagues (2012) further highlight the parental call for ROM to be a collaborative process to ensure that CAMHS measures the issues that are deemed to be significant by service users. Aligning with the notion that a service should deliver the outcomes desired by its users, this involves considering feedback on the usability of measures and exploring how user-friendliness in outcome monitoring can be enhanced (Hall et al., 2013).

The endeavour to evaluate outcomes in CAMHS aligns well with the well-known Donabedian model, which provides a comprehensive framework for assessing the quality of healthcare (Donabedian, 1988). The model consists of three interrelated components: structure, process, and outcomes. In the context of CAMHS, evaluating structural aspects such as the availability of resources and staff expertise, assessing the process of care delivery, and measuring outcomes such as functional improvement and user satisfaction are essential for ensuring high-quality services. Shortcomings in this domain typically involve addressing the continued need for targeted ROMs for children and young people, along with implementation-related issues, such as support for clinicians and service leads (Bear et al., 2022; Kelley & Bickman, 2009; Kwan et al., 2021). Research on the associations between different ROMs remains limited (Macdonald & Fugard, 2015; Norman et al., 2016a; Seibel et al., 2021). Current trends suggest simplifying ROM, while earlier research has suggested including multiple domains (Bickman et al., 1998); recent initiatives also advocate focusing primarily on functional impairment, symptom severity, and satisfaction with services (Lindevall, 2022; Merry et al., 2004; Wolpert et al., 2008).

This streamlined approach aims to enhance the practicality and feasibility of ROM implementation in CAMHS, which is aligned with efforts to optimize the effectiveness and efficiency of mental health care. Low correlations between symptom or quality-of-life measures and user satisfaction suggest that they capture distinct features of quality and should be measured separately (Brown et al., 2014). User satisfaction is not recommended as a proxy for the effectiveness of care, but as a process measure and an outcome in its own right (Brown et al., 2014). Moreover, research indicates that there are user discrepancies between family members' attitudes towards CAMHS (McNicholas et al., 2016; Turchik et al., 2010) and ambiguities regarding which factors influence the perceived quality of CAMHS (Biering, 2010; Biering & Jensen, 2010; Kapp et al., 2017). For instance, although reports from young people are more likely to surpass parental reports regarding the accuracy of care quality (Biering & Jensen, 2010; Madan et al., 2016), parent surveys still outnumber young people surveys in the literature (Acri et al., 2016; Bjørngaard et al., 2008; Norman et al., 2016; Seibel et al., 2021). These disparities underscore the importance of adopting a multi-faceted approach to evaluating quality in CAMHS, and recognizing that different stakeholders may contribute unique insights that collectively can contribute to a more holistic understanding.

1.2.5 Mental health research on outcomes in children and young people

Efforts to bridge the research–practice gap in psychotherapy for children and young people have led to the coexistence of evidence-based practice and practice-based evidence paradigms, which complement each other (Barkham & Mellor-Clark, 2003; Seligman, 1995). Extending evidence-based practice to routine clinical settings remains a challenge (Norcross et al., 2006; Rief et al., 2024; Walkup et al., 2020), and recent meta-analyses have affirmed the gap between efficacy (Cuijpers et al., 2023; Weisz et al., 2017; Weisz et al., 2023) and effectiveness studies (Bear et al., 2020). Effectiveness studies in ordinary clinical practice offer promise (Boswell et al., 2015; Kazdin, 2008; Lambert, 2010; Lambert et al., 2003;

Lambert et al., 2018), yet challenges persist in both bridging the gap to clinical practice (Rief et al., 2024) and generating high-quality databases, particularly for CAMHS (Bickman et al., 2016; de Jong, 2016).

A recent meta-analysis (Bear et al., 2020) based on young people's self-report measures showed that individual-level routine care outcomes for anxiety and depression evidenced 38% reliable improvement, 44% no reliable change, and 6% reliable deterioration. The data suggest a rapid initial improvement, followed by a plateau, and indicates the need for tailored strategies when addressing complex cases in specialist and community care systems. The findings underscore the challenge of measuring improvement, which leads to questions about the sensitivity of current metrics. A more recent study on ordinary CAMHS in Norway, which used propensity matching, signifies a notable move toward using control group designs within the practice-based evidence paradigm (Brattfjell et al., 2023). Brattfjell and colleagues (2023) stress that usual care was not significantly associated with changes in social skills, impairment, or psychiatric symptoms in 7 to 12-year-olds. However, usual care provided at ages 0–4 and 5–6 predicted a slight increase in psychiatric symptoms two years later, highlighting the importance of implementing evidence-based approaches in usual care. Within the context of challenging areas such as CAMHS, including user satisfaction measures as well as clinical outcomes to evaluate mental health quality offers a unique perspective on subjective experiences. Incorporating such measures ensures a comprehensive understanding of the overall effectiveness of CAMHS, which considers diverse user perspectives.

1.3 The Concept of Satisfaction in CAMHS

In unravelling the concept of user satisfaction, we can see that the term itself carries a rich etymology rooted in Latin, where "satisfaction" emerges from "satis", meaning "enough", and "satisfacere", which denotes "to be content" (Oxford Dictionaries, 2024). When applied to experiences in the healthcare context, "user satisfaction" signifies that a service has met a

satisfactory standard, and adequately fulfils the user's needs, desires, wishes, and expectations. It is crucial to note that satisfaction does not necessarily indicate an absolute or fully fulfilled experience; rather, it signifies that the service has provided a sufficient level of support for the individual's well-being (Crow et al., 2002). Furthermore, both radical "Consumer Reports" (Seligman, 1995) and in-depth systematic reviews on the measurement of satisfaction in healthcare (Crow et al., 2002) declare that user satisfaction, plays a central role for public policy analysts, healthcare managers, practitioners, and users alike. Despite the challenges in its definition and measurement, user satisfaction remains a crucial concept in healthcare decision-making and influences the selection or deselection of healthcare providers. Its multidimensional nature requires an understanding of user preferences but also transcends mere subjectivity; understanding user satisfaction is pivotal to quality health care as it has a significant impact on how healthcare services are developed, structured and delivered.

Systematic collection of user satisfaction data within all healthcare disciplines has steadily increased, despite the lack of agreement on the nature of the concept and theoretical framework (Batbaatar et al., 2015). Satisfaction measures serve to include patient views of services, while also being an indicator of process quality and an independent health outcome (Brown et al., 2014), as well as a mediator of health outcomes via better compliance to treatment protocols (Fitzpatrick & Hopkins, 1993). A narrative literature review aiming at defining the concept of user satisfaction within the general healthcare context highlights prior attempts to link user satisfaction with expectations, which are rooted in marketing concepts, and points to challenges associated with the unique characteristics of healthcare services (Batbaatar et al., 2015). The authors of the review further reveal a weak and sometimes controversial link between expectations and satisfaction, which explains only a small portion of the variation. In in-depth interviews with young people admitted to psychiatric inpatient

care, which explored their insights into the concept of patient satisfaction, revealed that satisfaction with care was present if it "nourished their personal growth and hence prepared them to tackle their developmental tasks" (Biering & Jensen, 2010, p. 168). Thus, it is essential to consider diverse factors for a comprehensive understanding of patient satisfaction (Batbaatar et al., 2015).

Research exploring whether user satisfaction exhibits consistent construct validity across diverse demographic groups, such as adolescents and parents, and various cultural contexts, also remains limited. A question to be answered is: When we handle different parent and adolescent versions of a user satisfaction measure, are we measuring the same user satisfaction concept? This scarcity of knowledge regarding the comparability and generalizability of user satisfaction assessments poses a challenge to informing evidence-based practice and quality improvement processes in service delivery. Within Norwegian CAMHS especially, we lack sufficient insight regarding user satisfaction due to the scarcity of adequate surveys (Westby & Schei, 2021). To date, only one national report has addressed both children and young people and parental experiences with CAMHS (Andersson et al., 2005), while there are only two published parental evaluations of CAMHS (Bjertnaes et al., 2012; Skuldal & Holmboe, 2019). Moreover, although a user satisfaction measure for young people has been developed for future national evaluations, data collection remains pending (Haugum, 2022; Haugum et al., 2019). In contrast, quarterly reports are published on user satisfaction with inpatient mental health services for adults (Iversen, 2022).

1.3.1 Significance of user satisfaction in CAMHS

The importance of user satisfaction in CAMHS goes beyond clinical effectiveness to encompass ethical considerations, treatment adherence, and long-term outcomes. Notably, the current literature reveals an imbalance, with a predominant focus on parent evaluations over those of children and young people themselves. This discrepancy underscores the need for a

more equitable representation of the perspectives of all stakeholders to ensure comprehensive and accurate assessments, and the need for comprehensive understanding and careful measurement to guarantee the delivery of effective and compassionate care. In considering the ethical dimension of user satisfaction in CAMHS, it is important to consider personalized mental health care, aligning it with legislative requirements and professional norms that emphasize compassion, respect, and patient involvement in decision-making (Kaku et al., 2022). Ensuring a positive user experience becomes a moral imperative, particularly for children and young people, who in facing moderate to severe mental health issues, are in a vulnerable state. Collaborative practices that prioritize youth and family involvement echo the principle of "do good or do no harm" in modern healthcare (Evans, 2016).

Viewed as a process variable, user satisfaction emerges as a critical factor in moderating healthcare outcomes in CAMHS that influences treatment compliance and reduces premature treatment termination (Barber et al., 2006; Bjørngaard et al., 2008; Davison et al., 2017; De Haan et al., 2013). Routine tracking of user satisfaction enhances shared decision-making and treatment tailoring (Bickman et al., 2016; Priebe & Miglietta, 2019). Furthermore, Edbrooke-Childs et al. (2015) showed better outcomes for children and young people whose parents experience they are involved in decisions regarding. In a systematic review by Biering (2010), three universal factors were identified as determinants of satisfaction in CAMHS: satisfaction with the service environment, satisfaction with the child/young person's relationship with the clinician, and satisfaction with the treatment outcome. Capturing these perspectives, and putting the quantified opinions of children, adolescents and parents to meaningful use, requires valid and reliable measures; however, to date, knowledge regarding how user satisfaction can be reliably and validly measured remains scarce (Biering, 2010; Crawford & Kessel, 1999; Sanchez-Balcells et al., 2018).

Despite limited research in this field (Greene et al., 2015; Priebe & Miglietta, 2019), novel findings by Westbye et al. (2022) highlight a clear association between user satisfaction and various life outcomes. Participants who reported higher user satisfaction in CAMHS exhibited better self-reported health, finances, and education levels, with a lower likelihood of them dropping out of their studies nine years after terminating treatment. These results underscore the ethical imperative of prioritizing user satisfaction, but they also illuminate the need for more comprehensive research in all facets of CAMHS to ensure precision and effectiveness in mental health interventions for children and young people.

1.3.2 Measuring user satisfaction in CAMHS

Measuring user satisfaction in CAMHS typically involves national audits. A recent literature review found seven international user satisfaction measures for CAMHS (Haugum et al., 2019), which contrasts with approximately 30 available measures for user satisfaction in adult mental health (Sanchez-Balcells et al., 2018). Critiques of user satisfaction assessment in CAMHS highlight the failure to capture the perspectives of children, young people, and parents (Brown et al., 2014), as well as concerns about whether measures consistently yield high satisfaction levels (Brannan et al., 1996). The positive skewness towards higher satisfaction levels revealed by quantitative measures (Crawford & Kessel, 1999) is not necessarily reflected in patients' qualitative descriptions (Biering & Jensen, 2010).

Studies that assess the reliability and validity of user satisfaction measures for CAMHS, and capture the perspectives of children, young people, and parents, remain limited (Biering, 2010; Crawford & Kessel, 1999; Sanchez-Balcells et al., 2018). Haugum (2019) recently reviewed the available measures for CAMHS and identified seven in international use. However, only four are specifically developed for children and young people (Biering, 2010): the Satisfaction Scales (Brannan et al., 1996), the Youth Client Satisfaction Questionnaire (Shapiro et al., 1997), the Multidimensional Adolescent Satisfaction Scale

(Garland et al., 2000), and the Experience of Service Questionnaire (Attride-Stirling, 2002; Brown et al., 2014). In Norway, the Consumer Satisfaction Questionnaire (CSQ) (Solberg et al., 2015) and the measure “Barn og unges erfaringer” (often referred to as “PasOpp BUP”) (Haugum et al., 2019) have been customized due to contextual considerations. Pilot testing showed acceptable psychometric properties for these two measures, but they are not yet widely used in Norwegian CAMHS. The absence of a gold standard measure tailored to the needs of Norwegian CAMHS hampers meaningful comparisons and benchmarking between services, as emphasized by Brown et al. (2014), who highlighted the importance of such measures for facilitating accurate assessments of user satisfaction."

In Norway, Solberg et al. (2015) conducted a follow-up user satisfaction study three years after leaving CAMHS, using the locally developed Consumer Satisfaction Questionnaire. More recently, Haugum et al. (2019) introduced a user satisfaction measure for CAMHS (“PasOpp BUP”) and highlighted the challenge of defining a gold standard for measuring user satisfaction when there are no standardized measures that fit the needs of Norwegian CAMHS. The ESQ, which is the focus of this thesis and has parallel Norwegian versions for various age groups, is notable for its robust psychometric properties, as has been demonstrated in studies conducted elsewhere (Brown et al., 2014).

1.3.3 Challenges in measuring user satisfaction in CAMHS

Measuring user satisfaction in CAMHS is a complex endeavour that demands careful consideration of diverse perspectives and potential biases. Challenges arise from the multifaceted nature of informant views involving children, parents and clinicians, who all offer potentially divergent perspectives. Discrepancies between the satisfaction levels reported by children and their parents add to the complexity, which emphasizes the need for separate assessments. The literature highlights inconsistent findings regarding the factors that influence satisfaction, such as gender differences, the impact of specific behavioural issues,

and the correlation between the severity of mental health disorders and satisfaction levels. Moreover, the scarcity of validated psychometric instruments that are tailored to the developmental stages of children and young people underscores the methodological challenges in effectively assessing user satisfaction. Considering these complexities, achieving a nuanced and valid measurement of user satisfaction in CAMHS requires careful attention to diverse perspectives, potential biases, and the intricate interplay of various contributing factors. Ensuring consistent interpretation of the concept of user satisfaction is vital when examining its measurement across different groups. Without more knowledge on the construct validity of user satisfaction across diverse demographic segments, meaningful interpretation and comparability of user satisfaction is hindered. It is particularly important to address whether cross-comparison is valid for youth and parents, as well as in diverse cultural contexts where variation in the interpretation of concepts is likely to exist. Construct validity assesses how well a test aligns with its intended construct and can be evaluated through factor analysis, by comparing the test with other measures of the same construct, or exploring the nomological network around the construct (American Educational Research Association, 2014; European Federation of Psychologists' Associations, 2013).

1.4 Experience of Service Questionnaire (ESQ)

The Experience of Service Questionnaire (ESQ) (Attride-Stirling, 2002) is a widely recognized tool for assessing user satisfaction within CAMHS. Originating from focus groups involving young people and parents/carers, the ESQ aims to identify positive care experiences. Tailored for different age groups, it includes versions for children (9–11 years), adolescents (12–18 years), and parents/carers. The structure of the ESQ was validated in a seminal study that included over 40 clinics and around 7000 responses: two correlated factors were identified, namely Satisfaction with Care (SWC) and Satisfaction with Environment (SWE) (Brown et al., 2014). Notably, the ESQ adolescent and parent/carer versions have been

translated into Norwegian and suggested for use in Norwegian CAMHS (Helsedirektoratet, 2008; Nasjonal Strategi Gruppe II, 2011). The ESQ has found application internationally, including Sweden (Lindevall, 2022), Denmark (modified version of the ESQ) (Kilburn et al., 2019), Turkey (Ozer & Halfon, 2024), Greece (Karagiorga et al., 2024), Qatar (Derby, 2016; Khan et al., 2023), Argentina (Bunge et al., 2014), Canada (Clark et al., 2018), Ireland (McGrath et al., 2022), and the UK (Barber et al., 2006; Bear et al., 2022; Brown et al., 2014; Wolpert et al., 2016). Originating in 2002, the ESQ emerged from focus groups involving children and parents/carers, aiming to identify positive care experiences. Families typically engage with the ESQ in clinical settings during the evaluation or discharge stages of treatment. Brown et al. (2014) established the ESQ as a reliable measure of CAMHS experiences, that is capable of distinguishing between different services.

The ESQ is relatively brief in length, with only 12 items per version. However, it may not capture all crucial aspects for users, such as nuances in the therapeutic relationship or cultural sensitivity of the service. Despite this, the widespread adoption of the ESQ highlights its impact on clinical practice, with recent research (Bear et al., 2022) indicating a substantial increase in the collection of user satisfaction; more than two-thirds of clinicians now routinely collect user satisfaction data systematically compared to merely 5% a decade ago (Batty et al., 2013; Hall et al., 2014). Despite its common application internationally, currently, the literature on the effects of prioritizing and measuring user satisfaction in CAMHS remains sparse. This indicates the need for further investigation and understanding of this essential aspect within the field.

2 Research Aims and Objectives

To supplement the limited knowledge of user satisfaction in CAMHS, this thesis consists of three distinct studies: which in this thesis are referred to as Papers I, II, and III. The central theme and aim revolve around exploring the implications of measuring user satisfaction within the framework of routine clinical practice at CAMHS. To achieve this aim, data collected in ordinary clinical CAMHS settings were utilized. More specifically, the objectives of the thesis are threefold: to validate a measure for assessing user satisfaction, to uncover the predictors that influence satisfaction levels, and to elucidate the consequential impact of user satisfaction on clinical outcomes. The aims of Paper I, II, and III are delineated as follows:

2.1 Paper I

The study aimed to advise clinical practice on using the ESQ for young people and parents in Norway and the UK. We aimed to test alternative measurement models of the ESQ, examining unidimensional, two-factor, and bifactor factor structure solutions, where based on previous research, the hypotheses favoured the latter. The study also aimed to assess the reliability of the factor structure with the best fit.

2.2 Paper II

The second study aimed to explore which young people and parent background, clinical, and service factors at intake could predict individual variation in user satisfaction, as measured by the ESQ at follow-up.

2.3 Paper III

The aim of this exploratory study was twofold: (1) to investigate whether different dimensions of young people and parent user satisfaction predict clinical outcomes, and (2) to address the impact of the interaction between young people and parent satisfaction on clinical outcomes.

3 Methods

3.1 Study Samples

The data presented and discussed in this thesis is based on multi-informed routinely collected data from young people, parents, and clinicians gathered from an outpatient CAMHS at the Department of Child and Adolescent Mental Health, at the University Hospital of North Norway (UNN) (Papers I to III). In addition, Paper I included children, young people and parent data from the Child Outcome Research Consortium (CORC), London, UK, which holds multisite data from the whole of the UK.

3.1.1 Inclusion criteria

Both the Norwegian and UK samples included data according to the CORC Snapshot protocol, previously described in detail by other researchers (Wolpert et al., 2016). To be included in the analysis for this thesis, young people or parents had to have answered the ESQ around six months after entering CAMHS. The same Norwegian sample was used in all three papers but differed slightly; specific details are given below.

3.1.2 Exclusion criteria

The exclusion criteria are related to missing items on the ESQ and were handled differently in each paper; specific details on the handling of missing data for each paper are given in Section 3.5.

3.1.3 Paper I

The overall sample from the UNN consisted of 1205 cases, which included ESQ responses from 177 young people (M = 14.1, SD = 2.0) and 380 parents (child/young people M = 10.8, SD = 3.4), gathered from December 2013 to December 2016. This resulted in a response rate for Norwegian young people of 14.7% and 31.5% for parents. The overall sample from CORC consisted of 214 657 cases; this included ESQ responses from 10,207 young people

(M = 13.5, SD = 3.3) and 9761 parents (child/young people age M = 10.9, SD = 4.3). The UK young people response rate was 4.8%, and 4.5% for parents. The data from CORC were collected from February 2011 to December 2021.

3.1.4 Paper II and III

For Paper II, separate samples for young people and parents were created based on the response to the ESQ at T2 (Time 2). In Paper III, two samples were created based on responses to the Strengths and Difficulties Questionnaire (SDQ) at T2. The four samples overlapped. The likely reason for this is that the SDQ and ESQ were gathered simultaneously via the Youth-in-Mind portal (https://youthinmind.com/). For both studies, we obtained responses from a total of 495 parents (child/young people age M = 11.16, SD = 3.43). This includes 231 young people (M = 14.06, SD = 1.91) for Paper II, while for Paper III, a total of 728 responses were obtained for the SDQ (M = 11.67, SD 3.48), 233 of which belonged to young people. The data were gathered from December 2013 to December 2020.

Table 1 presents an overview of the participant characteristics for all the samples (Papers I to III).

Table 1. *Participant characteristics for all the samples: Papers I to III*

	Paper I				Paper II		Paper III	
	UK		Norway		Norway		Norway	
	Young People	Parents	Young People	Parents	Young People	Parents	Young People	Parents
N	10,207	9761	177	380	231	495	233	495
Age (mean/ SD)	13.5 (3.3)	10.9 (4.3)	14.1 (2.0)	10.8 (3.4)	14.06 (1.91)	11.16 (3.43)	11.67 (3.48)	
Gender (% girls)	62.2	49.9	68.4	43.9	66.70	46.50	50.2	
SDQ Total					16.58 (5.39)	16.16 (6.38)	16.58 (5.55)	16.12 (6.31)
CGAS					54.32 (8.55)	54.24 (7.37)	54.28 (8.12)	
ESQ g-factor					29.39 (7.33)	31.68 (5.57)	29.39 (7.33)	29.27 (5.15)
SWC					21.97 (6.06)	23.90 (4.87)	21.97 (6.06)	24.05 (4.68)
SWE					7.42 (1.76)	7.78 (1.63)	7.42 (1.76)	7.85 (1.56)

Note. Age and gender is given for children/young people, not for parents. Young people responded when above 11 years old, and parents responded regardless of age of their child/youth.

3.2 Measures

3.2.1 User satisfaction

The Experience of Service Questionnaire (ESQ) (Attride-Stirling, 2002; Brown et al., 2014) maps user satisfaction. Separate versions exist for children 9–11 years old, adolescents 12–18 years old, and parents/carers. All the Norwegian and English ESQ versions are given in the Appendix. Each version of the ESQ has 12 items that are measured on a three-point Likert scale where 1 = "not true", 2 = "partly true", and 3 = "certainly true". There is also an option to choose "I don't know" and three open-ended questions for free-text responses. Depending on the use of the ESQ, other alternatives for scoring exist (CORC, 2024b). The context of the version items is consistent across versions, but they are worded differently depending on the intended sample. Across the adolescent and parent/carer versions, four of the items (Items 4, 6, 8 and 12) are reproduced verbatim, while the rest differ slightly. For example, adolescents are asked to consider statements such as: "I feel that the people who saw me listened to me" (Item 1) and "I was treated well by the people who saw me" (Item 3), while the parent/care version states: "I feel that the people who have seen my child listened to me" (Item 1) and "I was treated well by the people who have seen my child" (Item 3).

Past research on the ESQ only utilized the total score (Barber et al., 2006), which offers minimal opportunity to understand the drivers of discrepancy in satisfaction. Later, in the previously mentioned validation study by Brown et al. (2014), two factors with a moderate correlation emerged ("Satisfaction with Care" and "Satisfaction with Environment"). Items 1–7 and 11–12 loaded onto the Satisfaction with Care (SWC) factor, while items 8–10 loaded onto the Satisfaction with Environment (SWE) factor. Additionally, this study highlighted that respondents are subject to a strong "halo" effect when answering the items, such that their overall feeling of satisfaction will influence the way they respond to all the items. In addition, Brown and colleagues (2014)

highlighted that the SWC factor demonstrated precision in differentiating between less satisfied responders, while the SWE factor lacked the necessary precision; therefore, the authors do not recommend standalone use for this factor. Nonetheless, the specific environment items (8–10) can be useful for monitoring satisfaction with certain aspects, such as facilities, scheduling or accessibility, between services. The authors also uncovered another notable finding: the ESQ exhibited pronounced nesting effects, which were particularly evident in the parent version. This suggests an inherent influence of the service or healthcare provider encountered by the family.

Concerning the Norwegian version of the ESQ, no confirmed information regarding the translation procedure exists. According to conversations with researchers in Norway (M. Hysing, 3 December 2021 email correspondence; E. Heiervang, personal conversation, 20 March 2020) and the UK (R. Goodman, personal conversation, 23 November 2017), it is likely that the ESQ was translated in conjunction with a longitudinal study known as "Barn i Bergen", conducted from 2001 to 2012 (https://app.cristin.no/projects/show.jsf?id=449481). To the best of my knowledge, no studies using the Norwegian version of the ESQ have been previously published.

3.2.2 Clinical measures

The ***Strengths and Difficulties Questionnaire (SDQ)*** (Goodman, 1997) is a widely used tool for mapping the symptoms of mental health problems that has separate versions for young people, parents and teachers (for details, see https://www.sdqinfo.org/). The SDQ has Norwegian language versions published in 1999, resulting from a translation and back-translation process by Heiervang and colleagues (Eidstuen & Kornør, 2017). The questionnaire consists of 25 items divided into scales for emotional symptoms, behavioural problems, hyperactivity/attention problems, problems in relationships with friends and prosocial behaviour. It employs a three-point Likert scale where 0 = "not true", 1 =

"somewhat true", and 2 = "certainly true". The total difficulties score, which ranges from 0 to 40, is computed by summing the 20 items that pertain to difficulties with emotion, conduct, hyperactivity, and peer interactions. The psychometric properties of the SDQ have been extensively studied across various cultural contexts, with most studies supporting its reliability and validity (Vostanis, 2006), including those in Norway and other Nordic countries (Obel et al., 2004). However, regional and cultural variations in cut-off scores highlight the need for caution when interpreting SDQ results; for example, the 90th percentile cut-off for the total difficulties score is 18 points in Northern Norway (Rønning et al., 2004), compared to 20 in the UK (Goodman, 2001). Additionally, reliance solely on adult informants may introduce bias in the data, particularly in vulnerable populations, which underscores the importance of multi-informant assessments (Vostanis, 2006).

*The **Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)*** (Gowers, Harrington, Whitton, Lelliott, et al., 1999) is used for the clinical assessment of children and young people's mental health symptoms. The HoNOSCA consists of 15 items rated on a five-point scale ranging from 0 = "no problem" to 4 = "severe problem" where Items 1–13 make up the HoNOSCA total score (range 0–52) (Gowers, Harrington, Whitton, Beevor, et al., 1999). There is no formal clinical cut-off for the total score, but scores of 2 or more are usually considered to be the clinical cut-off. The Norwegian version has been available since 2001 when Hanssen-Bauer and colleagues meticulously translated and back-translated it from English (see Hanssen-Bauer et al., 2007). The HoNOSCA has good inter-rater reliability (Hanssen-Bauer et al., 2007), while the total score is an effective measure of clinical severity (Brann et al., 2001; Gowers, Harrington, Whitton, Lelliott, et al., 1999) and sensitive to change in clinical populations (Bilenberg, 2003; Brann et al., 2001; Hanssen-Bauer, Aalen, et al., 2007). The clinicians in this current study followed training workshops on HoNOSCA vignettes, as previously described in detail by other researchers

(Hanssen-Bauer, Aalen, et al., 2007). In short, clinicians assess the HoNOSCA based on available information regarding the most severe incidents relevant for each item during the past two weeks. The HoNOSCA corresponds well with the Children's Global Assessment Scale (CGAS; see below) (Lundh et al., 2013; Wolpert et al., 2008).

*The **Children`s Global Assessment Scale (CGAS)*** (Shaffer et al., 1983b) is a unidimensional scale for assessing general psychosocial functioning in children and adolescents, with scores ranging from 1 (needs constant surveillance) to 100 (superior functioning). Scores above 70 indicate normal functioning, while scores between 61 and 70 suggest potential treatment needs, and scores below 61 indicate more definite treatment needs (Bird et al., 1990; Shaffer et al., 1983b). In Norway, the CGAS is routinely used as part of the multi-axial classification of mental disorders in children and adolescents (https://finnkode.ehelse.no/#bup/1/0/1/6). An unofficial Norwegian translation of the CGAS has been available since the 1990s; however, a recent effort led by Lars Ravn Øhlckers, Børge Idar Mathiassen, and Ketil Hanssen-Bauer for the UNN resulted in a new translation, which was subsequently approved by Columbia University, in the United States (US), in August 2022 (Shaffer et al., 1983a).

The CGAS has been evaluated in numerous studies and is widely utilized to assess the severity of mental health issues and outcomes (Rey et al., 1995; Schorre & Vandvik, 2004). Studies examining inter-rater reliability among clinicians have typically found moderate to good agreement, as measured by intra-class correlation coefficient (ICC), in both Norway (Hanssen-Bauer, Aalen, et al., 2007) and cross-nationally (Hanssen-Bauer, Gowers, et al., 2007). In this current study, the clinicians underwent either group rehearsals with clinical vignettes or completed the online course at www.cgas.se; both methods yielded comparable results, which indicates they have equivalent training effectiveness (Lundh et al., 2012).

3.2.3 Background variables

The ***Development and Well-Being Assessment (DAWBA)*** (Goodman et al., 2000) is a diagnostic interview that is usually administered as a web-based user-completed interview (for more details, see https://www.dawba.info/). There are separate versions of the DAWBA for young people, parents and teachers. The interview has a separate module for mapping background variables, which has questions for mapping the child's health, learning difficulties, stressful life events, family stresses, parents' temperament, family structure, parents' physical and mental health, parent's child-rearing style, and the child's strong points (Goodman et al., 2000; Last et al., 2014; Vidal-Ribas et al., 2015). At the outpatient clinic at the UNN, DAWBA interviews were routinely digitally collected as part of the intake procedure. The access details to the online questionnaire were distributed at intake, and if a family had not completed the DAWBA by a week before the first consultation, they were contacted by a member of the admin staff, who answered queries and provided help with log-on procedures, etc. When the DAWBA is completed electronically, it employs computer algorithms to indicate a potential diagnosis, assigning a band level that aligns with the prevalence of the respective disorder.

The ***Family Stress Scale (FSS)*** (Goodman et al., 2000), part of the DAWBA, evaluates family stress and socioeconomic status through 13 items. Parents rate stressors such as economic problems (e.g. individual experiences of unemployment, financial challenges, inadequate housing), time pressures, and family tensions (e.g. issues with family, neighbours or the neighbourhood) on a three-point scale (ranging from 0 = "no or doesn't apply" to 2 = "a lot"), with a possible maximum score of 26. The FSS demonstrates acceptable internal consistency (Cronbach's alpha = .63) (Mathiassen & Arnesen, 2024).

The ***Everyday Feeling Questionnaire (EFQ)*** (Uher & Goodman, 2010) is integrated into the DAWBA and comprises 10 items assessing parental psychological distress and well-

being over the past month. The questionnaire covers symptoms related to depression and anxiety, as well as aspects of psychological well-being, such as optimism and coping. Responses are rated on a five-point scale, ranging from 1 = “none of the time” to 5 = “all of the time”, with higher scores indicating higher distress and lower well-being. The EFQ, which has been validated in both epidemiological and clinical populations, demonstrates good internal consistency (Cronbach’s α = .89–.97) and unidimensionality, with distress and well-being existing on a single continuum (Mann et al., 2013; Uher & Goodman, 2010). Additionally, recent validation in a Norwegian sample confirms its reliability and validity in diverse cultural contexts (Kjærandsen et al., 2021).

*The **Social Aptitude Scale (SAS)*** (Liddle et al., 2009) is also integrated into the DAWBA and comprises a 10-item parent-report questionnaire assessing children’s social skills (for more details, see https://dawba.info/SAS/). Items are rated on a five-point scale, (ranging from 1 = “a lot worse than average” to 5 = “a lot better than average”). Parents assess their child’s social skills relative to peers of the same age, and higher scores indicate better social skills. The final scores are converted to T-scores. The SAS demonstrates good internal consistency and loads onto a single factor (Kaiser et al., 2023; Liddle et al., 2009).

3.2.4 Service factors

Data regarding waiting time, length of treatment, referral source, and proximity to service was drawn from the electronic patient journal. Waiting time was measured in days, from the initial referral to the initial face-to-face meeting with the clinician at CAMHS. The admin staff transferred the waiting time data from the electronic patient journal to the registry. Travel distance information was also imported from the electronic patient journal. For the distance to service variable, families residing within the CAMHS municipality were assigned a dummy code of 0, while those living outside the municipality (usually with a travel distance exceeding one hour) were coded as 1.

3.3 Procedures

The central focus of this thesis is user satisfaction, as measured by the ESQ at around six months after the families have begun their clinical pathway in CAMHS. However, to provide an overview of the outpatient clinics' daily practice, the research procedures are presented chronologically:

At treatment intake (Time 1; T1) all the patients referred to ordinary CAMHS outpatient treatment were invited to answer youth and parent versions of the SDQ, while clinicians rated the patients using the CGAS and the HoNOSCA. At follow-up (Time 2; T2), which is normally around six months after onset, all the measures were repeated. Young people and parents were then invited to complete the ESQ. This pre–post design is described in the CORC Snapshot template (CORC, 2024a).

The Norwegian data in all three papers of this thesis (Papers I to III) were collected from a local quality registry at the UNN, which is hosted on a designated local server with restricted access. The Norwegian sample followed the CORC Snapshot protocol used by most UK CAMHS (http://www.corc.uk.net/). For the Norwegian sample, admin staff invited families to respond to the measures at T1 and T2 by regularly sending letters describing the purpose and log-in procedure for the electronic response. When measures were not completed, admin staff reminded the families by phone on one occasion only.

For Paper I, the UK sample was obtained from the unique CAMHS database at CORC in the UK (http://www.corc.uk.net/), which includes data from around half a million children and young people and is likely to be the world's largest database of this kind. For Paper I, the data from the Norwegian and UK databases were not merged but analysed separately. The transfer of data from Norway to the UK for analysis was hosted by the UCL (University

College London) Data Safe Haven, a secure file transfer portal (for more details, see https://www.corc.uk.net/resource-hub/sending-data-to-corc/.

3.4 Ethical Considerations

Data collection in the Norwegian sample was facilitated through everyday clinical practice and quality control measures; therefore, there was no obligation to obtain additional consent from the participants. However, traditional electronic patient journals (EPJs) often lack the functionality required to effectively gather, store, analyse, and report the type of structured patient-, parent- and clinician-rated data that is routinely used in clinical settings. Consequently, data collection is typically facilitated through quality registries.

In this study, all data for the Norwegian samples were stored at the UNN in a de-identified local CAMHS quality registry. The local database was strictly access restricted to people involved in the data collection and statistical analysis; no other administrative staff, clinicians, or CAMHS service leaders were given access. In Norway, local Data Protection Officers at the Health Trusts act on behalf of SIKT, the Norwegian Agency for Shared Services in Education and Research. Since the data were classified as registry data for a local CAMHS registry, approval from the Regional Ethics Committee was not required for the Norwegian data. Instead, the local Data Protection Officer at the UNN provided approval to use the published registry data for research purposes (approval attached in Appendix).

The UK data, collected for Paper I, involved secondary analysis of anonymous routinely collected data. As such, the study did not require specific ethical approval, as per National Health Service (NHS) guidelines (NHS, 2023). A Data Processor Agreement between Norway (UNN) and the UK (CORC) prohibited the files from being merged for analysis; therefore, the analyses were performed separately.

3.5 Statistical Analysis

3.5.1 Power calculation

When the project began, the local registry held data from approximately 1500 young people. To enhance the reliability of the studies and minimize the risk of false negatives, a priori power analysis was performed; this specified a minimum sample size of 131 participants to detect a medium effect size ($f^2 = 0.15$) in a regression analysis with 13 predictors (alfa = .05 and power = 0.80).

3.5.2 Missing data

Missing data were handled differently for each of the three papers. In Paper I, the UK dataset excluded any participants who had not completed all the ESQ items, while the Norwegian dataset adopted pairwise deletion, analysing only the available data for each pair and omitting cases with missing data.

In Papers II and III, missingness was analysed using Little's missing completely at random (MCAR) test, which indicated that the missing data were missing completely at random. Following the MCAR results, the missing data were handled using multiple imputation (MI) based on expectation maximation (EM). EM is considered to be superior to listwise or pairwise deletion (Schafer & Graham, 2002).

In Paper II, missing values (ranging from 0–31.4%) were addressed through multiple imputations (n = 5) utilizing the fully conditional specification method. This method incorporated all the available variables for each sample. The imputed datasets were aggregated to create a complete dataset for subsequent analyses. Following the removal of five outliers from the adolescent sample, multicollinearity was addressed. The variance inflation factors consistently stayed below 2.5 (range: 1.019–1.922 in both samples), while all

the predictors maintained tolerance values above 0.1. As anticipated, the q-q plots of the residuals revealed skewness for all ESQ factors in both samples.

In Paper III, different percentages of missing values were noted among the predictors for both the young people (2.1–31.4%) and parent (2.4–26.5%) samples. To mitigate potential bias, 20 datasets were imputed using the fully conditional specification method, encompassing all accessible variables. Subsequently, these imputed datasets were merged to create complete datasets for each sample, which is a common approach in regression analysis.

Further methodological details and outcomes for how missing data were handled are detailed in the three papers. An overview of the ESQ data from Papers I to III (see Table 1 above) shows consistent means and SDs across the young people and parent samples, which suggests that the imputation techniques did not influence our results. A more thorough discussion of the theories underlying imputation and strategies for handling missing data is beyond the scope of this thesis.

3.5.3 Data analysis

The purpose of a study and the nature of the data affect the selection of the statistical methods. For this thesis, standard descriptive statistics were computed in Papers I to III. Further considerations regarding the statistical analyses for each paper are described below.

To ensure the results from the two countries were comparable, measurement invariance analysis (Cheung & Rensvold, 2002) was applied. Statistical propensity score matching (Garrido et al., 2014) refers to the analysis of the statistical properties of measurement and is used to examine whether the same construct has been measured across two or more samples. By applying this procedure to the analyses for Papers I to III, we add to the knowledge base on whether the concept of user satisfaction can be interpreted in a conceptually similar manner cross-culturally.

3.5.4 Analyses: Paper I

The Norwegian samples were analysed using R version 4.3.2 with the lavaan package (Rosseel, 2012), while Rstudio version 4.0.3 was used for the UK samples. Across both the UK and Norwegian samples, three competing models were assessed using confirmatory factor analysis (CFA) with mean- and variance-adjusted weighted least squares (WLSMV) estimation. The three structural models were assessed for the 12-item ESQ: a unidimensional structure, a two-factor model, and a bifactor model. Goodness-of-fit indices, such as CFI, TLI, RMSEA, SRMR, and Chi-square, were employed to evaluate the model adequacy, with an emphasis on CFI and TLI > 0.95 and RMSEA < 0.06. The bifactor model emerged as superior. The reliability of the bifactor model was assessed using various indices, including ECV, McDonald's coefficients omega hierarchical and specific, and Cronbach's alpha. An ECV > .90 suggested a unitary construct, while values between .70 and .90 required nuanced interpretation (Quinn, 2014). The internal consistency of the ESQ full scale and subscales was evaluated, with Cronbach's alpha values of .7 or higher indicating acceptable consistency.

3.5.5 Analyses Paper II

SPSS Statistics 27 was utilized for the data analysis. Due to the typical skewness of satisfaction scores, non-parametric tests were used to compare adolescents and parents. Pearson correlation was used to calculate the associations between the dependent variables and predictors. Regression analyses, which were conducted separately for adolescents and parents, used ESQ factors as outcome variables and tested three models for each group. A Bonferroni correction controlled for family-wise error rates post hoc.

3.5.6 Analyses: Paper III

The data were analysed using SPSS Statistics 27. The outcome variable scores, including SDQ–Parent, SDQ–YP, HoNOSCA, and CGAS, were computed by subtracting the T1 (intake) scores from the T2 (six-month follow-up) scores. Hierarchical regression analyses

assessed the predictive capacity of the ESQ scales for young people (YP) and parents. The regression models included two steps. Step 1 incorporated independent variables such as age, gender, SDQ–prosocial behaviour score, SAS score, waiting time, FSS score, and EFQ score. Step 2 involved separately entering the ESQ scale scores: General Satisfaction (GS), SWC, and SWE. To assess whether the interaction between YP and parent ESQ scores predicted outcomes, the regression models followed three steps. The initial two steps mirrored those described earlier. In step 3, separate regression models were conducted for each interaction term: parent GS × YP GS, parent SWC × YP SWC, and parent SWE × YP SWE.

4 Results Summary

4.1 Summary Paper I

Arnesen, Y., Handegård, B.-H., Mathiassen, B., Lillevoll, K., Martinussen, M., da Costa Silva, L., Harju-Seppänen, J., Rennick, A., Jacob, J., & Edbrook-Childs, J. (Submitted April 2024 to Administration and Policy in Mental Health and Mental Health Services Research). User satisfaction with Child and Adolescent Mental Health Services: Factor structure of the Experience of Service Questionnaire (ESQ) in Norway and the UK.

Paper I examined the psychometric properties of the ESQ in CAMHS across Norway and the UK, revealing a bifactor model as the most suitable representation of the ESQ's latent structure. The results highlight that a substantial part of the common variance in the total satisfaction score is explained by the GS factor, alongside specific subfactors such as SWC and SWE. Notably, the high internal consistency, especially in the UK sample, was underscored by robust reliability indices, including high Cronbach's alpha values for the ESQ factors. The study emphasises the underlying dimension of GS for influencing overall satisfaction in CAMHS and transcending individual care components, and it provides actionable insights for clinicians and service providers wanting to enhance quality through routine user satisfaction assessment. However, it is important to note that the Norwegian adolescent sample retained a unidimensional model, so deviating from the bifactor model observed in the other samples. Furthermore, caution is advised in interpreting specific factor findings, particularly the minimal reliable variance observed in the SWC subscale when considering the GS factor. Despite limitations in sample diversity, the study indicates that the ESQ is valid for use across cultural boundaries, which supports its potential as a robust measure for assessing user satisfaction. Hence, it offers a valuable contribution to the literature on cross-cultural applicability and ESQ validity in diverse clinical settings.

4.2 Summary Paper II

Arnesen, Y., Lillevoll, K. R., & Mathiassen, B. (2023). User satisfaction in child and adolescent mental health services: Comparison of background, clinical and service predictors for adolescent and parent satisfaction. *Health Expectations*, *26*(6), 2608-2619. https://onlinelibrary.wiley.com/doi/full/10.1111/hex.13861

Paper II investigated the predictors of user satisfaction in CAMHS by analysing a dataset from an ordinary clinical setting. The study aimed to explore diverse background-, clinical- and service-level predictors and user satisfaction for both adolescents and parents. The results revealed diverse predictors for adolescent and parent user satisfaction at CAMHS. The regression model for adolescent SWC explained 12% of the variance (Bonferroni corrected $p < .0167$), while neither the GS nor SWE models for adolescents reached statistical significance. Regarding parent satisfaction, all the regression models were significant across all factors, explaining 7% of the variance for GS, 6% of the variance for SWC, and 8% of the variance for SWE, even after applying the Bonferroni correction ($p < .0167$).

The key findings reveal that higher adolescent satisfaction is linked to good parental mental health and fewer health symptoms at intake, while parent satisfaction correlates with higher levels of child ADHD symptoms, lower family stress, and longer travel distances to CAMHS. Unique predictors were identified for adolescents and parents, which emphasizes the importance of tailoring interventions based on specific needs. Despite generally high satisfaction levels, the study calls attention to inequities and the need for services to focus on collaborative practices. The results have implications for enhancing service quality, emphasizing person-centred care for adolescents, and promoting collaborative practices with parents in CAMHS.

4.3 Summary Paper III

Mathiassen, B., & **Arnesen, Y.** (Accepted April 2024). Does user satisfaction predict treatment outcomes in Child and Adolescent Mental Health Services? *BMC Psychiatry*.

Given the limited existing research on associations between user satisfaction and clinical outcomes in CAMHS, Paper III undertook an explorative approach that included assessing the interaction between young people and parent satisfaction as outcome predictors. The results revealed discrepancies in user satisfaction between young people and parents that were linked to poorer reported outcomes for young people. Notably, both young people-reported and parent-reported GS and SWC predicted outcomes. Furthermore, the interaction between young people and parent satisfaction, particularly the GS × SWC interaction, emerged as a significant predictor of young people-reported outcomes. User satisfaction explained 5% of the young people-reported outcome variance and 2% of the parent-reported outcome variance. Importantly, the interaction term young people GS × parent GS explained 10% of young people-reported outcomes, which was a substantial effect compared to the other outcome predictors.

The study found no significant correlations between young people- and parent-reported satisfaction, which highlights the importance of collecting data from both sources to develop a more comprehensive understanding of the underlying processes involved. Additionally, SWE did not predict any study outcomes. However, the SWE may be more appropriate for comparisons between different services rather than within the same service. The study highlights the importance of satisfaction as a valuable metric, emphasizes transparency and engagement in quality improvement for mental health services, and acknowledges the need to consider study limitations for a more balanced interpretation of the findings.

5 Discussion

The main aim of this thesis and the cohesive link between Papers I to III was to investigate user satisfaction in CAMHS, with a particular emphasis on young people and parents, by validating a measure for assessing user satisfaction (the ESQ), uncovering predictors that influence user satisfaction, and exploring the impact of user satisfaction on clinical outcomes. Collectively, the papers address gaps in the existing literature and enhance our understanding of user satisfaction within CAMHS, so contributing to the development of a theoretical framework in this area.

This chapter of the thesis first interprets the findings of the three papers. This is followed by methodological reflections which include strengths and limitations of the current study alongside theoretical implications. A conceptual model for user satisfaction in CAMHS is then proposed, with the subsequent discussion covering clinical implications and exploration of potential future research directions before concluding.

5.1 General Discussion

In summary, the three papers in this thesis highlight various aspects of user satisfaction within CAMHS. Paper I revealed a bifactor model of user satisfaction, revealing a general factor (GS) with two specific factors: SWC and SWE (Figure 1). Paper II uncovered unique predictors for young people and parent satisfaction, while Paper III demonstrated the significant impact of user satisfaction on clinical outcomes, particularly when the satisfaction levels of young people and parents are disparate. These findings emphasize the intricate interplay between service delivery, user satisfaction and clinical outcomes in CAMHS, and mirror the recognized framework proposed by Donabedian (1988) for assessing healthcare quality, in that it should focus on structure, process, and outcomes. The results also resonate with contemporary calls for enhanced service quality, shared decision-making, and person-

centeredness in mental health care (Brady, 2020; Edbrooke-Childs et al., 2015; Gondek et al., 2017; Kilbourne et al., 2018; Krause et al., 2019; York & Kingsbury, 2013). For a clearer insight, the following section will examine the specific implications of discovering a general factor, the nature of distinct predictors, and the influence of user satisfaction on clinical outcomes.

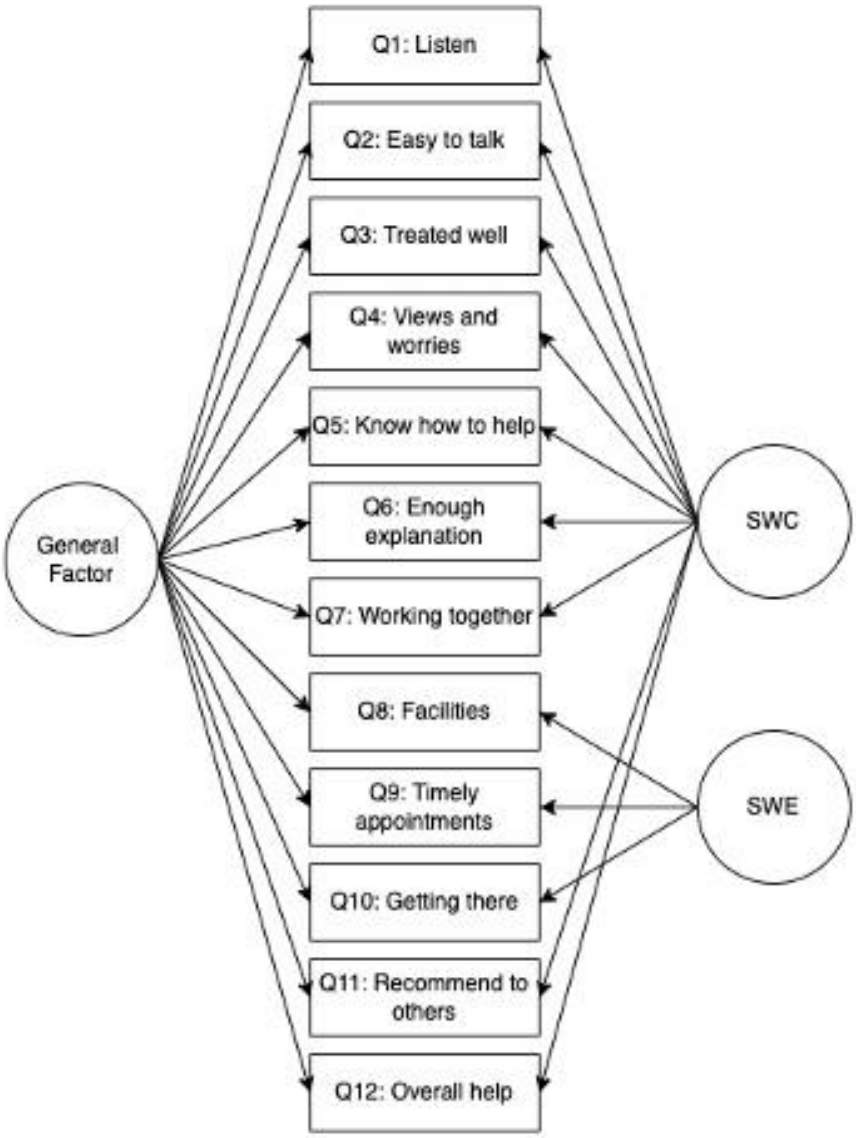

Figure 1. ESQ Bifactor Model

5.1.1 Implications of the General Satisfaction (GS) factor

Paper I confirms the bifactor model validates the ESQ and provides insights into the underlying structure of user satisfaction in CAMHS by identifying a general satisfaction (GS) factor. This overarching dimension of user satisfaction can serve as a foundational element that shapes overall satisfaction levels. The validation of the ESQ in both Norwegian and UK contexts enhances its utility as a robust tool for assessing user satisfaction across diverse cultural settings, which reinforces its relevance for CAMHS evaluations. Previous studies in the field have provided preliminary evidence to suggest that a general factor underlies user satisfaction in various healthcare contexts. For instance, research by Ayton et al. (2007) and Brannan et al. (1996) shows strong correlations between specific dimensions of satisfaction, which implies the existence of a common underlying factor. Similarly, studies by Garland et al. (2000) and Brown et al. (2014) suggest that a GS factor is present in mental health services, although the nature of such a factor and its implications for service delivery are still unclear. Despite these indications, the debate over whether user satisfaction should be assessed as unidimensional versus multidimensional remains unresolved, which underscores the need for further investigation into the underlying structure of user satisfaction, particularly within the context of CAMHS, where the complexities of user experiences necessitate a nuanced understanding of satisfaction dimensions.

The results of Papers II and II add further insights into the implications regarding a general user satisfaction factor in CAMHS. In Paper II, the parent model demonstrated a significant association between various predictors and GS levels, highlighting common underlying factors that contribute to parental satisfaction. However, the adolescent model was not statistically significant, which was not surprising in light of the Paper I results, which support a unidimensional model for adolescent satisfaction, in contrast to the other three samples.

In Paper III, both GS and SWC emerged as significant predictors of outcomes for both young people and parents in CAMHS. This underscores the critical role of general satisfaction and SWC in shaping clinical outcomes. Addressing these dimensions of user satisfaction can potentially improve service quality and clinical outcomes for young people and their families accessing mental health services through CAMHS. In essence, identifying a general factor highlights the significance of user satisfaction as a cornerstone for evaluating and enhancing the quality of CAMHS.

5.1.2 Distinct predictors

In Paper II, we aimed to address the limitations of previous research on the predictors of user satisfaction in mental health services for children and young people, particularly regarding the discrepancy in the perspectives of parents and young people (Biering, 2010; Kapp et al., 2017; Seibel et al., 2021). The results revealed that user satisfaction for young people and parents has distinct predictors. While significant regression models were found for young people's SWC, the GS and SWE models for this group were not significant. Conversely, significant regression models were observed for parent satisfaction across all factors. A cross-informant effect was found for young people's satisfaction, whereby user satisfaction was predicted by low parent-self-reported mental health burden and low clinician-rated overall symptom burden at intake. Parent GS was predicted by higher child hyperactivity levels, less family stress, and longer travel distances; parent SWC was predicted by hyperactivity levels and longer travel distances; while parents were more likely to be satisfied with environmental aspects of the service (SWE) if the patient was a boy, family stress was low (as perceived by the parent), and travel distances were longer. Interpreting these results highlights the nuanced nature of user satisfaction in CAMHS.

Regarding young people, interpreting the cross-informant effect found in young people's satisfaction suggests that parental factors, including parental mental health status,

significantly influence young people's satisfaction with mental health services. This is aligned with previous research (Garland et al., 2007; Acri et al., 2016) that highlights the interconnectedness of family dynamics in mental health care. Specifically, low parent-reported mental health burden may indicate a stable and supportive family environment, so enabling parents to better understand and validate their child's experiences and needs (Acri et al., 2016). Notably, young people's satisfaction can be influenced by addressing parental mental health concerns at intake, which underscores the significance of early intervention strategies (Bjørngaard, 2008). This also underscores the importance of adopting a family-centred approach in mental health services, where collaborative efforts involving both young people and their parents in care and treatment planning contribute to higher levels of satisfaction among young service users (Holmboe et al., 2011).

Furthermore, when considering the reduced clinician-rated overall symptom burden at intake, it is vital to recognize that while this observation may signify less severe mental health issues, it may also relate to the potential underreporting of symptoms by clinicians; this highlights the complex interplay between symptom burden and clinician assessment. While a lower symptom burden may indicate a healthier mental state for the young person, which is aligned with previous findings (Urben et al., 2015), it could also signal that clinicians may not have adequately recognized or addressed a young person's mental health concerns (Davison et al., 2017). This situation might lead to unmet needs rather than effective treatment or stability. As we observed a complex relationship between symptom burden and satisfaction levels at CAMHS, it is prudent to approach our findings with caution and carefully consider their implications.

Parental satisfaction at CAMHS was influenced by various factors, each of which impacted different aspects of their experience with the service. In contrast to previous research (Barber et al., 2006; Bjørngaard et al., 2008; Godley et al., 1998), Paper II revealed

that higher levels of hyperactivity in children and young people significantly predict parental satisfaction. This finding has several potential interpretations. Specifically, parents seemed more satisfied when their child exhibited more ADHD symptoms at intake, which indicates that addressing these symptoms may lead to higher parental satisfaction levels. This supports research by McNicholas et al. (2016), where parents reported lower satisfaction if their child was not diagnosed at CAMHS. Together, these findings infer that addressing a child's ADHD symptoms and providing a diagnosis may greatly influence parental satisfaction with CAMHS.

The association between lower levels of family stress and increased parental satisfaction resonates with prior research (Acri et al., 2016; Copeland et al., 2004; Holmboe et al., 2011). This suggests that parents derive greater satisfaction from CAMHS when there is less stress in the family environment. Moreover, it implies that a supportive and harmonious family dynamic contributes to a more positive experience with mental health services. Lower family stress may facilitate parental engagement in the treatment process and effective support for their child's mental health needs, resulting in higher overall satisfaction. Additionally, it could signify the efficacy of interventions targeting family stress reduction within CAMHS, which leads to enhanced satisfaction among parents. These interpretations highlight the pivotal role of family dynamics and stress management in shaping parental satisfaction with CAMHS.

The association between longer travel distances to access CAMHS services and higher levels of parental satisfaction diverges from previous findings (Holmboe et al., 2011; McNicholas et al., 2016), that suggest that proximity to CAMHS facilities might enhance parental satisfaction. While this discrepancy prompts questions about the underlying factors of user satisfaction, caution is warranted in interpreting these results due to unclear causal mechanisms and unexplored variables. One possible interpretation could be parents'

perceptions of the quality and effectiveness of CAMHS services available at facilities located further away. In Paper II, within the rural catchment area of CAMHS at UNN (> 1-hour travelling distance), alternative mental health services are scarce, presenting families with limited options. Such rural realities are suggested to shape healthcare provision (Fors, 2023), potentially encouraging a more pragmatic approach to services among parents who must travel longer distances to access CAMHS. Additionally, adjusted expectations regarding travel inconveniences may influence parental satisfaction. Parents who anticipate longer travel times may mentally prepare themselves and adjust their expectations accordingly. Consequently, perceptions of satisfactory care quality may lead to higher user satisfaction levels that are aligned with adjusted expectations. Despite longer distances, parents may find CAMHS facilities further away to be more beneficial to their child's well-being due to factors such as a welcoming atmosphere, supportive staff, or well-equipped facilities, which again, potentially contribute to enhanced satisfaction levels. Moreover, clinicians at these facilities may be more accommodating to the needs of families travelling longer distances, which may further influence parental satisfaction.

The only gender effect identified pertained to parental satisfaction with the CAMHS environment and notably revealed that parents of boys were more likely to be satisfied with aspects such as physical surroundings, timeliness of appointments, and access to services. This finding contrasts with much of the existing literature, which generally indicates no significant gender effect on satisfaction levels. Exceptions include Kapp et al. (2017), who note higher satisfaction among girls, and Shapiro et al. (1997), who report higher satisfaction among boys. In Norway, Holmboe et al. (2011) found that parents of boys also report higher satisfaction levels, which aligns somewhat with our findings. One possible interpretation of this is that CAMHS facilities in Norway may offer tailored services or environments that better address the needs or preferences of boys and their parents. Alternatively, cultural or

societal norms in Norway may differently influence parental perceptions of the CAMHS environment for boys and girls. Ultimately, our findings and those of previous research reveal that satisfaction predictors differ between young people and parents, which for enhanced satisfaction, may necessitate tailoring interventions to meet the specific needs and preferences of each group. CAMHS should also be aware that while findings suggest that services are best tailored to young people with fewer needs and lower levels of symptom burden, this may inadequately address the needs of individuals who have more complex issues and are more vulnerable, as has been highlighted by other researchers (Davison et al., 2017; Jozefiak et al., 2016; Kayed & Jozefiak, 2015).

5.1.3 User satisfaction and clinical outcomes

Research exploring the relationship between user satisfaction and clinical outcomes in CAMHS is limited (Norman et al., 2016; Seibel et al., 2021). Therefore, given the gaps in the existing literature and the complexity of user satisfaction within CAMHS, Paper III adopted an exploratory approach to generate novel insights that could provide a foundation for future hypothesis-driven research in this domain. Our results revealed discrepancies in user satisfaction between young people and parents that were linked to poorer (self-reported) outcomes for young people. Notably, both young people-reported and parent-reported GS and SWC predicted outcomes. The interaction between young people and parent satisfaction, particularly the GS × SWC interaction, emerged as a significant predictor of young people-reported outcomes, explaining 5% of the variance. Notably, the interaction between young people GS × parent GS explained 10% of young people-reported outcomes, which is a substantial effect compared to well-known other outcome predictors such as therapeutic alliance (7%) (Flückiger et al., 2012) and psychotherapeutic treatment (13%) (Wampold, 2015). However, our study did not find significant correlations between young people-reported and parent-reported satisfaction, which highlights the importance of collecting data

from both sources to develop a comprehensive understanding of the relationship. However, SWE was not found to predict outcomes, which suggests it is more suitable for comparisons between different services rather than within the same service as noted by Brown et al. (2014).

The significant interaction between young people and parent satisfaction, as represented by the GS × SWC interaction, emerged as a predictor of young people-reported outcomes and explained a notable percentage of the variance. This underscores the substantial impact of aligning satisfaction levels between young people and parents regarding treatment efficacy. The presence of discrepancies in user satisfaction between young people and their parents further emphasizes the need to address these disparities, as they may indicate challenges within the therapeutic relationship or tensions within the family unit. Together, these findings highlight the importance of implementing interventions to improve satisfaction levels among both groups and enhance treatment outcomes.

Despite the intuitive understanding that aligning satisfaction levels between young people and parents is crucial for treatment efficacy, the empirical validation of this relationship through statistical analysis adds credibility and validity to these intuitions. Nonetheless, within the landscape of CAMHS, it is essential to recognize the evolving dynamics between young people and their parents as they navigate through adolescence. As they mature, young people naturally strive for increased autonomy and independence (Harper et al., 2014; Spear & Kulbok, 2004), which can sometimes lead to a shift in their relationship dynamics with their parents. While parents traditionally play a central role in initiating and facilitating mental health care for their children (Yeh & Weisz, 2001), seeking greater independence is an inherent part of the developmental process for young people. This transition may manifest as a desire for more privacy and autonomy in their interactions with healthcare providers, including a preference for confidential discussions and decision-making

regarding their treatment. Regrettably, as noted by Gondek et al. (2017), barriers still restrict young people's involvement in CAMHS.

As highlighted in Paper III, parental involvement remains crucial in CAMHS, where the family unit plays a significant role in assessment and treatment. The observed interaction effect between the satisfaction levels of young people and their parents stresses the importance of aligning their perspectives and addressing any discrepancies. CAMHS must navigate these complexities sensitively to ensure its effective responsiveness to evolving needs and preferences. Additionally, adhering to healthcare legislation and patient rights, and promoting shared decision-making and comprehensive services, reinforces the need to consider diverse perspectives within CAMHS. By accommodating the natural shifts in relationships and perspectives, CAMHS can deliver more personalized and effective care that is tailored to each young person and their family. The Norwegian healthcare legislation and patient rights framework, which prioritizes shared decision-making and comprehensive services (Lovdata, 1999), further emphasizes CAMHS' obligation to consider diverse perspectives and provide high-quality care for all service users.

5.2 Methodological Reflections

5.2.1 Registry data

The analysis in Papers I, II, and III utilize registry data, which is a methodology that offers both advantages and disadvantages compared to controlled trials. Research using registry data provides insights into real-life clinical practice within CAMHS settings, enhances the external validity of findings and reflects the pragmatic nature of mental health care delivery (Bickman et al., 2016; Boswell, 2020; Boswell et al., 2015; de Jong, 2016; Kazdin, 2008; Lambert et al., 2003; Lambert et al., 2018; Lambert et al., 2001; Norcross et al., 2006; Walkup et al., 2020). Registry data studies, in contrast to randomized controlled trials (RCTs), encompass a diverse array of demographic, clinical, and service-related variables, which facilitates a nuanced

exploration of user satisfaction within CAMHS and aligning with the call for collaborative outcome measurement (Hall et al., 2013; Merry et al., 2004; Moran et al., 2012). This resonates with the ongoing debate of the future of the field (Rief et al., 2024), which centre on the "efficacy versus effectiveness" debate regarding of research designs in evidence-based practice, where effectiveness studies are seen as promising (Boswell, 2020; Boswell et al., 2015; Kazdin, 2008; Lambert et al., 2003; Lambert et al., 2018; Lambert et al., 2001). Despite ongoing challenges in creating databases with the necessary quality to facilitate research in the CAMHS field (Bickman et al., 2016; de Jong, 2016), employing the local quality registry at the University Hospital of North Norway (UNN) has had a significant impact, and contributed to the foundation of a wider Norwegian CAMHS national quality registry initiative (Isachen, 2023); this underlines the benefit of supplementing primary research with data from ordinary clinical practice. However, the use of registry data may introduce potential well-known biases and challenges (Wolpert & Rutter, 2018) that need to be addressed, which are described in more detail in the Methods chapter (Chapter 3) of this thesis.

5.2.2 Selection bias

Self-selection bias is a critical concern in this type of research due to the voluntary nature of participation in CAMHS. As previously discussed regarding Paper II, a reasonable dialogue concerns whether Norwegian CAMHS should reach out to the population that is most in need of its complex needs services, within both its mental health and social services (Barne- og familiedepartementet, 2023; Barneombudet, 2020; Jozefiak et al., 2016). Individuals who seek help from CAMHS may systematically differ from those who do not, which can lead to biased study outcomes. Papers I to III acknowledge this bias and employ rigorous statistical analyses and diverse participant demographics to mitigate its impact. However, despite these efforts, residual confounding biases may persist, affecting the interpretation of the results. Additionally, the high disengagement rate among participants, as noted in Paper II (Figure 2),

highlights challenges in retaining participants over time, which further complicates data collection and analysis. The disengagement of both clinicians and families in data collection within ordinary clinical routines at CAMHS can lead to reduced data quality, limited insights, the underrepresentation of perspectives, loss of trust and collaboration, and impaired research validity and utility. This poses significant challenges to obtaining accurate, comprehensive data and translating research findings into effective practice within child and adolescent mental health services.

5.2.3 Reflections on the Experience of Service Questionnaire

The validation of the ESQ in the Norwegian context (Paper I) serves as a pivotal methodological advancement, addressing limitations that have been highlighted in previous research (Bjertnæs et al., 2008; Garratt et al., 2011; Haugum et al., 2019a; Holmboe et al., 2011; Skuldal & Holmboe, 2019; Westby & Schei, 2021). This validation provides a robust methodological foundation for assessing user satisfaction in CAMHS by establishing a nuanced latent structure. Our approach to validating the ESQ builds upon established methodologies used in previous research, drawing insights from the "halo-effect" presented by Brown and colleagues (2014), and aligns with calls for improved measurement tools in mental health research. Additionally, confirming the latent structure for three out of the four samples suggests the presence of a general factor for user satisfaction across different cultural contexts, which further strengthens the universal applicability of the ESQ. Still, the lack of a Norwegian translation of the ESQ version for children from 9–11 years hinders the generalizability of the results to a more complete CAMHS population.

5.3 Theoretical Implications

The identification of a GS factor, as elucidated in Paper I, establishes a foundational understanding of the common elements that underly and contribute to satisfaction with various care experiences within CAMHS. The general user satisfaction factor in CAMHS is akin to the g-factor in intelligence (Deary et al., 2010; Jensen, 1998) and the p-factor of psychopathology (Caspi et al., 2014; Caspi & Moffitt, 2018; Murray et al., 2016; Patalay et al., 2015), and offers a robust theoretical framework for understanding satisfaction evaluations within CAMHS. Similar to the g-factor role in intelligence, the general factor in user satisfaction represents a common underlying dimension that influences overall satisfaction across various domains. This suggests that while individual experiences may differ with respect to specific aspects of satisfaction, a shared component exists that contributes to overall satisfaction evaluations. Furthermore, the bifactor model emphasizes both shared and distinct variations in satisfaction evaluations across different dimensions. Being analogous to the p-factor in psychopathology, which accounts for common vulnerabilities that underly diverse mental health conditions, the general user satisfaction factor captures shared elements that contribute to satisfaction across multiple domains within CAMHS. At the same time, the specific factors within the bifactor model (SWC and SWE) reflect unique aspects of satisfaction that are related to individual experiences, preferences, and circumstances.

The findings of this research – adopting a bifactor modelling approach and finding a general user satisfaction factor – contribute to a deeper understanding of the multidimensional nature of user satisfaction in CAMHS. This framework allows for the simultaneous consideration of shared and distinct variations in satisfaction evaluations, which provides further insight into the factors that drive overall satisfaction and the specific aspects of care that underwrite positive or negative experiences for service users and their caregivers.

Overall, confirming that there is a bifactor model to user satisfaction enhances our theoretical understanding of the satisfaction dynamics within CAMHS and will inform efforts to optimize service delivery and improve outcomes for children, adolescents, and their families.

In expanding upon this general satisfaction factor, Papers II and III examine the specific predictors and dynamics that shape user satisfaction within CAMHS. For instance, Paper II emphasizes the significance of tailored frameworks that accommodate the distinct needs of young people and parents. By pinpointing specific predictors for each group, such as symptoms, family stress, and satisfaction with service proximity, the paper underscores the necessity of addressing individualized factors to optimize satisfaction outcomes. Furthermore, Paper III enriches this theoretical framework by investigating the interaction between young people and parental satisfaction and its impact on clinical outcomes. The dynamic shown in Paper III specifically illustrates the complexity of user satisfaction within CAMHS and highlights the necessity of taking a comprehensive approach that incorporates the perspectives of both young people and parents.

Taken together, these findings align with the Donabedian (1988) model of quality improvement in healthcare, which delineates the interconnectedness of structure, process, and outcomes in healthcare quality assessment. In our model, SWC represents the process factor, providing insights into how healthcare is delivered, while SWE reflects the structural factor, defining the context of healthcare provision. Identifying the common underlying elements that contribute to satisfaction, as described in Paper I, also aligns with the Donabedian model by emphasizing the importance of understanding the processes and structures that influence user satisfaction within CAMHS. Moreover, the findings of Papers II and III underscore the dynamic interaction between user satisfaction and clinical outcomes and further corroborate the tenets of the Donabedian model. Specifically, Paper II emphasizes the significance of tailored frameworks that accommodate the distinct needs of young people and parents and

highlights the role of process factors in shaping satisfaction outcomes. Additionally, Paper III investigates the complex interplay between young people and parental satisfaction and its impact on clinical outcomes, which underlines the intricate relationship between process and outcome factors within CAMHS.

In essence, the identification of a general user satisfaction factor in CAMHS, which is akin to the g-factor in intelligence and the p-factor of psychopathology, provides a robust theoretical framework for understanding satisfaction evaluations within mental health services. This foundational understanding, coupled with insights from Papers II and III, emphasizes the importance of designing and implementing tailored frameworks for different user groups and highlights the dynamic interaction between user satisfaction and clinical outcomes. These findings align with the Donabedian model of healthcare quality improvement, which underscores the interconnectedness of structure, process, and outcomes. By clarifying the factors that contribute to user satisfaction and their impact on service delivery and outcomes, this research informs efforts to optimize CAMHS and improve outcomes for children, adolescents, and their families.

5.4 A Conceptual Model for User Satisfaction in CAMHS

To offer a structured framework for understanding user satisfaction that aligns with the theoretical implications as discussed above, I propose a conceptual model for user satisfaction in CAMHS (Figure 1) drawing on the collected findings of this thesis. By outlining this conceptual model, I aim to provide further insight into user satisfaction in CAMHS, and consequently, enhance the provision of high-quality mental health services for families during vulnerable life phases.

At the core of the conceptual model is the general satisfaction (GS) factor (Paper II), which represents users' overall experiences and perceptions of CAMHS. To illustrate the

shared and distinct variations in user satisfaction, the subfactors Satisfaction with Care (SWC) and Satisfaction with Environment (SWE) partly overlap with the general factor, and reflect the process and structure factors in Donabedian's (1988) model, respectively. To the far left of the model are the distinct predictors of user satisfaction for young people and parents (Paper II). The interaction effect of the disparities regarding satisfaction levels between the groups (young people and parents) on clinical outcomes (Paper III) is illustrated with solid red arrows.

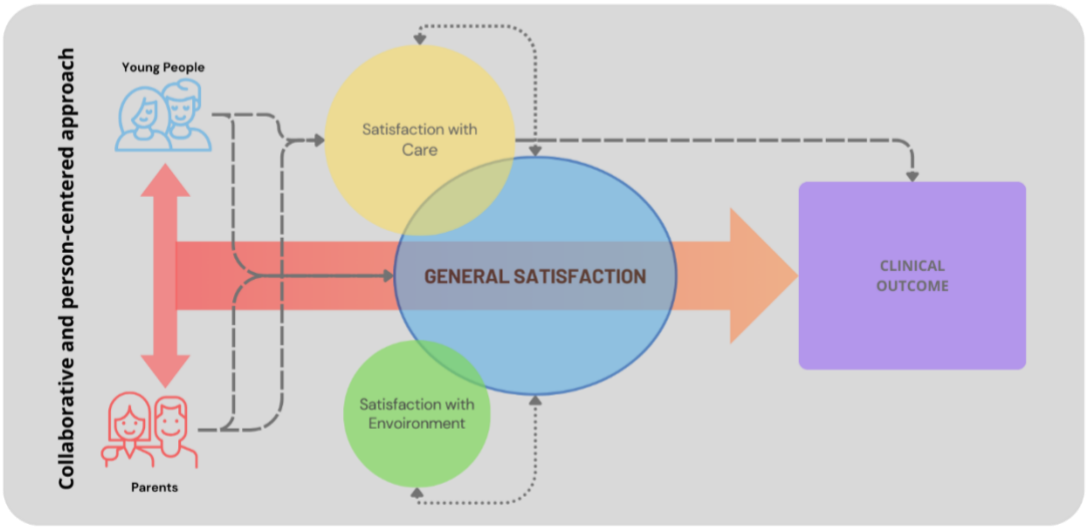

Figure 2 - A Conceptual Model for User Satisfaction in CAMHS

The SWC component encompasses the clinician's ability to listen to the young person or parent, their flexibility in adapting to the user's needs, and their clinical expertise in shared decision-making and collaborative approaches. It reflects the quality of the clinician–patient interaction and includes aspects such as empathy, communication skills, and responsiveness to the user's concerns and preferences. Additionally, it involves the clinician's competence in providing appropriate and effective interventions tailored to the individual's needs. Overall,

SWC reflects the user's perceptions of the quality and effectiveness of the treatment process and emphasizes the importance of a positive and supportive therapeutic relationship between the clinician and the user. The SWE component encompasses the user's perceptions of the structural aspects of the CAMHS setting and includes factors such as accessibility, facilities, and the timeliness of appointments. It reflects the user's satisfaction with the overall organizational aspects of the service delivery and emphasizes the tangible elements that contribute to their overall experience within the CAMHS system.

Ultimately, the proposed conceptual model presented herein offers a framework that integrates theoretical insights and empirical findings from this thesis. By outlining the fundamental elements that contribute to user satisfaction in CAMHS and depicting how these factors interact, this model offers insight into the dynamics that influence satisfaction experiences for both young people and their parents. Additionally, in aligning with the Donabedian (1988) model, this proposed model underscores the importance of considering both the process (SWC) and structural (SWE) aspects of healthcare delivery in assessing user satisfaction. Moreover, the model highlights the significant impact of user satisfaction on clinical outcomes and emphasizes the need to prioritize user-centred approaches in mental health care to enhance overall treatment effectiveness and patient well-being.

5.5 Clinical Implications

The findings of this thesis have profound implications for various stakeholders involved in CAMHS, including families, clinicians, leaders, service providers, and other stakeholders. Firstly, for families navigating CAMHS, the validated measure serves as a structured tool that will enable them to articulate their experiences and evaluate the quality of their care in a quantitative manner. Moreover, identifying the specific predictors that empower families provides valuable insight into the factors that influence user satisfaction, and allows for a

more informed engagement with the care process. Additionally, the conceptual model proposed in this thesis offers a user-friendly framework that acknowledges the diverse needs of families and encourages collaboration within the clinical pathway. By equipping families with the tools to actively participate in and regulate their mental health care, the model promotes an informed, collaborative, and empowered approach to CAMHS.

From the perspective of clinicians within CAMHS, the validated user satisfaction measure (the ESQ) will serve as a valuable tool for evaluating the effectiveness of interventions and gauging therapeutic alliance and care quality. Furthermore, developing an awareness of the specific predictors identified in this thesis, such as symptom levels and parental mental health burden, is crucial for tailoring interventions to meet the unique needs of service users. For instance, strategies can be devised to improve services for young people with higher symptom levels or parents facing significant mental health burdens, to enhance satisfaction and treatment outcomes.

Leadership within CAMHS can leverage the proposed conceptual model to inform the development of policies and practices that prioritize user satisfaction and align with the principles of patient-centred care. Routine use of the validated measure in assessments will facilitate continuous quality improvement efforts, while insights regarding the identified predictors will guide resource allocation and staff training initiatives. Importantly, recognizing the profound impact of user satisfaction on clinical outcomes underscores the necessity of fostering a positive and supportive care environment within CAMHS, and advocating for organizational changes that enhance both satisfaction and treatment effectiveness.

For young people and parents accessing CAMHS, the validated ESQ offers them a structured means of expressing their experiences and evaluating the quality of care they

receive. Furthermore, the conceptual model provides a user-friendly framework that acknowledges the differentiated needs of young people and parents and encourages their collaboration within the therapeutic journey. By equipping service users with the tools to actively engage in their mental health care, the model will foster an environment of empowerment and collaboration within CAMHS. Insights from this thesis also highlight the critical role of user satisfaction, particularly among young people, in predicting better clinical outcomes. The concordance between the satisfaction levels of young people and their parents emerges as a crucial factor for influencing the perceived effectiveness of mental health services and underlines the importance of interventions that are tailored to address family dynamics.

5.6 Future Research

Upon reflection, it is evident that delving into CAMHS prompts more questions; this illustrates the need for future research to prioritize several avenues. In particular, it is imperative to address two significant gaps in understanding: (1) the experiences of younger children in CAMHS, and (2) the experiences of young people attempting to cope with more severe and less common disorders, such as psychotic disorders, eating disorders, autism, and Tourette's syndrome. Expanding research efforts beyond the outpatient setting to include intensive services or inpatient units would also provide a more comprehensive understanding of user satisfaction across diverse contexts.

Additionally, it is crucial to leverage longitudinal studies and RCTs to track changes in user satisfaction over time and evaluate intervention effectiveness, including the impact of therapeutic interventions on user satisfaction. In addition, designing a study where technological advancements are used to collect user satisfaction measures upon evaluation and training clinicians in responding promptly to the feedback would likely enhance service delivery and better align user satisfaction evaluation with the evolving healthcare landscape.

Finally, a future study on user satisfaction could prioritize a mixed methods approach integrating qualitative methods; this type of methodology is essential for gaining deeper insights into user experiences and preferences, to obtain valuable perspectives. By addressing these areas, future research can contribute to the provision of a more holistic, user-centred approach to mental health research and practice within CAMHS.

6 Concluding Remarks

This thesis, which comprises three papers, offers a comprehensive exploration of user satisfaction in CAMHS. Paper I establishes the foundation for a conceptual model by validating the ESQ, and with statistical rigour, verified the existence of a general satisfaction factor. Paper II identifies the distinct predictors of user satisfaction for young people and parents, deepening our understanding of user satisfaction determinants. Paper III underscores the crucial role of user satisfaction in clinical outcomes, particularly the impact of the interaction between young people and parent satisfaction on clinical results. Together, these papers offer a comprehensive conceptual model that advances current CAMHS research. By proposing a structured framework for user satisfaction, this thesis combines general and specific factors while highlighting predictive elements that are unique to young people and parents. It emphasizes the significance of user satisfaction in promoting positive clinical outcomes and advocates for collaborative, person-centred approaches to improving CAMHS services. The model presented here will serve as a compass for clinicians and leaders, directing them to prioritize personalized and effective care. Furthermore, this thesis highlights the importance of ongoing research and service improvements to address the distinctive requirements of both young people and parents in CAMHS settings. This underscores the perpetual need for enhancements in research and service delivery, reaffirming a steadfast commitment to meeting the specialized needs of individuals accessing CAMHS.

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Paper I-III

Paper I

User Satisfaction with Child and Adolescent Mental Health Services: Factor structure of the Experience of Service Questionnaire (ESQ) in Norway and the UK

Abstract

Background: Child and Adolescent Mental Health Services (CAMHS) are expected to track user satisfaction routinely, and to this end, the Experience of Service Questionnaire (ESQ) is increasingly being adopted worldwide. The literature is inconsistent concerning the underlying factor structure of satisfaction measures, and debate is ongoing regarding the evidence of a general satisfaction factor. **Aim:** This study aimed to examine the factor structure and dimensionality of the parent/carer and adolescent versions of the ESQ in the UK and Norway. **Methods:** Data were retrieved from routine CAMHS clinical practice in the UK and Norway. Three models suggested by the research group were tested through Confirmatory Factor Analysis (CFA) and reliability testing. **Results:** A series of CFAs revealed sound psychometric properties of the ESQ in all samples. A bifactor model with a general satisfaction factor and two specific factors of Satisfaction with Care and Satisfaction with Environment fitted the data best, except for the Norwegian adolescent version where a unidimensional model was kept. **Conclusion:** The results support the continued use of the ESQ in CAMHS in the UK and Norway and significantly contribute to the literature on user satisfaction by adding evidence of a general satisfaction factor.

Keywords: psychometric properties, bifactor model, adolescents, parents and carers, confirmatory factor analysis, user satisfaction

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User Satisfaction with Child and Adolescent Mental Health Services: Factor structure of the Experience of Service Questionnaire (ESQ) in Norway and the UK

Assessing user satisfaction is increasingly important in evaluating child and adolescent mental health services (CAMHS) worldwide (Ayton et al., 2007; Bear et al., 2022; Lebow, 1982). With the growing acceptance, initiatives regarding accurately measuring the construct of user satisfaction are being acknowledged (Biering, 2010). Still, little is known about the construct validity of common user satisfaction measures in CAMHS in different countries.

Focusing on understanding families' experiences and level of satisfaction not only enhances sustained engagement and reduces premature dropouts but is also recognized as a key factor in achieving optimal clinical outcomes (Rickwood et al., 2017). The impact of prioritizing this understanding is evident in clinical practices, at least in the UK. A decade ago, merely 5% of services systematically collected user satisfaction data (Batty et al., 2013; Hall et al., 2014). Recent research, however, indicates a notable shift, with 68-81% of practitioners now routinely incorporating user satisfaction measures in care (Bear et al., 2022). Compared to adult mental health where at least thirty measures of user satisfaction are available (Miglietta et al., 2018), a limited number of user satisfaction measures apply to CAMHS, including tools by Stüntzner-Gibson et al. (1995), Brannan et al. (1996), Garland, Saltzman, et al. (2000), Attride-Stirling (2002), Ayton et al. (2007), Day et al. (2011), and Haugum et al. (2019). Nevertheless, this growing literature emphasizes the value of families' opinions regarding their satisfaction with services (Ayton et al., 2007; Barber et al., 2006; Biering & Jensen, 2010; Davison et al., 2017; Day et al., 2011; Rickwood et al., 2017; Solberg et al., 2015). Simultaneously, the literature also embodies perspectives representing a

common criticism regarding user satisfaction measures often yielding a too general focus on satisfaction and possibly artificially excessive levels of satisfaction (Brannan et al., 1996; Crawford & Kessel, 1999; Kapp et al., 2017; Wolpert et al., 2016). It is important to consider patient-centred measures of user satisfaction that are customized to the unique needs of children, adolescents, and their parents/carers in order to address the complexity involved in CAMHS effectively (Brown et al., 2014). It has been suggested that the lack of measures with such qualities is a barrier to quality improvement in mental health services (Kilbourne et al., 2018).

The Experience of Service Questionnaire (ESQ, formerly known as "CHI-ESQ") (Attride-Stirling, 2002) is an accessible user satisfaction measure increasingly being adopted in CAMHS in and outside of the UK (Arnesen et al., 2023; Bear et al., 2022; Brown et al., 2014; Bunge et al., 2014; Clark et al., 2018; Derby, 2016; Karagiorga et al., 2024; Khan et al., 2023; Kilburn et al., 2019; Lindevall, 2020; McGrath et al., 2022; Ozer & Halfon, 2024). Originally, this 12-item measure was developed for use across child health care in the UK to verify service delivery anonymously, but nowadays in line with evidence-based practice, the ESQ is recommended for use routinely with other core measures to ensure families' experiences with the service will be monitored alongside any changes in symptoms or functioning (CORC, 2024).

Quantitative measures, such as the ESQ, typically reveal overall high satisfaction with services among most families seen at CAMHS (Crawford & Kessel, 1999; Kapp et al., 2017; Wolpert et al., 2016). Patients often provide qualitative descriptions that highlight both the negative and positive aspects of their experiences. However, it's important to note that these descriptions often contain valuable insights that can help improve patient care (Biering & Jensen, 2010; Crawford & Kessel, 1999). Findings have indicated that families who are

satisfied with the service show higher treatment compliance, which in turn enhances both the clinical and social outcomes of care (Fitzpatrick & Hopkins, 1993; Mahin et al., 2004). By promoting satisfaction, services can hopefully reduce the risk of premature termination of treatment or disagreement between families and clinicians regarding care, improving mental health outcomes (Barber et al., 2006; Bjørngaard et al., 2008; Davison et al., 2017; Day et al., 2011; De Haan et al., 2013).

Implementing user satisfaction measures in routine clinical practice faces a persistent challenge: a lack of well-documented measures with adequate psychometric properties (AERA, 2014). Many studies rely on reported internal consistency without examining the factor structure (Brown et al., 2014; Young et al., 1995). A review of the literature on quality in satisfaction measures in adult services concludes this problem still endures (Sanchez-Balcells et al., 2018). In a critical review looking into studies of adolescents with CAMHS experience, Biering (2010) delineated three universal factors of satisfaction: satisfaction with the service environment, clinician relationship, and treatment outcome. Biering (2010) underscored the importance of exploring the weak to moderate correlation between child and parent/carer satisfaction and urged researchers to consider previous research when studying satisfaction. Moreover, in the literature on user satisfaction in CAMHS, a pattern emerges where most studies focus on the development of new measures or adaptations of measures from adult mental health services. Acknowledging this, both Biering (2010) and Brown and colleagues (2014) note that research on the ESQ is one of the few satisfaction measures developed in conjunction with prior research on satisfaction.

In a large-scale study in the UK, the original ESQ demonstrated sound psychometric properties for the child, adolescent and parent/carer versions, and it was also found to be a reliable measure of satisfaction that distinguished between services (Brown et al., 2014).

Others (Bunge et al., 2014; Davison et al., 2017; Ozer & Halfon, 2024) have corroborated the usefulness of the ESQ in various clinical settings. Originally, a sum-score determined the overall level of satisfaction (Attride-Stirling, 2002; Barber et al., 2006), leaving little room for understanding the drivers of differences in satisfaction. More recently, Brown and colleagues (2014) elaborated on this by revealing a two-factor structure with most items loading on a factor of Satisfaction with the Care provided and the remaining three items loading on Satisfaction with Environment.

Brown and colleagues (2014) identified strong evidence for a two-factor solution with items loading on the factors Satisfaction with Care and Satisfaction with the Environment. They also found common variance between these two factors, tested by exploratory factor analysis, and suggested a strong “halo” effect. This “halo” effect was considered indicative of responses to the ESQ, as with other satisfaction measures, underpinned by a general attribute of satisfaction. Namely that service users’ overall feelings, or general impression, of satisfaction or dissatisfaction characterize their responses to each item in the ESQ. Previous research (Ayton et al., 2007; Brannan et al., 1996; Brown et al., 2014; Garland, Saltzman, et al., 2000) suggest evidence of a general satisfaction factor, as specific factors are typically strongly correlated. However, the question of uni- vs multi-dimensionality has yet to be examined using a bifactor model.

Having access to well-established, standardized and feasible measures is key to comprehensive coverage both clinically and for research purposes in any cultural context (De Vries et al., 2018). As such, translations of existing measures are preferable to the development of language-specific measures (Hafkenscheid et al., 2010). Despite the ESQ being in use across the world, to the best of our knowledge, the only non-English versions of the ESQ psychometrically examined are the Spanish version (Bunge et al., 2014), the Turkish

version (Ozer & Halfon, 2024). The Spanish version of the ESQ was found to be viable for a population selected from private CAMHS in Buenos Aires, but parallel to findings from Sanchez-Balcells et al. (2018) here too results solely relied on the acceptability of reported Cronbach's Alpha and did not examine for factor structure. The Turkish version affirmed the two-factor solution by Brown et al. (2014). To sustain the growing application of the ESQ in CAMHS worldwide it is crucial to assess whether it accurately captures the intended construct by examining the ESQ factor structure across samples and countries.

Aims and objectives

Despite user satisfaction being referred to as a general construct, an exploration of a possible bifactor structure of the ESQ has not been conducted previously, in any language. Therefore, to add to the understanding of user satisfaction as a construct, this study will examine the factor structure of the ESQ based on Norwegian and UK clinical samples, exploring unidimensional, two-factor and bifactor solutions. Subsequently, we estimate the reliability of the factor structure with the best fit. Our hypothesis, based on preliminary findings of a general factor for satisfaction as noted by Brown et al. (2014), and influenced by previous research (Attride-Stirling, 2002; Ayton et al., 2007; Barber et al., 2006; Biering, 2010; Brown et al., 2014; Day et al., 2011; Garland, Aarons, et al., 2000), is that the bifactor solution would provide the best model fit to the empirical data.

Methods

Dataset

The sample for the current paper included families receiving support from CAMHS clinics in Norway and the UK. All included clinics are members of the learning collaborative, the Child Outcomes Research Consortium (http://www.corc.uk.net/). In the included clinics, routine

outcome and satisfaction measures are collected as part of larger audits or service evaluations, where both adolescents, parents/carers and clinicians are invited to respond. Both the Norwegian and UK clinics systematically collected the data at two distinct time points using consistent procedures.

Data from the Norwegian sample was collected between December 2013 to December 2016, from one outpatient clinic at CAMHS at the University Hospital of Northern Norway (UNN). ESQ responses from adolescents and parents/carers were digitally collected. A total of 1,205 eligible patients were included.

The UK sample draws on data collected between February 2011 and December 2021 from multiple CAMHS across the UK and has a mix of digital and paper-completed responses, which were submitted annually to CORC's central research team. A total of 9,761 parents/carers and 10,207 children and young people were included.

Measures

User satisfaction was assessed both from the adolescent and parent/carer perspective with separate versions of the ESQ, the original ESQ in the UK and the Norwegian translated version in Norway. Currently, no confirmed information has been available regarding the translation procedure for the Norwegian version of the ESQ other than that it is likely that the ESQ was translated to Norwegian in conjunction with a longitudinal epidemiological study in Norway between 2001 and 2012 (Heiervang et al., 2007).

The Experience of Service Questionnaire (ESQ) (Attride-Stirling, 2002) is a freely available questionnaire for exploring user satisfaction. Originally, the ESQ was developed from focus groups with children and parents/carers across the child health sector to identify positive

experiences of care (Attride-Stirling, 2002). Separate versions exist for children (9-11), adolescents (12-18) and for parents/carers. The ESQ has 12 items which are rated on a three-point Likert scale determining the level of agreement ("certainly true", scored as 1, "partly true" as 2, "not true" as 3). In addition, there are three open-ended questions allowing for free text responses.

Brown and colleagues (2014) found evidence for two highly correlated, but separate, factors named Satisfaction with Care and Satisfaction with Environment, using a two-level latent trait model. The Care factor (Q1-7 and 11-12) has a range from 9-27, and the Environment factor (Q8-10) has a range from 3-9. Lower scores indicate a higher degree of satisfaction. In the clinic, families respond to the ESQ at evaluation or discharge. Brown et al. (2014) found the ESQ to both be a valid subjective measure of CAMHS experiences and to reliably distinguish between services (Garralda et al., 2000; Goodman, 2001; Gowers et al., 1999; Hanssen-Bauer, Gowers, et al., 2007; Hanssen-Bauer, Aalen, et al., 2007; Lundh et al., 2013; Wolpert et al., 2008).

Procedures

Standard procedures at the clinics include adolescents and parents/carers to be invited to complete the user satisfaction measure, the ESQ, at either discharge or an evaluation point as part of clinical routines. At assessment, demographic data including age and gender was registered. There were no exclusion criteria.

Ethics

Gathering data in the Norwegian sample was approved by the Information Security Manager at UNN, who acts on behalf of the Norwegian Data Protection Authority. As the data was

collected for the purpose of an audit, and only de-identified data was included in the analysis, no written consent was required from the families as procedures of anonymity and safe storage were followed. In the UK, as the study was a secondary analysis of anonymous routinely collected data sample, ethical approval was not required (NHS, 2023).

Statistical analysis

Based on previous research, three competing models were tested with confirmatory factor analysis (CFA) using the mean- and variance-adjusted weighted least squares (WLSMV) estimator (Muthén & Muthén, 2018). The UK analyses were performed in RStudio using R version 4.0.3 (RStudio Team, 2020) and for the Norwegian samples we used R version 4.3.2, using the *lavaan* package (Rosseel, 2012). Every model was tested for parents/carers and adolescents in both the UK and Norway. Due to the large sample size, any participants who had not completed all the ESQ items were excluded from the UK analysis. In the Norwegian analysis, pairwise deletion was used. The main aim was to assess the most useful latent structure underlying the 12 items of the ESQ in the following competing models: (1) a unidimensional model where all 12 items load on a general factor of satisfaction (Attride-Stirling, 2002); (2) a two-factor model as suggested by Brown and colleges (2014) with factors for Satisfaction with Care (SWC) (items 1-7, and 11-12) and Satisfaction with Environment (SWE) (item 8-10); (3) a bifactor model with one general factor and two specific factors for SWC (items 1-7, and 11-12) and SWE (items 8-10).

The adequacy of the competing models was evaluated using a range of goodness-of-fit indices, including the Comparative FIT Index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR) and Chi-square (χ^2). Criteria were emphasized where CFI and TLI > 0.95, RMSEA < 0.06 (Hu &

Bentler, 1999), and SRMR < 0.08 (Asparouhov & Muthén, 2018). Notably, the SRMR outperforms weighted root mean square residual (WRMR) in large samples (DiStefano et al., 2018). Additionally, the χ^2 is sensitive to very large samples (like we have for the UK sample), and even trivial misfit may be significant. Therefore, fit interpretations were not solely based on the χ^2statistic.

The bifactor model was chosen as the superior model (see results below) based on the fit indices. To assess the reliability of the bifactor models, a series of indices were employed using Dueber's online calculator (Dueber, 2017). As an index of unidimensionality, the Explained Common Variance (ECV) was used (Reise et al., 2010). Internal reliability for factors loading on the general factor was calculated by McDonald´s coefficient omega hierarchical (ω_h), and McDonald's omega specific (ω_{hs}) was calculated to assess if items of the specific factors (Satisfaction with Care and Satisfaction with Environment) reliably explained residual variances. Higher values of ω_h and ω_{hs} indicate greater reliability (Reise et al., 2013). The ECV index represents the variance explained by the general dimension of the total common variance in the model. Notably, there is no "gold standard" ECV value to determine the question on uni-dimensionality (Reise et al., 2013). In a practical guide, Quinn (2014) suggests that an ECV above .90 points to a unitary construct being measured and for practical purposes supports the use of an overall score. Conversely, ECV values below .70 indicates sub-scores will provide added value over simply reporting an overall score of the construct measured. This suggests values that fall in the grey area between .70 and .90 need nuanced consideration (Quinn, 2014). In addition, Cronbach's alpha (α) values (Cronbach, 1951) were calculated to ascertain the internal consistency of the ESQ scale as a whole, and the two subscales. A value of .70 or higher was interpreted as having acceptable internal consistency (EFPA, 2013).

Results

Descriptive statistics

Norwegian sample

The total number of participants in the Norwegian sample was 1205 patients. Following the exclusion of individuals with missing ESQ data, the final sample included ESQ responses from 380 parents/carers and 177 individual adolescents.

UK sample

The overall UK sample consisted of 214,657 cases. Removing those without ESQ data, and any duplicate patient IDs resulted in a dataset comprising 9,761 parent/carer-reported ESQs and 10,207 adolescent-reported ESQs. The demographic characteristics of the participants included in the analyses are displayed in Table 1.

*** Insert Table 1***

Table 1

Participant Demographic Variables at Referral

	Adolescent				Parent/carer			
	Norway		UK		Norway		UK	
	n	%	*n*	%	*n*	%	*n*	%
Gender								
Male (1)	56	31.6	3817	37.4	213	56.1	4873	49.9
Female (2)	121	68.4	6353	62.2	167	43.9	4880	49.9
Missing	0	0	37	0.4	1	0.3	8	< 0.1
Ethnicity								
Asian			422	4.1			424	4.4
Black			389	3.8			346	3.5
Mixed	Not available		427	4.2	Not available		435	4.5
Not stated			1128	11.1			1049	10.7
Other			193	1.9			198	2.0
White			6957	68.2			6606	67.7
Missing	177	100	691	6.8	381	100	703	7.2
Age of adolescent (mean/ SD)	14.1	2.0	13.5	3.3	10.8	3.4	10.9	4.3
Missing	0	0	12	< 0.1	1	0.3	0	0

Note. N = 177 Norwegian adolescent sample, N = 10207 UK adolescent sample, N = 380 Norwegian parent sample, N = 9761 UK parent sample

Confirmatory Factor analysis

First, separate confirmatory factor analyses were conducted in each sample to evaluate the fit of the following models: (1) a unidimensional model; (2) a two-factor model with factors for Satisfaction with Care (items 1-7, and 11-12) and Satisfaction with Environment (item 8-10); (3) a bifactor model with one general factor and two specific factors for “Care” (items 1-

7, and 11-12) and "Environment" (items 8-10). In three of the four samples, results for the bifactor model exceeded models 1 and 2, suggesting the bifactor model is superior to the alternative models. Details on results for the parent/carer and adolescent versions are presented separately for both Norway and the UK below.

CFA Parents/Carers

As seen in Table 2, for parents/carers in the Norwegian sample, the model fit considerably improved from model 1 to model 2, and from model 2 to model 3, indicating the Bifactor model had the most acceptable model fit for the Norwegian parent/carer version of the ESQ. For the parent/carer ESQ version in the UK sample, we found similar results to the parallel Norwegian sample, in terms of model fit improving from model 1 to model 2, and from model 2 to model 3 indicating the Bifactor model resulted in the best fit.

*** Insert Table 2***

Table 2

Fit Indices, Parent/Carer versions of ESQ

Model	Chi-square (df; p)	RMSEA (90 % CI)	CFI	TLI	SRMR
Norway					
1 Unidimensional	327.9 (54; < .00005)	0.116 (0.104; 0.128)	0.952	0.941	0.107
2 Two-factor	187.9 (53; < .00005)	0.082 (0.069; 0.095)	0.976	0.970	0.083
3 Bifactor	88.4 (42; < .00005)	0.054 (0.038; 0.070)	0.992	0.987	0.051
UK					
1 Unidimensional	4954.0 (54; < .0001)	0.112 (0.109; 0.114)	0.932	0.916	0.040
2 Two-factor	4209.8 (53; < .0001)	0.104 (0.101; 0.106)	0.942	0.928	0.031
3 Bifactor	1615.7 (42 < .0001)	0.072 (0.069; 0.075)	0.978	0.965	0.019

Note. Norway *N* = 381, UK *N* = 7280. CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; SRMR = standardized root mean square residual

While the RMSEA value slightly exceeded the ideal threshold of 0.06, the bifactor model showed the closest approximation compared to alternatives. Both CFI and TLI exceeded the recommended 0.95 threshold, indicating good fit. Additionally, the SRMR supported the bifactor model as the best fit, well below the common cut-off of 0.08. Despite marginal deviation in RMSEA, the bifactor model represented the data more adequately. The bifactor model yielded the most acceptable fit for the UK parent/carer version. Notably, significant chi-square values for both versions suggest misfit, partly due to large sample size in the UK. However, the magnitudes of RMSEA, SRMR, and CFI indicate misfit is not severe for the bifactor model, which was retained for further reliability testing.

CFA Adolescents

In the Norwegian adolescent sample, small sample size affected estimation (Table 3). Despite this, the unidimensional model (model 1) showed acceptable fit, suggesting limited benefit from adding complexity. Model 3 exhibited an R-square estimate for ESQ item number 1 larger than 1, rendering results unreliable for reliability testing. Non-significant chi-square values were observed for Norwegian adolescents in models 1 and 2. Assessing fit indices criteria, improvements were noted from model 1 to model 2, and model 2 to model 3 for UK adolescents (Table 3). The bifactor model emerged as the most suitable for this sample. Although chi-square values for UK adolescents were highly significant even in model 3, the large sample size partially contributed, with low RMSEA, SRMR, and high CFI indicating manageable misfit.

*** Insert Table 3***

Table 3

Fit Indices, Adolescent version of ESQ

Model	Chi-square (df; p)	RMSEA (90 % CI)	CFI	TLI	SRMR
Norway					
1 Unidimensional	58.7 (54; .31)	0.022 (0.000; 0.054)	0.998	0.998	0.052
2 Two-factor	51.3 (53; .54)	0.000 (0.000; 0.045)	1.000	1.001	0.046
UK					
1 Unidimensional	3148.0 (54; <.0001)	0.091 (0.088; 0.093)	0.939	0.925	0.039
2 Two-factor	2497.7 (53; <.0001)	0.081 (0.079; 0.084)	0.952	0.940	0.030
3 Bifactor	753.6 (42; <.0001)	0.049 (0.046; 0.052)	0.986	0.978	0.019

Note. Norway *N* = 177, UK *N* = 6967. CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; SRMR = standardized root mean square residual

To recap, the results from the separate CFAs indicate that the bifactor solution explains the data best in terms of model fit statistics in both countries for parent/carer ESQ and for adolescent ESQ in the UK. For the Norwegian adolescent ESQ, model fit was acceptable for model 1 where all items load on a unidimensional factor of satisfaction, but issues of a limited sample size must be considered. The two-factor solution found by Brown and colleagues (2014) also showed reasonable fit throughout the samples, except for a high RMSEA in the Norwegian parent/carer sample. As the bifactor model (Fig 1) predominantly demonstrated best statistical model fit, this model was retained to proceed with reliability testing for three of the four samples.

*** Insert Figure 1***

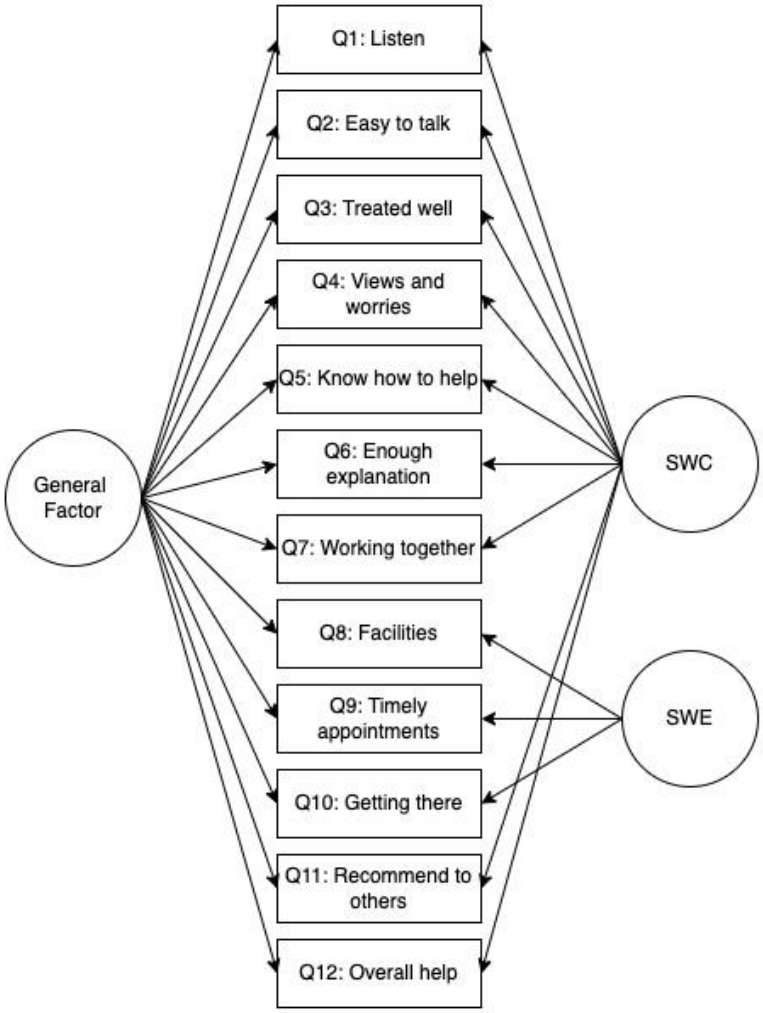

Fig 1. *Bifactor model of the ESQ*
Note. SWC = Satisfaction with Care; SWE = Satisfaction with Environment

Reliability

To substantiate the factor structure of the ESQ, we computed model-based reliability indices, including omega hierarchical (ϖ_h) and omega specific (ϖ_{hs}) for each satisfaction factor. These indices, which offer a nuanced assessment of the reliability of the general and specific factors within the bifactor model, are detailed in Table 4. Table 4 shows that for UK parents/carers the general factor explained 88% of the common variance, with an ϖ_h of .62, suggesting that a substantial proportion of the variance is attributable to the general factor.

In the same sample, the specific factor of Satisfaction with Care had only 3% explained common variance. For this subscale, an ϖ_{hs} of .002 indicates that the large majority of reliable variance can be attributed to the general factor total score. In contrast, the specific factor Satisfaction with Environment accounted for a larger portion of the common variance at 9%, with a relatively low reliability for the total score for the subscale (ϖ_{hs} = .11), capturing a modest amount of unique variance.

For Norwegian parents/carers, the general factor explained 78% of the common variance with an ϖ_{h} of .92, demonstrating strong reliability. For Norwegian parents/carers the specific factor Satisfaction with Care explained 9% of the common variance, with an ϖ_{hs} of .01 indicating that, similarly to the UK sample, only a very small portion of residual variance of the Satisfaction with Care score is left after partitioning out the variability explained by the total score for the general factor. The specific factor of Satisfaction with Environment explained a larger portion of common variance with 13%, and an ϖ_{hs} of .54, suggest that a significant portion of variance is uniquely attributable to this factor.

Similar results were found for the adolescent sample, with the general factor presenting acceptable reliability with most of the variance accounted for by the general factor. As displayed in Table 4, for UK adolescents, the general factor explained 87% of the common variance. The general factor total score accounted for 63% of the test score variance (ϖ_{h} = .63), which indicates that a relatively large portion of the reliable variance is accounted for by the general factor. In the same sample, the specific factor of Satisfaction with Care had only 5% explained common variance, with an ϖ_{hs} of .01, while the factor Satisfaction with Environment explained 9% of the common variance with an ϖ_{hs} of .12. These results support the presence of a robust general satisfaction factor, with the Satisfaction with Environment subscale also reflecting some unique variance.

*** Insert Table 4***

Table 4

Reliability Indices of the ESQ

	UK						Norway		
	Parent version ESQ			Adolescent version ESQ			Parent version ESQ		
	G	SWC	SWE	G	SWC	SWE	G	SWC	SWE
ECV	.876	.033	.092	.867	.046	.087	.776	.094	.130
ω_h /ω_{hs}	.619	.002	.114	.631	.010	.117	.921	.008	.538
α	.94	.95	.68	.92	.93	.66	.88	.90	.60

Note. ECV = explained common variance; ω_h= reliability for the general factor test score; ω_{hs}= the reliability of the specific scores controlling for the general score, based on items relevant to the specific factor; α = Cronbach's alpha; G = General factor; SWC = Satisfaction with Care; SWE = Satisfaction with Environment

Discussion

In the current study, we assessed the factor structure and psychometric properties of the Experience of Service Questionnaire (ESQ) in Child and Adolescent Mental Health Services (CAMHS) in Norway and the UK, aiming to determine its validity and reliability, particularly examining its factor structure and subscale distinctiveness.

In the confirmatory factor analysis, the bifactor model demonstrated superior fit (according to fit indices as diverse as the CFI, RMSEA and the SRMR) compared to both the unidimensional model and the two-factor model proposed by Brown et al. (2014), which includes the factors Satisfaction with Care (SWC) and Satisfaction with Environment (SWE). However, as noted by Reise et al. (2013), the presence of multidimensionality does not ensure that subscales will yield meaningful and reliable information distinct from the general

factor. This is evident in our study, where the SWC subscale score contributes minimal reliable information beyond the general satisfaction score across all three samples examined. Interestingly, while the SWC subscale, comprising 9 of the 12 items, showed low unique reliability, the SWE subscale displayed higher omega hierarchical values, particularly in the Norwegian parent sample. The three items of the SWE subscale pertaining to the treatment facilities, appointment scheduling, and clinic accessibility may be seen as complex in their measurement of satisfaction. These items could be considered formative indicators of an environmental construct, as they do not necessarily reflect a latent trait of the respondent. Nonetheless, respondents do apply their personal judgment to these aspects of the treatment process, suggesting that a reflective measurement model may still be appropriate. Given these findings, the utility of the SWC subscale as a distinct measure is questionable. Future research should consider whether modifications to the SWC items could enhance their ability to capture unique variance, or whether alternative methods of assessing specific aspects of care satisfaction are needed.

The results align with a growing body of literature emphasizing the importance of user satisfaction assessment in CAMHS (Athay & Bickman, 2012; Ayton et al., 2007; Nicholas et al., 2017; Rickwood et al., 2017; Simmons et al., 2014). Notably, this study builds on prior research (Attride-Stirling, 2002; Brown et al., 2014; Bunge et al., 2014; Davison et al., 2017) thereby adding insights to the cross-cultural applicability of the ESQ and its validity across diverse clinical settings.

The recognition of a general factor adds depth to the comprehension of user satisfaction in CAMHS. This general factor of user satisfaction suggests an underlying, fundamental dimension contributing to the overall perception of satisfaction, encompassing

beyond individual components, that likely considers diverse aspects working together to create a satisfactory experience at CAMHS.

Moreover, identifying a general factor of user satisfaction within CAMHS mirrors already established conceptualizations in psychological research, such as the g-factor of intelligence (Deary et al., 2010; Jensen, 1998) and the p-factor of psychopathology (Caspi et al., 2014; Murray et al., 2016; Patalay et al., 2015). The recognition of this common factor not only aligns with established psychological constructs, but this conceptual alignment also provides a theoretical framework for understanding user satisfaction, fostering a nuanced understanding of the complexities inherent in the evaluation of care in CAMHS.

While highlighting the general factor of user satisfaction took precedence in this study, the specific factors of Satisfaction with Care (SWC) and Satisfaction with Environment (SWE) merit consideration as well. It is worth noting that specific factors were residualized in the bifactor model, indicating what remains after accounting for general satisfaction. However, the very low ϖ_{hs} values for the SWC, suggest that its total score does not capture much unique information beyond what is already explained by the general factor of satisfaction total score. Therefore, the SWC total score seems largely redundant since the general satisfaction factor already accounts for most of the variance in the scores. This redundancy implies that the SWC score may not provide additional insight into the specific aspects of care that are distinct from overall satisfaction.

While interpreting hierarchical omega values, caution is warranted as they serve as an index reflecting the proportion of reliable systematic variance of a subscale after residualization (Reise et al., 2013), and should not be construed as a measure of “reliability” in the traditional sense (Rodriguez et al., 2016). However, our results underscore the unique contribution of the SWE subscale to the overall reliability of the ESQ. Therefore, we advise

conservative interpretations, acknowledging that the specific factors may not represent distinct dimensions beyond the general factor. Nonetheless, it is noteworthy that specific factors, especially the SWE subscale, still hold inherent value in assessing user satisfaction in CAMHS, particularly concerning the clinical implications of user satisfaction measures. While our discussion highlights the importance of the "Satisfaction with Environment" (SWE) subscale in enhancing the ESQ's overall reliability, it's important to note the predominant emphasis on the Care aspect, evident from the loading of the two general satisfaction items onto the Care subscale. The structural and content differences between the SWC and SWE indicators may contribute to the perceived unique value of the SWE subscale. However, caution is needed in ascribing inherent value to the SWE subscale, as it may also reflect respondent characteristics or subjective perceptions rather than solely objective service quality factors. Nonetheless, the SWE subscale remains valuable in assessing user satisfaction in CAMHS, particularly concerning its clinical implications. Additionally, our study found high Cronbach's alpha values for the general factor in both the UK parent ($\alpha = 0.94$) and adolescent ($\alpha = 0.92$) samples, suggesting strong internal consistency under the assumption of unidimensionality. However, the omega hierarchical values were notably lower ($\varpi_h = 0.62$ for parents and $\varpi_h = 0.63$ for adolescents), indicating that the general factor alone does not account for the majority of the variance in the observed scores. This discrepancy highlights the presence of multidimensionality within the scale, and it suggests that specific factors also contribute significantly to the scale's structure. Therefore, while the scale items are highly interrelated, the interpretation of the general factor should be made with an understanding that it does not fully capture the complexity of user satisfaction as measured by the ESQ.

As the reliability analyses revealed consistent internal consistency for the general factor across both the Norwegian and UK parent/carer, and UK adolescent samples, this

suggests the general factor effectively captures the essence of user satisfaction common to both cultural contexts. As robust psychometric properties were revealed in both the Norwegian and UK samples the overall structure and validity of the ESQ appear to transcend cultural boundaries. This suggests the ESQ could serve as a valid measure for assessing user satisfaction in diverse cultural settings.

The implications of our findings for clinical practice in CAMHS are significant. The present study recognizes the multi-faceted nature of user satisfaction, establishing the general factor in user satisfaction as well as specific factors which necessitate targeted interventions but also underscores the interconnectedness of those factors. Especially, the results of our reliability analysis revealed the unique contribution of the subscale SWE to the overall reliability of the ESQ. The omega hierarchical coefficients (ϖ_{hs}) linked to this subscale indicate that a significant amount of reliable variance persists even after factoring in the general factor. Conversely, the results imply SWC subscale may not capture a distinct dimension beyond the general factor, as indicated by the omega specific coefficients (ϖ_{hs}). As a result, to enhance user satisfaction in CAMHS targeted interventions must be carefully tailored to address specific contexts, with particular emphasis on factors such as the physical environment, accessibility, and scheduling of appointments, which all play pivotal roles in user satisfaction in CAMHS.

Tailoring care interventions to address communication dynamics between clinicians and users, particularly adolescents and their parents, holds promise for enhancing satisfaction. Moreover, acknowledging the impact of the service environment on user experience underscores the need for organizational enhancements within CAMHS. Given the presence of a general satisfaction factor, prioritizing quality improvement emerges as a priority. By combining efforts to address specific concerns with an overarching focus on

improving overall satisfaction, CAMHS can make comprehensive advancements. Notably, efforts to enhance satisfaction also play a pivotal role in reducing premature termination of treatment and fostering positive relationships between families and clinicians (Bjørngaard et al., 2008; Hawley & Weisz, 2005). Therefore, routine assessment user satisfaction, encompassing both general satisfaction and specific dimensions, is recommended to ensure that CAMHS continually evolves to meet the diverse needs of its users. In summary, our study not only refines our understanding of user satisfaction in CAMHS but also provides actionable insights for clinicians and service providers to elevate the quality of care and overall user experience.

Acknowledging the strengths of our study, certain limitations must also be considered. Regarding generalizability, certain limitations need consideration. First, the relatively small sample size in the Norwegian adolescent cohort poses challenges to the generalizability of findings. Additionally, we need to exercise caution regarding ethnicity. The UK sample is predominantly White, while ethnicity data is lacking for the Norwegian sample. This skew in representation restricts the generalizability of findings to more diverse populations, meaning caution must be taken when extrapolating conclusions beyond this demographic subset. Additionally, the significant chi-square values in the UK sample warrant cautious interpretation, given the influence of large sample sizes on statistical significance.

Future research endeavours could explore the application of the ESQ in additional cultural contexts, further enhancing our understanding of its cross-cultural validity. Also, the limited unique reliability observed in the subscale SWC might benefit from further investigation and possible refinement to better capture the nuanced aspects of satisfaction with care, while enhancing the sensitivity and specificity of the ESQ in assessing user experiences in CAMHS. Additionally, investigations into the responsiveness of the ESQ to

specific interventions or changes in service delivery could provide valuable insights for ongoing quality improvement initiatives in CAMHS.

Conclusion

In summary, this study presents nuanced findings from a psychometric evaluation of the treatment satisfaction measure Experience of Service Questionnaire. A bifactor model demonstrated good model fit, suggesting that a general satisfaction factor underlies the various aspects of treatment satisfaction. However, the analysis also revealed that the Satisfaction with Care (SWC) subscale, which was initially designed to capture specific elements of patient care, exhibited minimal reliable variance when the general factor was accounted for. This indicates that the SWC subscale may not be measuring a distinct dimension of satisfaction beyond what is captured by the general factor.

Furthermore, the items within the Satisfaction with Environment (SWE) subscale, particularly those related to the facilitation of treatment, displayed unexpectedly high correlations. This pattern suggests that general respondent satisfaction, potentially influenced by broader life satisfaction or mood, may be confounding the interpretation of the SWE subscale scores. The high inter-item correlations within this subscale point to an overarching influence of what we may call respondent disposition, which complicates the attribution of satisfaction scores solely to the treatment environment.

These findings underscore the complexity of interpreting subscale scores in the context of treatment satisfaction and highlight the importance of considering general respondent satisfaction when evaluating specific aspects of patient care. The study calls for a careful examination of the factors that influence satisfaction measures and suggests that

future research should aim to disentangle the specific contributions of treatment-related factors from the broader psychological state of respondents.

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ORIGINAL ARTICLE

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User satisfaction in child and adolescent mental health service: Comparison of background, clinical and service predictors for adolescent and parent satisfaction

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Abstract

Background and Objective: To improve quality, child and adolescent mental health services (CAMHS) are expected to quantify families' views on healthcare with user satisfaction measures. As little is known about what influences satisfaction in CAMHS, this study aimed to examine predictors of adolescents' and parents' user satisfaction.

Methods: Data from 231 adolescents and 495 parents in treatment at an outpatient clinic who returned a user satisfaction measure, the Experience of Service Questionnaire (ESQ), was analyzed. Registry data on background, clinical and service characteristics were predictors for the ESQ factors general satisfaction, satisfaction with care and satisfaction with environment.

Results: In regression models, satisfaction with care for adolescents (r^2 = .12) was significant and was predicted by low parent-self-reported mental health burden and low clinician-rated overall symptom burden at intake. For parents, regression models for general satisfaction (r^2 = .07), satisfaction with care (r^2 = .06) and satisfaction with environment (r^2 = .08) were significant. Parents general satisfaction was predicted by higher levels of hyperactivity, less family stress and longer travelling distances to the service. Satisfaction with care for parents was predicted by higher levels of hyperactivity at intake and longer travelling distances. Satisfaction with environment for parents was more likely if the adolescents was a boy, with low levels of family stress and longer travelling distances.

Conclusion: Predictors for adolescent and parent user satisfaction in CAMHS differ. Hence, to improve quality CAMHS should enhance focus on collaborative practice with parents, and person-centred care for adolescents with moderate to severe mental health illness.

Patient or Public Contribution: Representatives from the hospitals' youth panel and the non-governmental organization called The Change Factory have been consulted regarding study design and results.

KEYWORDS
adolescents, child and adolescent mental health services, parents, predictors, user satisfaction

1 | INTRODUCTION

Currently, high-quality child and adolescent mental health services (CAMHS) are expected to involve families in decisions regarding their care.[1] At CAMHS, families meet multidisciplinary teams specialized in comprehensive assessment, diagnostics and treatment of moderate to severe mental health disorders. Determining what constitutes quality at CAMHS remains a topic of ongoing debate. However, the importance of tracking user satisfaction to facilitate family involvement and bridging families' and clinicians' perspectives on the quality of care is often emphasized.[2] The lack of an established theoretical framework for investigating user satisfaction in CAMHS leaves a gap in the understanding of the concept.[3] Thus, for user satisfaction to be a meaningful metric for evaluating CAMHS, there is a call for knowledge of factors that impact user satisfaction.

Despite the growing popularity of user satisfaction, still few CAMHS routinely track it,[4] and the literature on factors related to user satisfaction is ambiguous.[5,6] To date, most studies have focused on parents, leaving a gap in the available literature regarding the perspectives of adolescents.[5,7] Furthermore, methodological issues such as lack of psychometric valid user satisfaction measures and low response rates persist.[3,5,8] Given the discrepancy between adolescents' and parents' attitudes toward CAMHS,[8,9] this research gap hinders any definitive conclusions, particularly concerning evaluating critical elements of service quality from the perspectives of adolescents.

Considering the available evidence on background variables, some studies find adolescents' gender do not affect responses to satisfaction measures.[3,8,10,11] Nonetheless, some researchers find boys,[12] or parents of boys,[13] report higher satisfaction, while one study found girls reported higher satisfaction with services.[5] Regarding the satisfaction and age of the adolescents, Bjørngaard et al.[14] found parents of younger children reported the highest satisfaction. Along the same lines, Stüntzner-Gibson et al.[15] reported younger teenagers were more satisfied than older teenagers, but more recently, McNicholas et al.[9] found being a late teen best-predicted satisfaction. Further, some evidence shows the weak influence of socioeconomic background variables on user satisfaction for both adolescents and parents,[5] while more recent studies indicate parental ethnicity may influence satisfaction.[16,17] The predictive power of other potential background variables affecting the dynamics of families like stress, parental mental health or characteristics of the adolescents needs further exploration.[16,18]

Treatment satisfaction and symptom relief are separate constructs,[8] and the association between how the two relate is uncertain.[3,4,19] Parallel to healthcare in general,[20] previous studies show adolescents with more severe diagnosis report lower levels of satisfaction with CAMHS.[11,21,22] Another reoccurring finding has been externalizing problems as a predictor for dissatisfaction.[14,21,22] Notable, Urben et al.[23] found adolescents with low emotional symptom burden at intake were more satisfied. Interestingly, in recent studies, Kapp et al.[5] found no associations between the severity of the disorder and satisfaction, and McNicholas et al.[9] concluded that those with no diagnosable mental health conditions were least likely to be satisfied with CAMHS.

While the literature reveals inconsistencies regarding evidence for background and clinical variables, predictors relating to the organization of services have reoccurred. Having quick access to services[5,14,24] and the opportunity to stay in services longer[14,25] with frequent,[13] structured and goal-oriented contact[9,26] benefits satisfaction. Services providing user-friendly, easy-access information to minimize families' queries about what to expect when visiting CAMHS demonstrably lead to more satisfied families.[27–29] Families seen at services where they get included in treatment planning, get a choice in deciding the frequency of sessions and are ensured by the approach to treatment at intake report high levels of satisfaction.[5] Two studies, in addition, suggest that living near the service is profitable,[9,13] suggesting CAMHS services should not cover large geographical areas. In a review of the literature on satisfaction in CAMHS, Biering[7] also highlights the importance of the environment and organization of services. Yet intuitively acceptable, these findings must be regarded with some caution. McNicholas et al.[9] did not report any association between satisfaction and waiting time, and a study by Urben et al.[23] did not find any association between the duration of treatment and satisfaction.

Given the ambiguous results of previous studies, expanding the understanding of user satisfaction in CAMHS is essential. Multiple reasons underscore the necessity of this endeavour, including the need to engage families effectively during the care pathway, bridging the perspectives of families and clinicians, improving treatment outcomes, assessing and improving quality and promoting accountability within CAMHS. Previous research has investigated a limited set of predictors, leading to an inadequate understanding of the user satisfaction construct. To address these gaps, the primary aim of this study was to augment the existing knowledge by examining possible factors influencing user satisfaction among adolescents and parents in CAMHS, with a specific focus on variables identifiable during the initial intake at services. More specifically, we aimed to explore which background, clinical and service factors, as assessed during intake, could predict individual variation in user satisfaction. User satisfaction was quantified utilizing the Experience of Service Questionnaire (ESQ),[30] which encompasses a general factor for satisfaction as well as subordinate factors for satisfaction with the care and satisfaction with environment.[31] To our knowledge, no previous study has explored predictors of adolescent and parent general satisfaction, satisfaction with care and satisfaction with the environment in routine clinical practice.

2 | METHODS

2.1 | Participants

A quality registry data set from the University Hospital Trust of Northern Norway, including data on patients receiving outpatient treatment at CAMHS, was utilized. In Norway, children and adolescents are referred to CAMHS by general practitioners, other specialists at the hospital trust, community psychologists or social services. All patients eligible for CAMHS between the 1 December 2013 and the 31 December 2020 were included in the registry. The registry holds data from the electronic patient record and routine outcome measures from adolescents, parents, and clinicians. During the inclusion period, 2429 children and adolescents were referred to the service and granted patient rights. To be eligible for this study, adolescents or parents had to complete the corresponding version of the ESQ 6 months after intake (T2). Adolescents were invited to complete the ESQ from the age of 11, while parents completed the ESQ regardless of the age of their child/adolescent. The registry included ESQ responses from 726 individuals, with more parents ($n = 495$) than adolescents ($n = 231$). A power analysis ($\alpha = .05$, power = 0.80) was conducted before the study, indicating a minimum sample size of 131 participants to detect a medium effect size ($f^2 = 0.15$) in a regression analysis with 13 predictors. For further details regarding participants and disengagement, see Figure 1 for the data inclusion flow chart.

2.2 | Data collection procedures

The routine outcomes measures in the quality registry were collected at intake (T1) and follow-up 6 months later (T2) from the adolescents, parents, and clinicians, in accordance with the child outcome research consortium snapshot protocol (https://www.corc.uk.net/resource-hub/sending-data-to-corc/).[32,33] Data were collected digitally from adolescents and parents through the youth-in-mind-portal (https://youthinmind.com/), which includes the Development and Well-being Assessment (DAWBA),[34] the Strength and Feelings Questionnaire (SDQ)[35] at T1, and: the ESQ was collected at T2. Before meeting for the initial session (T1) and evaluation session (T2) at CAMHS, families received a detailed letter describing the use of routine outcome measures, the log-in procedures at the youth-in-mind-portal and a separate sealed envelope for each family member with their personal log-in-code. The letter emphasized completing the measures is voluntary and offered a phone support service for questions. Data from clinicians were collected by paper and entered manually into the registry by a secretary at the clinic. If measures were not completed, the secretary reminded families once by phone, and clinicians via the electronic patient record system. The local data protection officer at the hospital trust, who acts on behalf of the Norwegian data protection authority, approved the study. Written consent was not required as data were collected routinely at the clinic for quality assurance, procedures for safe storage were followed, and only deidentified data was retrieved from the quality registry for secondary analysis for this study.

2.3 | Measures

2.3.1 | Satisfaction

The ESQ has 12 items rated on a 3-point Likert scale (not true, partly true, certainly true). Items answered 'don't know', and the three open-ended questions inviting free-text responses were not included

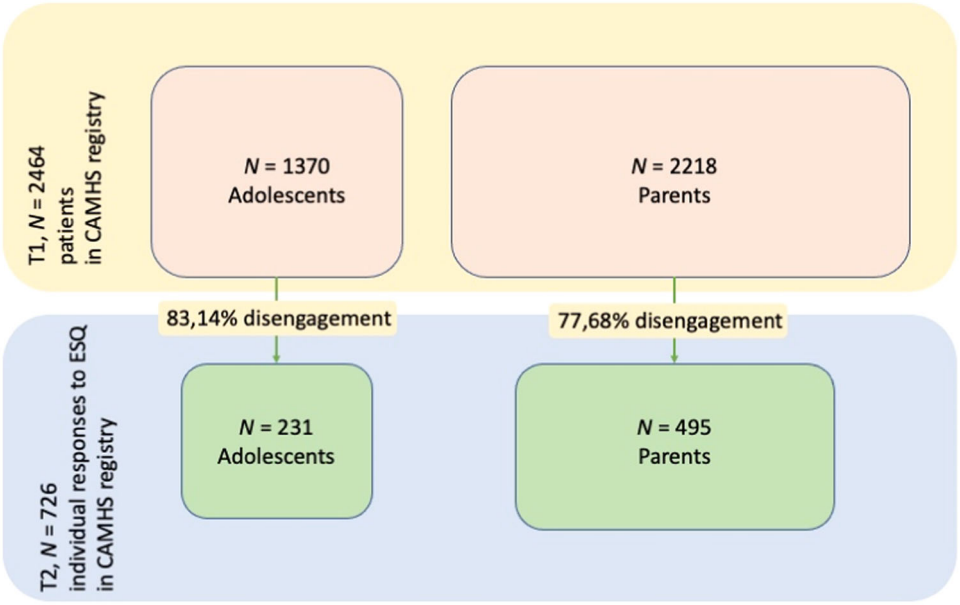

FIGURE 1 Data inclusion flow chart. CAMHS, child and adolescent mental health services.

in this study. The factor general satisfaction includes all items and has a range of 0–36, while the factor satisfaction with care (items: 1–7, 11 and 12) has a range of 0–27, and the factor satisfaction with the environment (items: 8–10) has a range of 0–9. The ESQ is freely available, used internationally and in evaluations recommended to supplement measures of clinical change.[31,36]

2.3.2 | Background characteristics

Family stress: Parents' reports of perceived stress were measured using the family stress scale, which is a part of the DAWBA.[34] The 13 items comprising the scale are rated on a 3-point scale (0 = no, 2 = a lot), yielding a maximum of 26. The scale includes questions on household financial conditions, unemployment, housing, neighbourhood, tensions with partner or ex-partner, illness, gambling-, alcohol- or drug-misuse. High scores indicate more ongoing stress on the family. Validation of the family stress scale remains. *Parent mental health*: Parents self-reported psychological well-being and distress during the last month on the Everyday Feeling Questionnaire,[37] also part of the DAWBA. Ten items regarding levels of well-being and distress for parents are rated on a 5-point scale (0 = no, 4 = a lot), with a maximum of 40 (mean = 11.59, SD = 5.05).[37,38] Cronbach's α Everyday Feeling Questionnaire is reported between .87 and .90.[37–39] *Peer problems*: Both adolescents and parent-reported levels of peer problems were measured with the SDQ subscale peer problems, including queries about bullying, preferring to play alone and so forth.[35] Each of the SDQ subscales includes five items scored on a 3-point scale (from 0 = not true, to 2 = true) with a maximum of 10. The SDQ has proven good psychometric properties for the Norwegian version, and the peer problems subscale have shown Cronbach's α of .44–.64 for adolescents and .43–.75 for parents.[40,41] *SDQ prosocial skills*: Adolescents and parent-reported levels of prosocial skills were measured with the SDQ subscale prosocial skills describing if the adolescents are typically kind to younger children, helps out and so forth. The prosocial skills subscale has shown Cronbach's α of .62–.66 for adolescents, and between .62–.80 for parents.[40,41]

2.3.3 | Clinical characteristics

Children's Global Assessment Scale (CGAS). The severity of adolescents' daily psychosocial function was measured by the CGAS.[42] Clinicians rate functioning from 1 (needs constant supervision) to 100 (superior function in all areas), where higher scores indicate higher daily functioning. The reliability and validity of the CGAS is well documented. CGAS above 70 at intake is usually considered a non-case at CAMHS (mean = 55.9, SD = 6.9).[43] Inter-rater reliability among experienced CGAS-raters is good.[44,45]

The Health of the Nation Outcome Scales of Children and Adolescents (HoNOSCA)[46] is a rating scale covering mental health problems and symptoms used by clinicians to indicate the overall symptom burden and clinical severity. In this study, 13 of 15 subscales scored between 0 (no problem) and 4 (severe to very severe problem), were summed to a total score (range: 0–52). There is no clinical cut-off for total HoNOSCA, although ratings in outpatient clinics typically show a mean of 12.0 (SD = 4.6)[47] the Norwegian version has good psychometric properties.[48] *Strengths and Difficulties Questionnaire (SDQ)*.[35] The subscales for emotional problems (e.g., worries, unhappy), conduct problems (e.g., fights, lies) and hyperactivity (e.g., restless, distractable, inattentive) were chosen as they cover most of the symptom burden in a clinical population. The psychometric properties of the Norwegian version of the SDQ is well documented.[40,41] For the subscale emotional problems Cronbach's α range from .61–.73, for conduct problems Cronbach's α range from .38–.59, and for hyperactivity Cronbach's α range from .53–.76 for adolescents.[40] For parents Cronbach's α range from .45–.70 for emotional problems, .45–.75 for conduct problems and .75–.80 for hyperactivity.[41]

2.3.4 | Service characteristics

Waiting time was recorded in days from referral to the first physical meeting between family and clinician at CAMHS. Waiting time was imported from the electronic patient journal to the registry by the secretary. *Travel distance* was imported from the electronic patient journal. Distance to service was dummy coded as 0 if families lived within the municipality of the CAMHS, and 1 if the family lived outside the municipality of the CAMHS (typically having above 1-h travelling distance to the service).

2.4 | Statistical analysis

Data were analyzed using SPSS statistics 27. As satisfaction scores are typically skewed, nonparametric tests were run to compare adolescents and parents. Pearson correlation was used to examine the association between the dependent variables and predictors. Regression analyses were conducted separately for adolescents and parents, with the ESQ factors general satisfaction, satisfaction with care and satisfaction with environment as outcome variables. Three models were tested for each group. A Bonferroni correction (α = .05/3) was conducted post hoc for each group to control for family-wise error rates.

The multi-informant data set revealed missing items for the study variables ranging from 0% to 31.4% (for details see Table 1). Missing values were missing at random and replaced by multiple imputations (n = 5), created with the fully conditional specification method, including all available variables for each sample. The imputed datasets were pooled together to form one complete data set for each sample, enabling subsequent analysis on the full set of variables. After removing five outliers in the adolescents' sample, multicollinearity among predictors was not a concern as analysis revealed variance inflation factors were well below 2.5 (range: 1.019–1.922 in both samples), and tolerance above 0.1 for all predictors. As expected, the q–q plot of residuals revealed skewness for all ESQ factors in both samples.

TABLE 1 Descriptive statistics imputed samples presenting problems and study variables.

	Adolescents (n = 231)	Missing (%)	Parents (n = 495)	Missing (%)
Age of adolescent (mean/SD)	14.06 (1.91)		11.16 (3.43)	
Gender (n/%)				
Girls	154/66.70		230 (46.50)	
Presenting problems at intake				
SDQ total score (mean/SD)	16.58 (5.39)		16.16 (6.38)	
DAWBA any disorder (n/%)	157/67.40		339/68.80	
DAWBA emotional disorder (n/%)	134/57.50		196/39.60	
DAWBA conduct disorder (n/%)	44/18.90		154/31.10	
DAWBA hyperactive disorder (n/%)	33/14.20		73/14.70	
Study variables				
Family stress[a] (mean/SD)	2.23 (2.13)	17.4	2.31 (2.19)	9.1
Parent mental health[b] (mean/SD)	12.60 (4.10)	17.8	13.25 (4.80)	9.3
Peer problems[c] (mean/SD)	3.32 (2.12)	2.1	3.29 (2.37)	2.4
Prosocial skills[c] (mean/SD)	7.69 (1.84)	2.1	7.12 (2.21)	2.4
Daily function[d] (mean/SD)	54.32 (8.55)	13.1	54.24 (7.37)	14.5
Overall symptoms[e] (mean/SD)	12.98 (4.74)	31.4	12.21 (4.41)	26.5
Emotional symptoms[c] (mean/SD)	6.01 (2.61)	2.1	4.80 (2.68)	2.4
Conduct problems[c]	2.29 (1.65)	2.1	2.96 (2.10)	2.4
Hyperactivity[c]	4.97 (2.38)	2.1	5.12 (2.80)	2.4
Waiting time (days)	54.5 (27.86)	5.9	58.97 (27.15)	5.7
Travelling distance[f] (n/%)				
City centre	162/70.1	5.9	393/179.40	5.7
Rural	69/29.90	5.9	102/20.60	5.7

Abbreviations: CGAS, Children's Global Assessment Scale; DAWBA, Development and Well-being Assessment; HoNOSCA, The Health of the Nation Outcome Scales of Children and Adolescents; SDQ, Strength and Feelings Questionnaire.

[a]Family stress scale, total score parent.

[b]Everyday Feeling Questionnaire, total score parent.

[c]Separate SDQ ratings satisfaction for adolescents and parents.

[d]CGAS intake score.

[e]HoNOSCA intake score.

[f]City centre <1-h travelling distance = 0, rural >1-h travelling distance = 1.

3 | RESULTS

In the total registry sample (n = 2429) M_{age} = 11.91, SD_{age} = 4.24, range: 0–19 years; girls 50.5%. Disengagement between T1 and T2 was 83.14% for adolescents and 77.68% for parents. Details of the adolescents (n = 231) and parent (n = 495) study samples are found in Table 1. In the study samples, nearly 70% of the adolescents had a diagnosable mental health disorder at intake. The mean total reported difficulty score at intake (SDQ total score) resembled other clinical samples in Norway.[40,41] Emotional disorders were more common in the adolescent sample, while conduct disorders were more frequent for adolescents in the parent sample. Hyperactive disorders were equally common in the adolescents and parent samples.

Satisfaction scores were highly skewed, especially for the parent sample who were significantly more satisfied than adolescents on all satisfaction scales: general satisfaction (Wilcoxon-signed ranks test, $z = -3.43$, $p = .001$), satisfaction with care (Wilcoxon-signed ranks test, $z = -2.92$, $p = .003$), and satisfaction with environment (Wilcoxon-signed ranks test, $z = -2.30$, $p = .021$). Further details are shown in Table 2.

3.1 | Bivariate analysis

Bivariate analysis for adolescents (Table 3) revealed that general satisfaction and satisfaction with care were negatively correlated with parent-self-reported mental health (general satisfaction = −.16*, satisfaction with care = −.18**), clinician-rated overall symptoms (general satisfaction = −.15*, satisfaction with care = −.17*), adolescents-reported conduct problems (general satisfaction = −.13*, satisfaction with care = −.15*) and hyperactivity problems (general satisfaction = −.16*, satisfaction with care = −.18**). Adolescents' self-reported prosocial skills were positively correlated with both general satisfaction (.15*) and satisfaction with care (.16*). No significant correlations were found between satisfaction with the environment for adolescents and the predictor variables.

In the corresponding parent bivariate analysis (Table 4), significant negative correlations between general satisfaction, satisfaction with care and satisfaction with environment and age (general satisfaction = −.13**, satisfaction with care = −.11*, satisfaction with environment = −.14**), family stress (general satisfaction = −.11*, satisfaction with care = −.09*, satisfaction with environment = −.11*), peer problems (general satisfaction = −.12*, satisfaction with care = −.09*, satisfaction with environment = −.14**), and clinician-rated overall symptoms (general satisfaction = −.10*, satisfaction with care = −.09*, satisfaction with environment = −.09*) were evident. Parent-reported prosocial skills were positively correlated with general satisfaction (.10*) and satisfaction with environment (.12**). In addition, general satisfaction (−.10*) and satisfaction with environment (−.12**) were negatively correlated with gender, indicating that parents of boys were more likely to be satisfied. Regarding child/adolescent mental health, satisfaction with environment correlated negatively with emotional problems (−.09*), while general satisfaction (.10*) and satisfaction with care (.10*) correlated positively with hyperactivity. General satisfaction (.09*) and travelling distance were positively correlated.

3.2 | Regression analysis

Tables 5 and 6 report results from the regression analysis for adolescents and parents on all three dependent variables.

3.2.1 | Predictors of adolescent satisfaction

The regression model for adolescents' *satisfaction with care* was significant with the Bonferroni corrected *p*-value of .0167 (f [13, 222] = 2.210, $p < .010$, $r^2 = .12$), accounting for 12% of the variance. Low scores by parents on the Everyday Feeling Questionnaire ($\beta = -.22$, $p < .01$) and lower clinician-rated overall symptom burden (HoNOSCA) at intake ($\beta = -.18$, $p < .05$) were significant predictors of adolescents' satisfaction with care. The regression model for adolescents' *general satisfaction* (f [13, 222] = 1.862, $p < .036$, $r^2 = .10$) was significant before, but not after the Bonferroni correction. The regression model for *satisfaction with the environment* (f [13, 222] = 1.36, $p < .178$, $r^2 = .07$) was not significant.

3.2.2 | Predictors of parent satisfaction

Parent regression models for all ESQ factors were significant regardless of applying the Bonferroni correction ($p < .0167$). Results showed a significant regression model for parent *general satisfaction* (f[13, 478] = 2.790, $p < .001$, $r^2 = 0.07$), explaining 7% of the variance in general satisfaction. Significant predictors of general satisfaction reported by parents were less family stress ($\beta = -.10$, $p < .05$), higher levels of child hyperactivity symptoms at intake ($\beta = .13$, $p < .05$), and longer travelling distance ($\beta = -.11$, $p < .05$) to CAMHS. The regression model for parent *satisfaction with care* was significant, f [13, 478] = 2.271, $p < .007$, $r^2 = .06$), explaining 6% of the variance in satisfaction with care. Parent-reported hyperactivity symptoms ($\beta = -.13$, $p < .05$) at intake and longer travelling distances ($\beta = -0.11$, $p < .05$) to CAMHS were significant predictors. Parent *satisfaction with environment* was significantly explained by the model (f [13, 478] = 3.002, $p < .007$, $r^2 = .08$), accounting for 8% of the variance. Gender was a significant predictor ($\beta = -.12$, $p < .05$), indicating parents of boys were more likely to be satisfied. In addition, less perceived family stress ($\beta = -.10$, $p < .05$), and longer travelling distances ($\beta = -.10$, $p < .05$) to CAMHS, were significant predictors.

TABLE 2 Level of satisfaction.

	Adolescents			Parents		
	Mean	SD	Maximum score (*n*/%)	Mean	SD	Maximum score (*n*/%)
General satisfaction	29.39	7.33	42/18	31.68	5.97	126/25.5
Satisfaction with care	21.97	6.06	69/29.6	23.90	4.87	218/44
Satisfaction with environment	7.42	1.76	82/35.2	7.78	1.63	222/44.8

TABLE 3 Correlations between dependent variables and predictors for adolescents.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
Dependent variables															
1. General satisfaction															
2. Satisfaction with care	.98**														
3. Satisfaction with environment	.78**	.66**													
Predictors															
4. Age	−.01	−.04	.07												
5. Gender [a]	.00	−.01	.02	.19**											
6. Family stress[b]	.01	−.02	.10	.07	−.03										
7. Parent mental health[c]	−.16*	−.18**	−.06	.00	−.01	.44**									
8. Peer problems[d]	−.05	−.02	−.11	.00	−.01	.06	.03								
9. Prosocial skills[d]	.15*	.16*	.05	−.02	.15*	−.14*	−.07	−.14*							
10. Daily function[e]	.07	.06	.08	−.01	.07	.08	.01	−.19**	.14*						
11. Overall symptoms[f]	−.15*	−.17*	−.05	.16*	.06	.01	.02	.19**	−.20**	−.62**					
12. Emotional symptoms[d]	.03	.02	.05	.27**	.37**	.03	.00	.25**	.05	−.15*	.19**				
13. Conduct problems[d]	−.13*	−.15*	−.02	−.04	−.05	.13*	.08	.12	−.27**	−.08	.28**	.01			
14. Hyperactivity[d]	−.16*	−.18**	−.07	.19**	−.08	.09	.05	−.08	−.13*	−.03	.16*	.13*	.53**		
15. Waiting time (days)	.04	.06	−.03	.04	−.16*	.06	.09	.02	−.08	.16*	.03	−.06	−.01	−.01	
16. Travelling distance[g]	.00	.03	−.08	.13*	.10	−.13*	.02	.00	−.06	−.05	.05	.10	.09	.11	.22**

[a]Boy 1, girl 2.

[b]Family stress scale, total score parent.

[c]Everyday Feeling Questionnaire, total score parent.

[d]Strength and Feelings Questionnaire ratings youth.

[e]Children's Global Assessment Scale intake score.

[f]The Health of the Nation Outcome Scales of Children and Adolescents intake score.

[g]<1 h travelling distance = 0, >1 h travelling distance = 1.

*$p < .05$; **$p < .01$ (two-tailed test).

4 | DISCUSSION

The present study aimed to identify predictors of user satisfaction in CAMHS. By analysing a large sample of routinely collected data, we examined associations between a broad range of background, clinical and service predictors and user satisfaction for adolescents and parents.

The results revealed different factors predicted user satisfaction for adolescents and parents. Our model for adolescent satisfaction with care explained more variance in predictors than the parent models. For adolescents, higher levels of user satisfaction were associated with good parental mental health, and lower levels of clinicians-rated symptoms at intake. On the other hand, parents reported higher levels of user satisfaction when they perceived less family stress, their child/adolescent had more hyperactivity symptoms, and when they had to travel a longer distance to access CAMHS.

While the models tested in this study explained a substantial amount of variance in predicting user satisfaction compared to some previous models,[8] they were not as comprehensive as others[3,5,49] described in the literature. An exception is found for adolescents, where our results regarding satisfaction with care explaining 12% of the variance in predictors resembles findings by Garland, Haine.[3] Notably, even though an association between parents' socio-economic status and childhood mental health problems in Norway is evident,[50] the key cross-informant effect regarding parent-reported mental health burden and clinician-rated symptom burden at intake as predictors of adolescent satisfaction are novel. These findings highlight the importance of addressing parental well-being and engagement with services in influencing adolescents' experiences at CAMHS. A plausible interpretation for these findings could be these factors contribute to a more supportive and stable environment for adolescents during a vulnerable phase of their upbringing. Parents who have better mental health may be more inclined and able to positively interact with and in line with CAMHS. This may also have a positive impact in adolescents' satisfaction with care. Also, when clinicians rate adolescents with fewer symptoms at intake, this suggest lower severity of their mental health issues,

TABLE 4 Correlations between dependent variables and predictors for parents.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
Dependent variables															
1. General satisfaction															
2. Satisfaction with care	.98**														
3. Satisfaction with environment	.75**	.58**													
Predictors															
4. Age	−.13**	−.11*	−.14**												
5. Gender[a]	−.10*	−.08	−.12**	.31**											
6. Family stress[b]	−.11*	−.09*	−.11*	.01	−.02										
7. Parent mental health[c]	−.06	−.05	−.07	.02	.01	.44**									
8. Peer problems[d]	−.12*	−.09*	−.14**	.08	.01	.17**	.15**								
9. Prosocial skills[d]	.10*	.08	.12**	−.02	.06	−.13**	−.14**	−.26**							
10. Daily function[e]	.05	.05	.04	−.05	.04	−.04	−.13**	−.14**	.16**						
11. Overall symptoms[f]	−.10*	−.09*	−.09*	.19**	.03	.01	.07	.25**	−.24**	−.48**					
12. Emotional symptoms[d]	−.06	−.05	−.09*	.07	.22**	.15**	.17**	.33**	−.12**	−.14**	.20**				
13. Conduct problems[d]	−.03	−.02	−.06	−.24**	−.14**	.13**	.17**	.22**	−.52**	−.11*	.22**	.08			
14. Hyperactivity[d]	.10*	.10*	.06	−.30**	−.19**	.05	.01	.13**	−.26**	−.06	.16**	−.02	.54**		
15. Waiting time (days)	.01	.03	−.06	−.12**	−.08	−.05	.00	.03	−.14**	.14**	−.03	.02	.14**	.09*	
16. Travelling distance[g]	.09*	.09	.07	.09	.13**	.02	−.08	.06	−.04	.00	−.05	−.02	.03	.04	.08

[a]Boy 1, girl 2.

[b]Family stress scale, total score parent.

[c]Everyday Feeling Questionnaire, total score parent.

[d]Strength and Feelings Questionnaire ratings youth.

[e]Children's Global Assessment Scale intake score.

[f]The Health of the Nation Outcome Scales of Children and Adolescents intake score.

[g]<1 h travelling distance = 0, >1 h travelling distance = 1.

*p < .05; **p < .01 (two-tailed test).

perhaps leading to a more manageable and successful treatment experience. This, combined with the support and understanding from their parents, might contribute to fostering a positive therapeutic alliance and increased satisfaction with care received. If CAMHS focus on addressing parental mental health and rapid reduction of symptom burden during intake, then they can create a more favourable context for adolescents' treatment experiences thus enhancing their satisfaction with CAMHS. Notably, these results also line up with others have also found that adolescents who self-report lower symptom burden at intake are more satisfied with CAMHS.[23] In addition, our results are in line with most studies which find gender does not affect adolescent satisfaction.[3,8,10,11] Neither, the predictive power of service characteristics for adolescent user satisfaction found by others,[5] is not replicated in this study.

Similar to most studies,[5,31,51] both groups generally reported high levels of satisfaction with CAMHS, with parents being significantly more satisfied than adolescents. Nevertheless, compared to previous findings,[3,5,49] only a modest proportion (6%–8%) of the variance in predictors of parent user satisfaction was explained by the models. On the other hand, both background, clinical and service characteristics were significant predictors for parent user satisfaction. Therefore, these findings highlight the importance of considering various contextual factors when understanding parent satisfaction in CAMHS. Noteworthy, the key background variable of low levels of family stress predicting high levels of parental user satisfaction is supported by others.[3,16,49] It is likely that parents experiencing high levels of family stress can feel overwhelmed and be less able to advocate their child/adolescents needs, hence communication with the health carer at CAMHS can be deranged leading to lower levels of satisfaction. Therefore, as suggested by Acri et al.,[16] emphasis on parents' emotional and practical needs might be valuable to enhance collaborative practice. Reduction of stressors may allow parents to be more involved and supportive during treatment. In line with preliminary findings[10,13] our results also revealed that parents of

TABLE 5 Regression model for adolescent general satisfaction, satisfaction with care and satisfaction with the environment.

	Adolescent β		
	GS	SWC	SWE
Background			
Age	.05	**.03**	.11
Gender[a]	−.03	**−.03**	−.08
Family stress[b]	.13	**.12**	.15
Parent mental health[c]	−.21*	**−.22****	−.11
Peer problem[d]	−.07	**−.03**	−.17*
Prosocial[d]	.11	**.12**	.03
Clinical characteristics			
Daily function[e]	−.07	**−.10**	.06
Overall symptoms[f]	−.14	**−.18***	.02
Emotional[d]	.08	**.07**	.10
Conduct[d]	.03	**.01**	.08
Hyperactivity[d]	−.17*	**−.16**	−.17*
Service characteristics			
Waiting time (days)	.07	**.09**	−.02
Proximity to service[g]	.03	**.05**	−.05

Note: Bold values indicates a significant regression model with Bonferroni correction.

Abbreviations: GS, general satisfaction; SWC, satisfaction with care; SWE, satisfaction with environment.

[a]Boy 1, girl 2.

[b]Family Stress Scale, total score parent.

[c]Everyday Feeling Questionnaire, total score parent.

[d]Strength and Feelings Questionnaire ratings according to respondent.

[e]Children's Global Assessment Scale intake score.

[f]The Health of the Nation Outcome Scales of Children and Adolescents intake score.

[g]<1 h traveling distance = 0, >1 h traveling distance = 1.

*p < .05; **p < .01.

TABLE 6 Regression model for parent general satisfaction, satisfaction with care and satisfaction with environment.

	Parent β		
	GS	SWC	SWE
Background			
Age	**−.07**	**−.05**	**−.09**
Gender[a]	**−.09**	**−.07**	**−.12***
Family stress[b]	**−.10***	**−.09**	**−.10***
Parent mental health[c]	**.02**	**.02**	**.02**
Peer problem[d]	**−.07**	**−.06**	**−.08**
Prosocial[d]	**.06**	**.06**	**.05**
Clinical characteristics			
Daily function[e]	**.00**	**.00**	**.00**
Overall symptoms[f]	**−.07**	**−.07**	**−.04**
Emotional[d]	**.02**	**.03**	**.00**
Conduct[d]	**−.06**	**−.05**	**−.06**
Hyperactivity[d]	**.13***	**.13***	**.08**
Service characteristics			
Waiting time (days)	**−.02**	**.01**	**.08**
Proximity to service[g]	**.11***	**.10***	**.10***

Note: Bold values indicates a significant regression model with Bonferroni correction.

Abbreviations: GS, general satisfaction; SWC, satisfaction with care; SWE, satisfaction with environment.

[a]Boy 1, girl 2.

[b]Family Stress Scale, total score parent.

[c]Everyday Feeling Questionnaire, total score parent.

[d]Strength and Feelings Questionnaire ratings according to respondent.

[e]Children's Global Assessment Scale intake score.

[f]The Health of the Nation Outcome Scales of Children and Adolescents intake score.

[g]<1 h travelling distance = 0, >1 h travelling distance = 1.

*p < .05.

boys were more likely to be satisfied with the environmental side of the service, like physical sorroundings, timeliness of appointments and access. Parallell to others[10] we have no theory to explain these results, but a possible explanation of these results may be that the symptoms or presentations of boys' problems are better understood or treated at CAMHS.

Previous literature has proved mixed findings regarding clinical characteristics and satisfaction, from reports of no relationship between clinical characteristics and satisfaction,[15] to reports of severity or externalizing problems affecting satisfaction.[14,21,22] Our results contradict previous findings suggesting parents of children with externalizing symptoms are least likely to be satisfied.[14,21,22] The only significant clinical predictor for parent general satisfaction and satisfaction with care was higher levels of hyperactivity symptoms at intake. A reasonable explanation for this finding could be parents of children/adolescents with higher levels of hyperactive symptoms find CAMHS the right place to get help. Parents may have had a hard time managing the hyperactivity symptoms, and accessing specialized services like CAMHS can provide them with the support and resources they need. As a consequence, they may have felt understood and helped their satisfaction is likely to increase. In addition, recent evidence[9] suggests parents are least likely to be satisfied if their child/adolescent do not receive a diagnosis at CAMHS. Our results hint at a similar pattern, given that the elevated levels of symptoms at intake increase the likelihood of a diagnosis being confirmed.

Finally, regarding service variables associated with user satisfaction, we found parents who had longer travelling distances to

CAMHS were more likely to be satisfied with CAMHS. These results contradict previous research from both Norway and Ireland, showing that having easy access and living close to the service predicted satisfaction.[9,13] The results may seem counterintuitive, and although the cause for these results is unknown, a likely interpretation may be that parents from rural areas are less likely to previously have sought help. These results suggest that effort should be made to ensure the accessibility for mental health services for all families, regardless of their geographic location. Providing accommodation for parents from rural areas, such as flexible appointment scheduling, intensive treatment options or video consultations, may improve their satisfaction and overall access to care. We cannot rule out that clinicians in the current study, to a greater extent, already accommodate appointments for parents from rural areas. In such a scenario, higher user satisfaction is more likely, according to results by Kapp et al.,[5] who found satisfaction was higher when they got to be involved in decisions about the frequency of appointments.

4.1 | Strengths and limitations

This study used routinely collected data from a naturalistic outpatient setting. Encompassing over 200 adolescents and nearly 500 parents, the sample size in the current study is larger than most comparable studies.[3,9,19,52] As data were collected in ordinary clinical practice, no exclusion criteria were set, except for children <11 years and families self-excluding by not answering the ESQ. The limitations of using routinely collected data are well-known and always solicit caution when interpreting results.[53] By analysing, reporting, and handling missingness by multiple imputations, the current study supplements the extant literature in the field. Regarding possible bias, the acceptable power, and representativeness compared to the total registry sample, especially for parents, advocate findings are generalizable outside the single service studied. Additionally, collecting data over a considerable time period minimizes the likelihood of bias associated with staff. Next, building on the previously rigorously tested ESQ, which has proven strong psychometric characteristics over time for CAMHS strengthens the relevance for CAMHS, both nationally and internationally.

In addition to the mentioned limitations of analysing routinely collected data, it is important to consider the following limitations of the current study in terms of its generalizability. The applicability of the results is restricted by the age range included in the study (adolescents and parents) and the modality of service delivery (outpatient). More specifically, the findings may not accurately represent the user satisfaction of younger children visiting CAMHS. Future research should focus on including younger children to gain a comprehensive understanding of user satisfaction in CAMHS across age ranges. This would require ensuring developmentally appropriate measures and data collection methods. In addition, as data was obtained solely from an outpatient setting, the results may not fully be valid for inpatient populations where care implies a range of different experiences compared to outpatient care. To include the diversity of treatment settings in CAMHS, future research on user satisfaction from inpatient care is needed. Similarly, the lack of information regarding the ethnicity or geographical origin of the family suggests this study cannot account for the potential impact of this variable on user satisfaction. Future research should aim to collect this information to determine the generalizability of the findings across diverse populations. Finally, even though broadly including potential predictors in this study, central variables might have been missed. Specifically, data on service variables like characteristics of interventions might, and adding a measure of the therapeutic alliance would have strengthened the study design and possibly the knowledge of the construct of satisfaction in CAMHS.

4.2 | Implications

Despite the methodological challenges of measuring satisfaction in CAMHS, this study calls attention to both clinical and research implications. Foremost, the study highlights the need for services to be attentive to collaborative practices that tailor interventions for adolescents and address the emotional and practical needs of parents. Also, considering this study finds adolescents are likely to be more satisfied if symptom levels are low, CAMHS ought to inquire into whether services are designed to fully meet the needs of adolescents with moderate to serious mental health problems. Lastly, addressing disparities in access to care depending on travel distances can contribute to improving user satisfaction.

In terms of future research, it would be useful to extend the current findings by examining younger children and adolescents with experience from inpatient treatment. The inclusion of multiple sites as well as collecting data on ethnicity/geographical origin would also be key for future studies. Furthermore, to reduce the limitations of this and other studies, an experimental design with an even more comprehensive selection of potential predictors would be ideal.

5 | CONCLUSION

This study revealed predictors of user satisfaction in CAMHS differ for adolescents and parents. For adolescents' higher user satisfaction was associated with good parental mental health and fewer symptoms at intake. Suggesting the importance of addressing parent well-being at intake in CAMHS interventions. In contrast, parent user satisfaction was predicted by low levels of family stress, higher adolescent hyperactivity symptoms, and longer travelling distances to CAMHS.

These findings emphasize the need for CAMHS to prioritize collaborative practice, attend to the emotional and practical needs of parents, tailor care for adolescents and address accessibility issues for families in rural areas. The study contributes to the existing literature by highlighting specific factors that influence user satisfaction in CAMHS. However, the generality of the current results must be established by future research. In summary, to improve service

delivery, CAMHS must emphasize collaborative practice, tailor interventions to symptom severity, address parental needs, and improve accessibility. By implementing these strategies, CAMHS can enhance user satisfaction and ultimately improve outcomes in child and adolescent mental health.

AUTHOR CONTRIBUTIONS

Yngvild Arnesen and Børge Mathiassen were responsible for the data analysis. Yngvild Arnesen prepared the data set and performed multiple imputations. Yngvild Arnesen wrote the manuscript. Børge Mathiassen and Kjersti R. Lillevoll supervised the writing and commented on the written drafts. All authors have read and approved the final manuscript.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the University Hospital of North Norway. Restrictions apply to the availability of these data, which were used under license for this study. Data are available to the corresponding author (Yngvild Arnesen) with the permission of the University Hospital of North Norway.

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Paper III

BMC Psychiatry

RESEARCH Open Access

User satisfaction with child and adolescent mental health services: the association between user satisfaction and clinical outcomes

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Abstract

Background This study aimed to examine the association between user satisfaction and clinical outcomes with child and adolescent mental health services (CAMHS) from the perspective of young people and their parents. The evidence bases for CAMHS user satisfaction measures are limited, with few studies investigating the link between user satisfaction and clinical outcomes. In particular, the perspectives of young people are missing.

Methods The parent and youth versions of the Experience of Service Questionnaire (ESQ), which evaluates the factors of general satisfaction (GS), satisfaction with care (SWC) and satisfaction with environment (SWE), were used to measure user satisfaction. The outcome measures were scores on the Strengths and Difficulties Questionnaire (SDQ), Children's Global Assessment Scale (CGAS), and Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA). Hierarchical regression analysis was conducted on data collected from 233 young people and 495 parents who utilized CAMHS services.

Results GS and SWC predicted outcomes for both young people ($\Delta R^2 = 0.08$, $p < .05$) and parents ($\Delta R^2 = 0.01$, $p < .05$), indicating that user satisfaction had a significant impact on clinical outcomes for CAMHS users. In addition, GS and SWC significantly predicted young people-reported outcomes in the interaction model ($\Delta R^2 = 0.10$, $p < .05$), while no significant association was found with parent-reported outcomes ($\Delta R^2 = 0.02$, $p = .09$).

Conclusion User satisfaction, particularly for young people, has a significant impact on clinical outcomes. The causal relationship between user satisfaction and mental health outcomes requires further study.

Keywords Child and adolescent mental health services, User satisfaction, Experience of service questionnaire, Outcome, Service improvement

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Background

Tracking patient experiences through user satisfaction measures is crucial to ensure children and young people can express opinions on matters affecting them. However, despite the call for routine tracking of user satisfaction for nearly four decades, it has yet to become standard for most services [1–3]. The lack of user satisfaction reports leaves a substantial gap in the ability to determine the quality of care provided [4, 5]. User satisfaction is a complex construct, and there have been mixed findings regarding its relationship with clinical outcomes and costs [5–8]. In the case of child and adolescent mental health services (CAMHS), there is limited research on the link between user satisfaction and clinical outcomes [1, 9].

Understanding user satisfaction with CAMHS is challenging due to the incongruity between feedback from young people and parents. Parent reports are more common in the literature [1, 9–13], but research indicates that young people's feedback more accurately reflects the quality of care provided [14]. With a few exceptions [15], the literature indicates high satisfaction ratings for both YP and parents but weak correlations between the two [16–22]. Furthermore, parent satisfaction is typically assessed, but YP satisfaction is linked with better treatment outcomes in CAMHS [23]. Garland, Haine [19] found a cross-informant effect, showing that improved function reported by YP was associated with higher parent satisfaction. Although small in magnitude, the results of Turchik, Karpenko [16] also revealed improvements in clinical outcomes related to higher satisfaction scores of both YP and parents. In a more recent study, McNicholas, Reulbach [21] did not report a cross-informant effect but found that parent-reported clinical change and parent-reported satisfaction had a significant relationship. Studying the long-term effects of treatment outcomes and satisfaction with CAMHS, Solberg, Larsson [24] and Godley, Fiedler [18] found no association between the reports of YP and parents.

Other shortcomings in the field involve small sample sizes [20, 25] and few validated measures of user satisfaction [23, 26]. It has been suggested that satisfaction should include measurements of the relationship with the clinician, the physical environment and the organization of services [26, 27]. The Experience of Service Questionnaire (ESQ) is a user satisfaction instrument developed for CAMHS [28, 29], with the constructs of general satisfaction (GS), satisfaction with care (SWC) and satisfaction with environment (SWE). However, to our knowledge, only SWC has been studied in relation to outcomes [9].

YP user satisfaction is underrepresented in the research literature; moreover, there is a stronger association between YP satisfaction with clinical outcomes than parent satisfaction [23]. The available research on satisfaction with CAMHS suggests gaps in knowledge. To address these gaps, the aims of this study were twofold: first, we aimed to determine whether the different dimensions of satisfaction, namely, GS, SWC and SWE, of YP and parents predicted clinical outcomes; second, we aimed to determine whether the interaction between YP and parent satisfaction impacted clinical outcomes. In this study, our research questions are primarily exploratory in nature. Given the gaps in the existing literature and the complexity of user satisfaction within the realm of CAMHS, we aim to investigate and uncover potential relationships and patterns. By adopting this exploratory approach, we hope to generate novel insights that can provide a foundation for future hypothesis-driven studies in this domain.

Methods

Participants and procedure

The study participants were YP and parents using CAMHS at the University Hospital of North Norway (UNN) between December 2013 and December 2020. At intake (T1) and at the six-month follow-up (T2), responses from YP, parents and clinicians regarding routine outcome measures (ROMs) were collected in a local quality registry following the Snapshot protocol of the Child Outcome Research Consortium (CORC). Further details on the Snapshot approach can be found elsewhere (https://www.corc.uk.net/resource-hub/sending-data-to-corc/; Wolpert et al., 2008; Wolpert et al., 2016).

To be eligible for the current study, YP (age > 11 years) and/or parents (of YP of any age) had to complete the ESQ. During the inclusion period, 3091 YP were referred to the service [30]. The ESQ was completed by 728 individuals (233 YP and 495 parents). Demographic and clinical characteristics can be found in Table 1.

In addition to ROMs, electronic patient record (EPR) variables describing aspects of YP's background and mental health were included. YP and parents responded through the Youth-in-Mind-Portal, which (in addition to the ESQ) included the Development and Well-being Assessment (DAWBA) [31] and the Strength and Feelings Questionnaire (SDQ) [31–33]. Clinicians' reports on the Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA) and the Children's Global Assessment Scale (CGAS) were manually entered into the registry. The data protection officer at UNN approved use of the data from the quality register for research purposes.

Missing values were replaced by imputing 20 datasets generated with the fully conditional specification method including all available variables; these datasets were pooled together to form one complete dataset for each sample.

Table 1 Demographics and clinical characteristics

	Mean (n)	*Sd*
Parent ESQ		
General satisfaction	29.27 (466)	5.15
Satisfaction with care	24.05 (466)	4.68
Satisfaction with environment	7.85 (466)	1.56
Youth ESQ		
General satisfaction	29.39 (231)	7.33
Satisfaction with care	21.97 (231)	6.06
Satisfaction with environment	7.42 (231)	1.76
Parent rated mental health		
Parent SDQ total score T1	16.12 (466)	6.31
Youth rated mental health		
Youth SDQ total score T1	16.58 (231)	5.55
Clinician rated mental health		
CGAS T1	54.28 (492)	8.12
HoNOSCA total score T1	12.32 (413)	5.07
Outcome variables		
ΔParent SDQ total	-4.32 (466)	5.51
ΔYouth SDQ total	-2.29 (231)	5.55
ΔCGAS	9.18(314)	11.39
ΔHoNOSCA total	-4.41 (310)	5.66
Demographics		
	n	*%*
Gender		
Boy	287	49.8%
Girl	289	50.2%
	Mean (n)	*Sd*
Age (years)	11.67 (576)	3.48
Family stress [a]	2.33 (466)	2.19
Parent mental health [b]	13.38 (466)	4.87
Social aptitude scale	17.99 (466)	5.26
Parent SDQ Prosocial	7.26 (466)	2.18
Youth SDQ Prosocial	7.69 (231)	1.84

ESQ=The Experience of Service Questionnaire; SDQ=The Strengths and Difficulties Questionnaire, T1=intake score; Δ=subtracting the T1 (intake) score from the T2 (six-month follow-up) score; CGAS=The Children's Global Assessment Scale; HoNOSCA=The Health of the Nation Outcome Scales of Children and Adolescents;[a]= *The Family Stress Scale*;[b]= Everyday Feelings Questionnaire

Measures

Satisfaction with service

The Experience of Service Questionnaire (ESQ) is a measure completed by both YP and parents that assesses the perceived quality of the care received as well as the service environment [28]. The ESQ consists of 12 items rated on a four-point scale (1=not true, 2=somewhat true, 3=definitely true, 4=don't know). Higher scores indicate a higher degree of satisfaction. Items answered with "don't know" were not included in the analysis. The ESQ has a general satisfaction (GS) scale that includes all items and has a score range from 0 to 36 [29]. There are two second-order factors, namely, satisfaction with care (SWC) and satisfaction with the environment (SWE). SWC is assessed with items 1–7, 11 and 12, with a score range of 0–27. SWE is assessed with items 8–10, with a score range of 0–9.

Separate English versions of the ESQ exist for children (ages nine to eleven), adolescents (ages twelve to eighteen), and parents of children/adolescents of all ages; all versions are parallel measures of user satisfaction [29]. However, Norwegian translations are only available for the adolescent and parent versions of the ESQ. In this study, we used the Norwegian adolescent version, referred to as YP ESQ, for adolescents aged eleven years or older, and the parent version for parents.

In this study, the YP ESQ factors GS, SWC, and SWE demonstrated Cronbach's alpha values of 0.91, 0.92, and 0.61, respectively. For the parent ESQ, the corresponding values were 0.92, 0.93, and 0.61. More information on ESQ items is available at https://www.corc.uk.net/outcome-experience-measures/experience-of-service-questionnaire-esq/.

Routine outcome measures (ROMs)

The Strengths and Difficulties Questionnaire (SDQ) [32] is a 25-item questionnaire with subscales for emotional problems, peer problems, behavioural problems, hyperactivity, and prosocial behaviour. Each subscale has five items with a three-point scale (Not true=0, Somewhat true=1, Certainly true=2). The subscale scores range of 0–10. Items in the subscales emotional problems, behavioral problems, peer problems and hyperactivity are included in the SDQ total score, with a range from 0 to 40. Measurement invariance analysis of an English and Norwegian sample, showed that the five-factor structure presented the best fit for the data in both samples [34]. The Cronbach's alpha of the SDQ total score has found to be 0.80 [32]. The SDQ has separate versions for parents and adolescents. The psychometric properties of the SDQ have been validated in Norwegian samples [35, 36]. The internal consistency of the parent SDQ total and the SDQ prosocial scale in this study demonstrated Cronbach's alpha values of 0.78 and 0.75, respectively. The same values for the adolescent version were 0.78 and 0.68. For more information about the SDQ, please visit http://www.sdqinfo.org.

The Children's Global Assessment Scale (CGAS) is a clinician rating scale of general functioning of children and adolescents, with a range from 100 (superior function) to 1 (needs constant supervision) [37]. The CGAS has been examined in numerous research papers and is frequently utilized to assess severity of mental health problems and outcome [38]. In a study of inter-rater reliability among professionals in Norway's child and adolescent mental health sector, the CGAS achieved an intra-class correlation coefficient (ICC) of 0.61 [39]. In a cross-national study a similar ICC was found [40]. See https://www.corc.uk.net/outcome-experience-measures/

childrens-global-assessment-scale-cgas/ for an overview of CGAS.

The Health of the Nation Outcome Scales of Children and Adolescents (HoNOSCA) is a clinician rating of mental health problems [41]. It consists of 15 scales that are rated from 0 (no problem) to 4 (severe to very severe problem). In this study the first 13 scales were used, and its total score was used to indicate overall severity of mental health problems (range 0–52). HoNOSCA has been evaluated in several studies and has been found to be easy to use, reliable, valid and sensitive to change [39, 40, 42, 43]. In a nationwide study of the interrater reliability of HoNOSCA in Norway, the interclass correlation (ICC) was 0.84 [40],. The HoNOSCA, as used in our study, yielded a Cronbach's alpha of 0.50. Please visit https://www.corc.uk.net/outcome-experience-measures/health-of-the-nation-outcome-scales-for-children-and-adolescents-honosca/ for further information on HoNOSCA.

The development and well-being assessment (DAWBA)

The DAWBA is a comprehensive assessment tool that includes a diagnostic interview and several questionnaires, including the Family Stress Scale (FSS), the Everyday Feeling Questionnaire (EFQ), and the Social Aptitudes Scale (SAS). In this study, the online version of the DAWBA was used. For further details on the DAWBA, please visit https://dawba.info/.

The FSS is a 13-item questionnaire evaluating parents' perceived stress and socioeconomic status [31]. Stressors related to financial difficulties, unemployment, trouble in the neighbourhood, adequacy of their own home regarding the family's perceived needs, tensions with partner or ex-partner, illness, gambling- alcohol- or drug misuse are included in the questionnaire. Each item is scored in a three-point scale (none/don´t apply=0, some=1, or yes, a lot=2). The FSS total score has a range of 0–26, with high scores indicating a higher level of family stress. In our study, the FSS demonstrated a Cronbach's alpha of 0.63.

The (EFQ is a 10-item parent rating of psychological distress and well-being [44]. Parent rate their state during the preceding month. Each item has a five-point scale. The five items measuring distress are scored from 0 to 4, while the five well-being items are scored in the reverse order 4−0. High scores on the EFQ indicate higher levels of distress and lower levels of well-being. The EFQ is unidimensional [44, 45]. The Cronbach's alpha for the EFQ in this study was 0.65. For more information on the EFQ, please visit https://youthinmind.info/EFQ/.

The SAS is a 10-item parent-report questionnaire about their children's social skills [46]Each item is scored on a five-point scale. The sum score of the items is converted to a T-score. The SAS load into a single factor [46]. High scores indicate better social skills. In this study, the Cronbach's alpha for the SAS was found to be 0.87. For more information about the SAS, please visit https://dawba.info/SAS/.

The duration of the waiting period (hereafter, waiting time) was measured as the days from referral to the first appointment.

Statistical analysis

Data were analysed using SPSS version 27. The outcome variables ΔSDQ–Parent, ΔSDQ–YP, ΔHoNOSCA, and ΔCGAS were calculated by subtracting the T1 (intake) score from the T2 (six-month follow-up) score. A series of hierarchal regression analyses were conducted to examine the ESQ scales of YP and parents as predictors of outcomes.

In regression models including ΔSDQ–Parent, ΔSDQ–YP, ΔHoNOSCA, and ΔCGAS as dependent variables, the predictors were entered in two steps. In step 1, the independent variables age, gender, SDQ–prosocial behaviour score, SAS score, waiting time, FSS score and EFQ score were entered. In step 2, the ESQ scale scores of GS, SWC, and SWE were entered in separate models.

In the regression models where the interaction between YP and parent ESQ scores was examined as a predictor of outcomes, the predictors were entered in three steps. The two first steps were the same as previously described. In step 3, the interaction terms parent GS × YP GS, parent SWC × YP SWC, and parent SWE × YP SWE were entered in separate regression models.

Results

The correlations between the clinical outcome and the specific ESQ scales are presented in Table 2. The associations between ΔYP–SDQ total and YP GS (r=.17, p<.01) and YP SWC (r=−.20, p<.01) were significant. The correlation between ΔParent–SDQ total and Parent SWC was significant (r=−.20, p<.01). None of the correlations between parent and YP ESQ subscale scores were significant, as shown in Table 3. The following significant correlations were observed between T1 intake values of the mental health measures and the ESQ factors: parent SDQ prosocial with parent GS (r=.13, p<.01), SWC (r=.12, p<.05), and SWE (r=.13, p<.01); FSS with parent GS (r=−.11, p<.05), and SWE (r=.12, p<.05); YP SDQ prosocial with YP GS (r=.14, p<.05), and YP SWC (r=.16, p<.05),

YP satisfaction as a predictor of outcome

The hierarchical regression models where GS (F (8, 222)=2.44, p=.2, R^2=0.08) and SWC scores (F (8, 222)=2.80, p<.00, R^2=0.09) predicted ΔYP–SDQ total were significant. In the models, GS and SWC scores predicted 4% and 5% of the variance, respectively. The model

Table 2 Correlations between outcome variables and user satisfaction

	Experience of Service Questionnaire					
	Parent GS	**Parent SWC**	**Parent SWE**	**Youth GS**	**Youth SWC**	**Youth SWE**
Outcome variables						
Δ Youth SDQ total	0.10	0.08	0.11	−0.17**	−0.20**	−0.04
Δ *Parent* SDQ total	−0.07	−0.12*	−0.07	−0.14	-14	−0.09
Δ *CGAS*	0.11	0.11*	0.07	-	-	-
Δ HoNOSCA total	0.04	< 0.00	0.10	-	-	-

*p<.05; ** p<.01 (two-tailed test); GS=General satisfaction; SWC=Satisfaction with care; SWE=Satisfaction with environment;

Table 3 Correlations between parent and youth user satisfaction

	Youth GS	**Youth SWC**	**Youth SWE**
Parent GS	0.05	0.08	−0.05
Parent SWC	0.05	0.08	−0.07
Parent SWE	0.06	0.07	0.02

GS=General satisfaction; SWC=Satisfaction with care; SWE=Satisfaction with environment

with SWE score (F (8,222)=1.33, p=.23) as a predictor was nonsignificant. See Table 4 for the results.

Parent satisfaction as a predictor of outcome

The results are presented in Table 5. The regression models where GS (F (8, 457)=2.17, p=.30, R^2=0.05) and SWC scores (F (8, 457)=2.86, p<.00, R^2=0.05) predicted ΔParent–SDQ total were significant. GS and SWC scores predicted only 1% of the variance each. The model with SWE score (F (8, 457) =,1.78, p=.08) as predictor was nonsignificant.

YP and parent satisfaction as a predictor of clinician-rated outcome

In the regression models with ΔCGAS as a dependent variable, entering the ESQ factors of GS (ΔR^2=0.01, p=.23), SWC (ΔR^2=0.01, p=.17), and SWE scores (ΔR^2<0.00, p=.55) in step 2 did not explain any additional variance. Entering GS (ΔR^2<0.00, p=.85), SWC (ΔR^2<0.0, p=.62), and SWE scores (ΔR^2=0.10, p=.13) in step 2 in the models with ΔHoNOSCA as the dependent variable yielded similar results.

Table 4 Hierarchal regression models with Δ Youth SDQ total as dependent variable

	GS in step 2.			**SWC in step 2.**			**SWE in step 2.**		
	R^2	ΔR^2	**β**	R^2	ΔR^2	**β**	R^2	ΔR^2	**β**
Step 1. Control variables	0.04	0.04		0.04	0.04		0.04	0.04	
Age			0.01			< 0.00			0.15
Gender [a]			0.11			0.11			0.11
Family stress [b]			-0.03			-0.03			-0.04
Parent mental health c			-0.03			-0.12			-0.09
Youth SDQ Prosocial skills			0.33			0.04			0.01
Social aptitude scale			0.13	.		0.13	.		0.12
Waiting time (days)			0.13			0.02			-<0.00
Step 2. The ESQ	0.08*	0.04**	-0.20**	0.09**	0.05**	-0.23**	0.05	< 0.00	-0.79

*p<.05; ** p<.01. All β-coefficients were taken from the last step in the regression models. GS=General satisfaction; SWC=Satisfaction with care; SWE=Satisfaction with environment;[a] *Boy = 1, girl = 2,*[b]= The Family Stress Scale;[c]= Everyday Feelings Questionnaire; SDQ=The Strengths and Difficulties Questionnaire

Table 5 Hierarchal regression models with Δ Parent SDQ total as dependent variable

	GS in step 2.			**SWC in step 2.**			**SWE in step 2.**		
	R^2	ΔR^2	**β**	R^2	ΔR^2	**β**	R^2	ΔR^2	**β**
Step 1. Control variables	0.03	0.03		0.03	0.03		0.03	0.03	
Age			-0.06			-0.06			-0.04
Gender [a]			0.02			0.02			0.04
Family stress [b]			-0.17			-0.17			-<0.00
Parent mental health c			-0.04			-0.04			-0.03
Parent SDQ Prosocial skills			0.13*			0.13			0.12
Social aptitude scale			0.05	.		0.05	.		0.04
Waiting time (days)			-0.04			-<0.00			-0.04
Step 2. The ESQ	0.04*	0.01*	-0.10*	0.05**	0.02**	-0.14**	0.03	. -<0.00	0.05

*p<.05; ** p<.01. All β-coefficients were taken from the last step in the regression models. GS=General satisfaction; SWC=Satisfaction with care; SWE=Satisfaction with environment;[a] *Boy = 1, girl = 2,*[b]= The Family Stress Scale;[c]= Everyday Feelings Questionnaire; SDQ=The Strengths and Difficulties Questionnair

Interaction between YP and parent satisfaction as a predictor of outcome

Table 6 presents results from the hierarchical regression models with the interactions between the YP and parent satisfaction as predictors of ΔYP–SDQ total. In the models with ΔYP–SDQ total as the outcome measure, the GS YP × parent interaction (F (10, 150) = 3.76, p<.00, R^2=0.20) explained 6% (β=1.91, p<.00) of the variance. The model including the SWC YP × parent interaction (F (10, 150) = 3.66, p<.00, R^2=0.20) in step 3 was also significant. The SWE YP × parent interaction explained an additional 4% (β=1.27, p=.01) of the variance. In the model with SWE score as the predictor, entering the parent or YP SWE separately (ΔR^2=0.01, p=.67; step 2) or jointly (as an interaction term; ΔR^2=0.01, p=.12; step 3) did not explain any additional variance in the model.

To assist with the interpretation of the interaction, ΔYP–SDQ total and GS scores were plotted in Fig. 1. The sample was divided into high and low scores based on the median. High scores in youth and parent GS predicted the best outcome, while the combination of high parent GS and low youth GS predicted the worst outcome. The plot of SWC scores exhibited a similar pattern.

In the hierarchal regression models with ΔParent–SDQ total as the dependent variable, including the YP × parent interaction of GS (F (10, 150) = 1.45, p=.04; ΔR^2=0.02, p=.09), SWC (F (10, 150) = 2.04, p=.03; ΔR^2=0.02, p=.08), or SWE scores (F (10, 150) = 1.45, p=.16; ΔR^2<0.00, p=.86) did not explain any additional variance in the model.

Discussion

Tracking patient experiences via user satisfaction measures is essential for understanding children and young people's opinions on care, but it hasn't been widely adopted despite decades of advocacy [1–3]. User satisfaction, especially within CAMHS, is intricate, with research showing discrepancies between feedback from YP and parents [16–22]. Research on the connection between user satisfaction and clinical outcomes remains sparse [1, 9]. This study explored the associations between different dimensions of YP- and parent-reported user satisfaction and clinical outcomes as well as the interactions between YP and parent user satisfaction as predictors of outcomes. Routinely collected clinical data from CAMHS were analysed. The results showed that both YP- and parent-reported GS and SWC predicted outcomes. The YP and parent interaction of GS × SWC predicted YP-reported outcomes, while the association with the parent-reported outcome was nonsignificant. Similar to most studies [16–22], we found no significant correlations between user satisfaction reported by YP and parents.

Table 6 Interaction between parent- and youth satisfaction measures in hierarchal regression models with Δ Youth SDQ total as dependent variable

	GS in step 2. and 3.			SWC in step 2. and 3.			SWE in step 2. and 3.		
	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β
Step 1. Control variables	0.11*	0.11*		0.11*	0.11*		0.11*	0.11*	
Age			-0.14			-0.15			-0.9
Gender [a]			0.54**			0.26**			0.23**
Family stress [b]			-0.01			-0.03			-0.03
Parent mental health c			-0.20*			-0.18*			-0.13
Youth SDQ Prosocial skills			-0.08			-0.07			-0.07
Social aptitude scale			0.19*			0.20*			0.14
Waiting time (days)			0.02			0.02			-0.02
Step 2. The ESQ	0.15**	0.04*		0.16**	0.06**		0.11*	0.01	
Youth			-1.51**			-1.13**			-0.48
Parent			-1.31**			-0.82*			-043
Step 3. Interaction	0.20**	0.06**		0.20**	0.04*		0.12*	0.01	
Youth x Parent			1.91**			1.27*			0.66

*p<.05; ** p<.01. All β-coefficients were taken from the last step in the regression models, GS = General satisfaction; SWC = Satisfaction with care; SWE = Satisfaction with environment; [a]Boy = 1, girl = 2; [b] = The Family Stress Scale; [c] = Everyday Feelings Questionnaire; SDQ = The Strengths and Difficulties Questionnaire

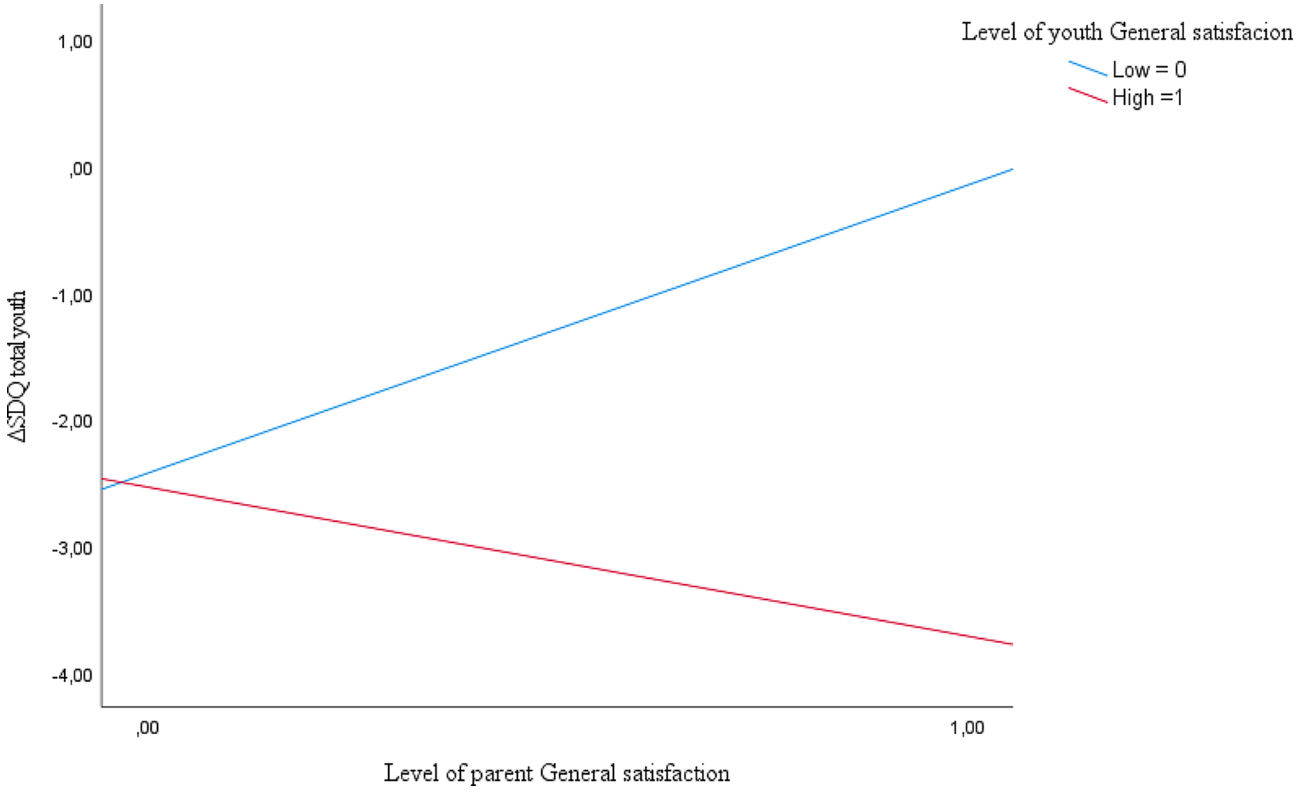

Fig. 1 Plot of the interaction between parent- and youth General satisfaction as predictor of Δ Youth SDQ total

For YP, user satisfaction explained 5% of the variance in outcome. For parents, user satisfaction explained 2% of the variance in parent-reported outcomes. In the model including an interaction term of YP GS × parent GS, satisfaction explained 10% of the variance in the YP-reported outcome. Compared to other factors that predict outcomes, such as therapeutic alliance (7%; [47] and psychotherapeutic treatment (13%; [48], this represents a substantial effect. The interaction indicates that low concordance between YP and parent satisfaction was associated with worse YP-reported outcomes. The results emphasize that in a clinical context, dedicating time and effort to improving YP satisfaction with service could be important for their outcomes. Furthermore, the results also suggest that user satisfaction could have a different impact on YP- and parent-reported outcomes.

None of the models with SWE as a predictor of outcomes were significant. This factor comprises items measuring structural and organizational conditions at the service level. The participants in this study were recruited from the same service with common routines. They received mental health services with equivalent service. The participants' perception of the structural and organizational conditions was the only known factor that could induce variance in SWE. This could have resulted in variation too low to detect any significant associations. SWE is a construct that may be more suitable for between-service comparison than within-service analyses.

In CAMHS, the family unit is often conceptualized as the "patient," emphasizing the interconnectedness of individual and familial experiences in therapeutic contexts. Within this framework, the concordance between parent- and YP-reported satisfaction becomes especially salient. This alignment can be viewed as an extension of the therapeutic alliance, a factor presumed to be associated with positive treatment outcomes [49]. The therapeutic alliance [50], characterized by a shared understanding of therapeutic goals, agreement on the tasks that constitute therapy, and an emotional connection between the therapist and the family members, may influence the concordance of satisfaction levels between parents and young people. When both parties share similar perceptions and evaluations of the therapeutic process, it may indicate a unified understanding of the therapeutic goals and outcomes within the family. Conversely, discrepancies in satisfaction might hint not only at challenges within the therapeutic relationship but also at potential tensions within the family unit. Recognizing and addressing these discrepancies is pivotal for clinicians as they aim to strengthen the therapeutic alliance and ensure that interventions resonate with the entire family, thereby enhancing the overall efficacy of care in CAMHS.

Study limitations

The main limitation of this study is that user satisfaction and outcome were measured at the same timepoint. This makes it difficult to determine the causality of relationships between the variables. This concurrent measurement raises questions about bidirectionality: could clinical outcomes or psychopathology levels influence user satisfaction just as satisfaction might impact outcomes? It is possible that better clinical outcomes—indicative of reduced psychopathology—can enhance satisfaction with the services. In the Donabedian model for examining the quality of health care, the categories "structure," "process," and "outcomes" are used to operationalize dimensions of quality [51]. In this framework, satisfaction with care represents a process factor yielding information about how health care is delivered, while satisfaction with the environment is a structure factor reflecting the context of health care. In the Donabedian model, it is assumed that structure and process variables facilitate outcomes. The purpose of satisfaction surveys is to capture how the patients and their caregivers perceived mental health care. Methodologically, it is challenging to examine the causality of relationships between satisfaction and outcome with a longitudinal design. However, an RCT in which the intervention group receives an intervention designed to increase user satisfaction could be used to analyse the causal relationship. Alternatively, as in this study, a regression analysis controlling for factors that may influence changes in symptom levels may be conducted.

Another limitation of this study relates to the suboptimal Cronbach's alpha values observed for some of the measures, with good internal consistency typically represented by a value of >0.70 [52]. Notably, the HoNOSCA, which was used as a dependent variable, had a Cronbach's alpha of 0.50. A low value for a dependent variable like HoNOSCA could introduce variability not linked to the predictors, potentially compromising the reliability of the regression outcomes. Additionally, the predictors ESQ factor SWE (0.61), EFQ (0.65) and FSS (0.63) also demonstrated suboptimal internal consistency. In the context of regression analysis, predictors with low internal consistency can introduce noise into the data, potentially weakening the observed relationships and leading to underestimated regression coefficients.

Recommendations for future research

Our study lacked detailed data on specific types of care, such as medication use or modality of psychological therapy, underscoring the need for future research. The nature of treatment can significantly influence both clinical outcomes and user satisfaction, so exploring how different treatments affect these aspects is important. Understanding such correlations would not only elucidate the dynamics of patient satisfaction but also provide insights to healthcare providers to better tailor interventions. Given the potential variability in satisfaction with treatments, particularly in relation to perceived efficacy, side effects, or patient preferences, it would be relevant future studies to include assessment of treatment modalities to ensure the ongoing optimization of care within CAMHS.

Conclusion

The findings indicate that for YP, user satisfaction predicts outcomes and that disagreement between YP and parents regarding user satisfaction may have a negative effect on outcomes. There was a negligible correlation between YP- and parent-reported satisfaction factors. The results highlight the importance of collecting both parent and YP data for user satisfaction surveys. Indeed, assuming that parent or YP data can be used as a proxy measure for each other may yield misleading results.

Even if the association between user satisfaction and outcome varies, user satisfaction measures represent an important measurement in their own right. The use of such measures can help to identify gaps in service provision, ensure that services are user centred, and facilitate engagement with mental health services. The use and sharing of user satisfaction may demonstrate an organization's desire for transparency and engagement in quality improvement. For stakeholders and the public, who fund mental health services by taxes or insurance premiums, user satisfaction may be a central dimension of quality. Together with other quality measures, user satisfaction represents an important aspect of a user-centred service that aspires to meet the needs and preferences of the patients and their families.

Abbreviations

CAMHS	child and adolescent mental health services
ESQ	Experience of Service Questionnaire
GS	General satisfaction
SWC	satisfaction with care
SWE	satisfaction with environment
SDQ	Strengths and Difficulties Questionnaire
CGAS	Children's Global Assessment Scale
HoNOSCA	Health of the Nation Outcome Scales for Children and Adolescents
YP	Young people
UNN	University Hospital of North Norway
CORC	Child Outcome Research Consortium
DAWBA	Development and Well-being Assessment
ROM	Routine outcome measures
ICC	Interclass correlation
FSS	The Family Stress Scale
EFQ	The Everyday Feeling Questionnaire
SAS	The Social Aptitudes Scale

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Author contributions
BM and YA designed the study. BM was responsible for conducting the analysis. Both authors contributed to data interpretation and drafted the manuscript.

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Data availability
The data that support the findings of this study are available from the corresponding author (Børge Mathiassen, borge.mathiassen@unn.no) but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the corresponding author upon reasonable request and with permission of the data protection officer at the University hospital of North-Norway.

Declarations

Ethics approval and consent to participate
In this study, informed consent was not required due to the utilization of health register data. The study protocol received approval from the data protection officer at the University Hospital of North-Norway, who represents the Norwegian data protection authority (www.datatilsynet.no/en/) within the hospital trust. The data used in the study were originally collected during routine quality assurance procedures at the clinic. Given the nature of this data collection, the data protection officer, who has the legal competence to waive the need for informed consent, deemed written consent unnecessary. According to Norwegian health laws, a data protection officer has the equivalent function of an ethics committee/institutional review board. For contact information to the data protection officer at the University Hospital of North Norway, please refer to this link: https://unn.no/fag-og-forskning/forskning/personvernombud.
Moreover, stringent secure storage protocols were followed, and the data from the quality registry were anonymized before being used in this study. All methods employed in this study strictly adhered to relevant guidelines and regulations and were performed in accordance with the Declaration of Helsinki.
In the context of publication consent, this study did not require informed consent as it utilized health register data. The study received approval from the local data protection officer at the University Hospital of North-Norway, who represents the Norwegian data protection authority within the hospital trust, specifically for publication purposes. The data utilized in the study were originally collected during routine quality assurance procedures at the clinic. Given the nature of this data collection, written consent for publication was deemed unnecessary by the data protection officer, who holds the authority to make such decisions in accordance with ethical guidelines and legal requirements.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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Publisher's Note

Appendix

The Data Processor Agreement
between

The University Hospital of North Norway
(Data Controller)

and

University College London (UCL) and the Anna Freud National Centre for Children and Families (AFNCCF)
(Data Processor)

***

1. The basis, purpose and area of application of the agreement

Basis for the agreement:

- ACT no. 31 of 14/04/2000: Law on the processing of personal data (the Personal Data Act)
- ACT no. 43 of 20/06/2014: Law on health registers and processing of health information (the Health Register Act)
- FOR 2000-12-15-1265: Regulations on the processing of personal data (Personal Data Regulations)

The purpose of the agreement:
The purpose of the agreement is to describe management and authority relations vis-à-vis other businesses that process health information and personal information on behalf of the Data Controller. Data Processors will not process health information and personal information in any other way than that which is agreed in writing with the Data Controller. The information will also not without such an agreement be transferred to any other party for storage or processing.

The area of application of the agreement:

- Processing of personal information in accordance with this agreement means any use of personal information, for example collection, registration, comparison, storage, supply or a combination thereof.
- For other relations linked to the Data Processor's operation of ICT equipment/systems please refer to separate operation or other commercial agreements, including ambulatory agreement.
- The Data Processor Agreement takes precedence over other agreements between the parties on issues related to the processing of health information and personal information pertaining to the processing of Personal information comprised by this Agreement, as further set out in Appendix 1 hereto.

2. Management and authority relations

2.1. The Data Processor's responsibility and obligations

- The Data Processor will be obligated to fulfil the requirements in the Personal Data Act and the Health Register Act.
- The Data Processor will only process personal information as shown by the individual commercial agreements with the Data Controller. Enclosure 1 shows the agreements that are covered by this agreement.
- The Data Processor will be subject to mandatory confidentiality and will impose confidentiality on colleagues.
- The Data Processor undertakes to ensure that all people in the business who have access to the information that is processed on behalf of the Data Controller are familiar with this agreement and subject to the terms of the agreement.
- The Data Processor will not in the event of any act or neglect place the Data Controller in a situation such that the latter breaks any rule in or pursuant to the Personal Data Act.
  The Data Processor undertakes to inform the Data Controller if changes are made to the security strategy that may affect the requirements in this agreement or in other commercial agreement between the parties.
- The Data Processor is familiar with the fact that the Data Controller undertakes to ensure that his Data Processors satisfy legal requirements that are linked to the processing of the information. The Data Processor will at any one time provide the necessary access to and insight into the data that is processed, and the business' internal audit system, subject to prior written notification set out in Section 2.2. The Data Processor undertakes to provide the Data Controller with other information and practical assistance for as long as this is necessary for the Data Controller to gain the necessary insight.
- The Data Processor may use Subcontractors. If this is the case, this must become evident in the agreement between Data Processor and *the Data Controller.* The Subcontractors must comply with the security requirements that apply for the *Data Processor.* The same requirements that apply to *Data Processor* apply to Subcontractors
- If a third party is engaged, the Data Processor will be responsible for the work being implemented in the same way as if he himself were implementing it.

2.2. The Data Controller's responsibility and obligations

- The Data Controller undertakes to satisfy the requirements in the personal Data Act and the Health Register Act.
- The Data Controller undertakes to inform the Data Processor of the Data Controller's security policy, guidelines and any specific requirements that are defined in relation to the processing of health information and personal information. The applicable steering documents are enclosed with this agreement.
- The Data Controller undertakes to inform the Data Processor if changes are made to the security strategy that may affect the requirements in this agreement or in other commercial agreements between the parties.

- The Data Controller undertakes to be aware of the security strategy of his Data Processors, and will regularly ensure that the strategy provides adequate information security. In order to satisfy this obligation, the Data Controller may implement security audits on the Data Processor. The audits will be able to include the examination of documents, interviews and verifications. The Data Processor will be informed in writing at the latest one week before the start of the audits.

3. Confidentiality

Each Party will safeguard confidentiality regarding all confidential information, including any Personal Information, Security and Business information that may harm the other party or that may be used by third parties in business which they have access to in accordance with this agreement.

The confidentiality obligation applies to the parties' employees and others who act on behalf of the parties in connection with implementing the contract. All employees shall sign a declaration of confidentiality. The parties undertake to take the precautions that are necessary to ensure that material or information does not become known to others in contravention of this Section 3.

This Section 3 also applies after the contract has ceased. Employees and others who leave their positions with one of the parties will also be subject to confidentiality after leaving their positions as mentioned above.

4. The duration of the agreement

The agreement will be renewed automatically for as long as the commercial agreements in accordance with enclosure 1 are valid between the Data Controller and the Data Processor. The parties are mutually entitled to cancel the agreement by giving 3 – tree – months' notice. Cancellation of the Data Processor Agreement means simultaneous cancellation of all commercial agreements in enclosure 1 linked to the processing of health information and personal information.

If this agreement ceases, the Data Processor undertakes to immediately return all material that she/he has processed as Data Processor for the Data Controller. The Data Processor undertakes to provide the Data Controller with a copy of all stored material in the capacity of Data Processor for the Data Controller free of charge on a suitable/agreed medium (tape, diskette, CD, paper, etc.). The Data Processor shall not retain a copy, transcript or another reproduction of the material in any form on any medium.

The General Manager or the steering leader at the Data Processor's undertakes to send a written, signed and dated confirmation within 30 days of the cessation of the agreement stating that all material has been handed to the Data Controller, and that the Data Processor has not kept a copy, transcript or another reproduction of any part of the material on any medium.

Irrespective of when and how this agreement ceases between the parties, the Data Processor will continue to be bound by the confidentiality terms in point 3, and the conflict of laws and the legal venue terms will continue to apply between the parties.

5. Infringement

If the Data Controller becomes aware that the Data Processor is not processing the health information and person information as described in this agreement, or in contravention of requirements in the Personal Data Act or the Health Register Act, the Data Controller may order the closure of non-conformities. The Data Controller shall notify the Data Processor in writing with undue delay, if the Data Controller becomes aware that the Data processor is not processing the information in accordance with this agreement. The Data Manager shall at the same time describe why, and what information it concerns.

In the event of serious breach, the Data Controller may order the Data Processor to stop any further processing of the information with immediate effect (within 24 hours). The Data Processor will in such cases no later than 5 – five – working days produce a binding work schedule for the Data Controller in which necessary security measures are described.

6. Messages

All messages given in accordance with this agreement will be in writing. The sender undertakes to assess whether or not the message is of such a type that it must be exempt from publication.
Messages will be addressed as follows:

The Data Processor	**The University Hospital of North Norway** Tromsø
Contact person: Information Security Manager	Contact person: **Per Bruvold** Information Security Manager

7. Other

This agreement is based on de-identified data, and to be able to identify the data separately, the Data Controller will be in possession of the identifier. The Data Controller will also be the owner of the identifier.

8. Enclosure

This agreement has 1 enclosure: Overview of commercial agreements covered by this Data Processor Agreement.

9. Conflict of laws and legal venue

This agreement is subject to Norwegian law.
The parties agree to Nord-Troms District Court at the legal venue.

10. Signature and becoming valid

This agreement has been signed in duplicate (2 originals), one for each of the parties.

This agreement will become valid as of:.....

Data Processor

Date: 2.11.17

Sign.:

The University Hospital of North Norway

Date: 25.10.17

Sign.:

Tor Ingebrigtsen
CEO

Universitetssykehuset Nord-Norge HF
Direktøren
Boks 100
9038 TROMSØ

Enclosure 1: Overview of commercial agreements covered by this Data Processor Agreement.

Date	Event	Manager	Sign
	The agreement is signed	CEO, UNN HF	
	The agreement is signed		

No	Agreement	Valid from	Valid to	Contact/Archive

UNIVERSITETSSYKEHUSET NORD-NORGE
DAVVI-NORGGA UNIVERSITEHTABUOHCCEVIESSU

PERSONVERNOMBUD

Børge Mathiassen
Barne- og ungdomspsykiatrisk avdeling
9038 Tromsø

Deres ref.:	Vår ref.:	Saksbehandler/dir.tlf.:	Dato:
	2014/2237	Per Norleif Bruvold, 77755855	09.05.2014

ANBEFALING AV BEHANDLING AV PERSONOPPLYSNINGER

Viser til melding om behandling av personopplysninger, mottatt 12.03.2014.
Meldingen gjelder prosjektet/registeret:

Prosjekt nr: 0410
Systematisk måling av kvalitet og brukerfornøydhet ved BUP Tromsø.

Formål: Ved BUP Tromsø utredes alle pasienter samme utredningsverktøy i forbindelse med oppstart av behandling. For å vurdere hvorvidt behandlingen har hatt ønsket effekt og om pasientene er fornøyd med tilbudet er det rutine at pasientene og behandler 6 måneder etter oppstart av behandling skal fylle ut noen spørreskjema. Det er ikke mulig å lagre eller registrere disse dataene på en systematisk måte i DIPS.

Prosjektet er en kvalitetsstudie hvor Universitetssykehuset Nord-Norge HF er behandlingsansvarlig.

Prosjekter innenfor medisinsk og helsefaglig forskning igangsatt etter 01.07.2009 skal forhåndgodkjennes av REK. REK godkjenner også fritak fra taushetsplikten samt opprettelse av biobank i henhold til den nye Helseforskningsloven. Personvernombudets (PVO) rolle er å ha oversikt over forskningsprosjekter samt se til at informasjonssikkerheten og personvernet blir ivaretatt. Helselovgivningen stiller krav til samtykke også for kvalitetsstudier, men dette kan fravikes etter gitte kriterier. PVO vil fremdeles godkjenne behandlings- og kvalitetsregistre.

PVO har vurdert prosjektet, og finner at behandlingen av personopplysningene vil være regulert av § 7-26 i Personopplysningsforskriften og hjemlet etter Helsepersonelloven § 26, j.fr Personopplysningsloven § 33, 4. avsnitt. Kvalitetsstudier skal fortrinnsvis innhente samtykke fra den registrerte, men kan fravikes når tungtveiende grunner vanskeliggjør/ikke er tilrådelig for en slik innhenting. PVO registrerer at det ikke innhentes samtykke, men forutsetter at pasienter gis informasjon i forbindelse med registrering i spørreskjemaet. I denne informasjonen må det fremkomme at registreringen er frivillig og at en reservasjon ikke vil påvirke behandlingen som gis. Med det som bakgrunn er ikke nødvendig å innhente samtykke fra pasientene og godkjennelse fra REK er heller ikke nødvendig.

PVOs anbefaling forutsetter at prosjektet gjennomføres i tråd med de opplysningene som er gitt i selve meldingen, i øvrig korrespondanse og samtaler samt i henhold til Personopplysningsloven og Helseregisterloven med forskrifter. Videre forutsettes det at data anonymiseres etter prosjektavslutning ved at kodelista slettes, jfr. Pkt 8.6 i meldeskjemaet samt at tilgang til kodelista tillegges prosjektleder.
Det er opprettet et eget område (mappe) på \\asterix7\fellcs.avd\forskning (o:\) med navn **0410** hvor all data i forbindelse med prosjektet skal lagres. Tilgang til dette området er begrenset til kun prosjektleder og den som prosjektleder definerer.
I tillegg er det opprettet et område på \\asterix7\felles.avd\forskning\key med navn **0410N** hvor nøkkelfil skal oppbevares og som bare prosjektleder og Per Håkan Brøndbo har tilgang til.
PVO vil også kunne få tilgang til området, jfr pkt. 8.5 i meldeskjema.
PVO registrerer at det ikke er angitt en sluttdato for dette registeret, men forutsetter at sluttdato settes til 31.12.2028.

Det gjøres oppmerksom på at det skal gis ny melding (remelding) dersom registeret ikke er slettet eller ikke ferdig innen 3 år og som ligger til grunn for PVOs anbefaling.

PVO gjør oppmerksom på at dersom registeret skal brukes til annet formål enn det som er nevnt i meldingen må det meldes særskilt i hvert enkelt tilfelle.

PVO ber om tilbakemelding når registret er slettet.

Med hjemmel etter Personopplysningslovens forskrift § 7-12 godkjenner PVO at behandlingen av personopplysningene kan settes i gang med de endringer som er nevnt i dette skriv.

Med vennlig hilsen

UNIVERSITETSSYKEHUSET NORD-NORGE HF

Per Bruvold
Sikkerhetssjef IKT/Personvernombud

Kopi: Klinikksjef Elin Gullhav
Per Håkan Brøndbo

SPØRRESKJEMA OM ERFARINGER MED PSYKISK HELSEVERN
(EXPERIENCE OF SERVICE QUESTIONNAIRE)

Ungdom

Vennligst tenk på timene du, eller familien din har hatt ved tjenesten.

For hvert spørsmål, vennligst sett kryss i den boksen som best beskriver hva du tenker eller føler om tilbudet du/ dere har hatt.

	Stemmer helt	Stemmer delvis	Stemmer ikke	Vet ikke	
Jeg syntes at de ansatte jeg møtte lyttet til meg	❑	❑	❑	?	1
Det var lett å snakke med de jeg møtte	❑	❑	❑	?	2
Jeg ble godt behandlet av de jeg møtte	❑	❑	❑	?	3
Mine synspunkter og bekymringer ble tatt på alvor	❑	❑	❑	?	4
Jeg føler de jeg har møtt her vet hvordan de kan hjelpe meg	❑	❑	❑	?	5
Jeg har fått tilstrekkelig forklaring om hjelpen jeg kan få her	❑	❑	❑	?	6
Jeg tror de jeg har møtt samarbeider om å hjelpe meg	❑	❑	❑	?	7
Lokalene her er hyggelige (for eksempel der jeg ventet)	❑	❑	❑	?	8
Mine avtaler er vanligvis på en tid som passer meg (skaper ikke problemer for meg på skolen/ jobb, eller fritid)	❑	❑	❑	?	9
Det går ganske greit å komme seg til avtaler her	❑	❑	❑	?	10
Hvis en venn hadde lignende problemer ville jeg anbefalt de å komme hit	❑	❑	❑	?	11
Samlet synes jeg hjelpen jeg har fått her er god	❑	❑	❑	?	12

VENNLIGST SNU ARKET...

Hva var spesielt bra ved tilbudet ditt?

Var det noe du ikke likte, eller som bør forbedres?

Er det noe annet du vil fortelle oss om tilbudet du fikk?

Hvis du ikke ønsker å svare på dette skjemaet så kryss av her ☐ og lever inn skjemaet.

Hvor gammel er du? _____ Er du: ☐ Jente ☐ Gutt

TUSEN TAKK FOR HJELPEN!

Plass til pasient-identifikasjons etikett

EXPERIENCE OF SERVICE QUESTIONNAIRE (ESQ), NORSK VERSJON

Spørreskjema om erfaringer med psykisk helsevern

Foreldre/ pårørende

Vennligst tenk på timene du, barnet ditt/ eller familien din har hatt ved tjenesten.

For hvert spørsmål, vennligst hak av i den boksen som best beskriver hva du tenker eller føler om tilbudet du/ dere har hatt (for eksempel

	Stemmer helt	Stemmer delvis	Stemmer ikke	Vet ikke	
Jeg syns de ansatte som skal hjelpe mitt barn lyttet til meg	❑	❑	❑	?	1
Det var lett å snakke med de som skal hjelpe mitt barn	❑	❑	❑	?	2
Jeg ble behandlet godt av de som skal hjelpe mitt barn	❑	❑	❑	?	3
Mine synspunkter og bekymringer ble tatt på alvor	❑	❑	❑	?	4
Jeg føler de jeg har møtt her vet hvordan de kan hjelpe med problemene jeg kom med	❑	❑	❑	?	5
Jeg har fått tilstrekkelig forklaring om hjelpen de kan tilby her	❑	❑	❑	?	6
Jeg føler at at de som skal hjelpe mitt barn samarbeider om å hjelpe oss	❑	❑	❑	?	7
Lokalene her er hyggelige (for eksempel der jeg ventet)	❑	❑	❑	?	8
Mine avtaler er vanligvis på en tid som passer meg (skaper ikke problemer for meg på skolen eller jobben)	❑	❑	❑	?	9
Det går ganske greit å komme seg til avtaler her	❑	❑	❑	?	10
Hvis en venn hadde lignende problemer ville jeg anbefalt de å komme hit	❑	❑	❑	?	11
Samlet synes jeg hjelpen jeg har fått her er god	❑	❑	❑	?	12

VENNLIGST SNU ARKET...

Hva var spesielt bra ved tilbudet dere fikk?

Var det noe du ikke likte, eller som bør forbedres?

Er det noe annet du vil fortelle oss om tilbudet du fikk?

Hvis du ikke ønsker å svare på dette skjemaet så kryss av her ☐ og lever inn skjemaet.

Barnets alder: _____ Barnets kjønn: Jente

Gutt

TUSEN TAKK FOR HJELPEN!

Plass til pasient-identifikasjons etikett

EXPERIENCE OF SERVICE QUESTIONNAIRE

Day services (12-18)

Please think about the appointments you have had at this service or clinic.

For each item, please tick the box that best describes what **you** think or feel (e.g. ☑)

	Certainly True	Partly True	Not True	Don't know	
I feel that the people who saw me listened to me	❑	❑	❑	?	1
It was easy to talk to the people who saw me	❑	❑	❑	?	2
I was treated well by the people who saw me	❑	❑	❑	?	3
My views and worries were taken seriously	❑	❑	❑	?	4
I feel the people here know how to help me	❑	❑	❑	?	5
I have been given enough explanation about the help available here	❑	❑	❑	?	6
I feel that the people who have seen me are working together to help me	❑	❑	❑	?	7
The facilities here are comfortable (e.g. waiting area)	❑	❑	❑	?	8
My appointments are usually at a convenient time (e.g. don't interfere with school, clubs, college, work)	❑	❑	❑	?	9
It is quite easy to get to the place where I have my appointments	❑	❑	❑	?	10
If a friend needed this sort of help, I would suggest to them to come here	❑	❑	❑	?	11
Overall, the help I have received here is good	❑	❑	❑	?	12

PLEASE TURN OVER...

What was really good about your care? 13

Was there anything you didn't like or anything that needs improving? 14

Is there anything else you want to tell us about the service you received? 15

If you don't want to take part, please tick this box ❑ and return the blank questionnaire in the envelope provided.

THANK YOU FOR YOUR HELP

Now place this form in the envelope provided and put it in the box marked CHI in the reception

For administration purposes

Trust: _____

Service: _____ Code: _____

Tier: _____ DB No: _____

EXPERIENCE OF SERVICE QUESTIONNAIRE

Day services (Parent or Carer)

Please think about the appointments you, your child and/or your family have had at this service or clinic.

For each item, please tick the box that best describes what you think or feel about the service (e.g. ☑).

	Certainly True	Partly True	Not True	Don't know	
I feel that the people who have seen my child listened to me	❑	❑	❑	?	1
It was easy to talk to the people who have seen my child	❑	❑	❑	?	2
I was treated well by the people who have seen my child	❑	❑	❑	?	3
My views and worries were taken seriously	❑	❑	❑	?	4
I feel the people here know how to help with the problem I came for	❑	❑	❑	?	5
I have been given enough explanation about the help available here	❑	❑	❑	?	6
I feel that the people who have seen my child are working together to help with the problem(s)	❑	❑	❑	?	7
The facilities here are comfortable (e.g. waiting area)	❑	❑	❑	?	8
The appointments are usually at a convenient time (e.g. don't interfere with work, school)	❑	❑	❑	?	9
It is quite easy to get to the place where the appointments are	❑	❑	❑	?	10
If a friend needed similar help, I would recommend that he or she come here	❑	❑	❑	?	11
Overall, the help I have received here is good	❑	❑	❑	?	12

PLEASE TURN OVER...

What was really good about your care? 13

Was there anything you didn't like or anything that needs improving? 14

Is there anything else you want to tell us about the service you received? 15

If you don't want to take part, please tick this box ❑ and return the blank questionnaire in the envelope provided.

THANK YOU FOR YOUR HELP

Now place this form in the envelope provided and put it in the box marked CHI in the reception

For administration purposes

Trust: _____

Service: _____ Code: _____

Tier: _____ DB No: _____