UNIVERSIDADE FEDERAL DE SANTA MARIA CENTRO DE CIÊNCIAS DA SAÚDE PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS ODONTOLÓGICAS

Thaís Gioda Noronha

EFEITO MODERADOR DO SENSO DE COERÊNCIA NA RELAÇÃO ENTRE PERCEPÇÃO DE DISCRIMINAÇÃO RACIAL E QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL DE ESCOLARES

Thais Gioda Noronha

EFEITO MODERADOR DO SENSO DE COERÊNCIA NA RELAÇÃO ENTRE PERCEPÇÃO DE DISCRIMINAÇÃO RACIAL E QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL DE ESCOLARES

Dissertação apresentada ao Curso de Mestrado do Programa de Pós-Graduação em Ciências Odontológicas, Área de Concentração em Odontologia, ênfase em Odontopediatria, da Universidade Federal de Santa Maria (UFSM, RS), para a obtenção do grau de **Mestre em Ciências Odontológicas.**

Orientadora: Prof^{*}. Dr^{*}. Fernanda Tomazoni Co-orientador: Prof. Dr. Thiago Machado Ardenghi

Thais Gioda Noronha

EFEITO MODERADOR DO SENSO DE COERÊNCIA NA RELAÇÃO ENTRE PERCEPÇÃO DE DISCRIMINAÇÃO RACIAL E QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL DE ESCOLARES

Dissertação apresentada ao Curso de Mestrado do Programa de Pós-Graduação em Ciências Odontológicas, Área de Concentração em Odontologia, ênfase em Odontopediatria, da Universidade Federal de Santa Maria (UFSM, RS), para a obtenção do grau de Mestre em Ciências Odontológicas.

Aprovado em 30 de julho de 2021:

Fernanda Tomazoni, Dra, UFSM

(Presidente/Orientadora)

Marília Leão Goettems, Dra. (UFPel)

Marilia Desto goetteins

Jessye Melgarejo do Amaral Giordani, Dr. (UFSM)

Santa Maria, RS 2021

DEDICATÓRIA Dedico este trabalho a toda minha família, especialmente aos meus pais Marcelo e Alyne, por todo o incentivo e amor em todos os dias da minha vida.

AGRADECIMENTOS

Aos meus pais, **Marcelo** e **Alyne**, por acreditarem no meu sonho e por viverem ele comigo. Vocês são minha maior fonte de inspiração, de cuidado, de amparo e de carinho. Obrigada por todo amor dedicado a mim, em cada segundo dessa caminhada. É tudo por vocês.

Às minhas irmãs, **Marina** e **Luiza**, que me tornam uma pessoa melhor desde o dia que me transformaram em irmã mais velha. Por vocês eu sempre dou o meu melhor e com vocês quero sempre brindar todos os passos alcançados. Obrigada por todas as risadas e por permanecerem comigo tanto nos momentos de convicção quanto nos de incerteza.

Ao **Lennon**, que ilumina a minha vida de amor e tranquilidade. Obrigada por ser maré mansa em meus dias de tempestade, por teu abraço ser meu abrigo e por permanecer nos dias mais turbulentos, quando tive que conciliar mestrado, trabalho e especialização. Dividir a vida contigo é muito mais leve e mais fácil.

À minha orientadora, **Professora Fernanda Tomazoni**, pela oportunidade e confiança. Sou eternamente grata por ter dividido esse ciclo de intenso aprendizado contigo. Obrigada por toda a paciência em meio a tantas mensagens fora de horário, áudios preocupados e dúvidas infindáveis. Obrigada por me ajudar a crescer e crescer comigo.

Ao meu coorientador, **Professor Thiago Ardenghi**, por me receber na UFSM de braços abertos. Obrigada por todas as aulas, ensinamentos e puxões de orelha. É um prazer gigantesco ter sido tua aluna. Difícil expressar minha admiração pela pessoa e profissional que és.

Aos professores Marilia Goettems, Jessye Giordani e Luiz Alexandre Chisini, por dedicarem seu tempo para contribuir com esse trabalho. Ao professor Jessye, obrigada por aceitar contribuir e participar desse momento tão importante da minha vida. Aos professores Marília e Alexandre, obrigada mais uma vez por fazerem parte da minha caminhada profissional. É indescritível o orgulho de ter vocês novamente contribuindo com o meu crescimento.

À doutoranda, **Jéssica Knorst**, por toda a amizade desde que cheguei na UFSM e por contribuir tanto com meu crescimento como pessoa e profissional. Dividir esses dois anos contigo foi um privilégio tão grande que não consigo encontrar palavras para te agradecer. Te manteve incansável, disponível e presente. Obrigada por tanto.

Ao mestrando **Leonardo Godois**, minha dupla de mestrado, pela amizade que construímos e por todos os medos, anseios e conquistas que compartilhamos nesses dois anos. Foi um privilégio te conhecer e dividir esse ciclo contigo. Obrigada por me ajudar a trilhar esse caminho.

Ao grupo **EpiOdonto UFSM**, por terem compartilhado tantos momentos maravilhosos comigo nesses dois anos. Obrigada por terem me mostrado que juntos somos muito mais fortes e crescemos muito mais. Obrigada por toda persistência, comprometimento e amizade. Com toda a certeza, sem cada um de vocês nada disso seria possível. Um agradecimento especial às doutorandas **Yassmín Ramadan** e **Bruna Brondani**, por terem compartilhado dias bons e dias não tão bons comigo nesse período. Obrigada por toda a amizade e por terem sido abrigo sempre que precisei. Vocês foram incansáveis.

Ao professor **Bruno Emmanuelli**, que além de contribuir com o desenvolvimento desse trabalho, nos ensinou durante nossas tardes de seminário de uma forma leve, gentil e querida.

A todos os bolsistas de Iniciação Científica, em especial **a Nicole**, por toda a ajuda, parceria e disponibilidade durante a coleta de dados.

À Universidade Federal de Santa Maria (UFSM) pelo privilégio e oportunidade de estudo nesses dois anos de pós-graduação, em uma universidade pública e de qualidade.

Ao **Programa de Pós-Graduação em Ciências Odontológicas (PPGCO)**, especialmente aos docentes que tanto contribuíram com o meu crescimento profissional.

Aos Colegas da turma de Mestrado por toda a convivência e conhecimentos compartilhados.

À representante discente e mestranda **Luiza Brum**, que sanou todas as minhas dúvidas na finalização dessa dissertação, sempre com muita disposição e simpatia.

Aos **Professores e Funcionários da Disciplina de Odontopediatria da UFSM**, por todo acolhimento e ensinamentos transmitidos durante o ensino presencial, junto às clínicas de Graduação e Pós-graduação.

À Secretaria de Educação do Município de Santa Maria por permitirem que esse estudo aconteça, com todas as informações e autorizações.

Aos **diretores** e **professores das Escolas**, por serem prestativos e por toda a contribuição para que as coletas acontecessem.

Às crianças, aos adolescentes e aos pais e responsáveis por participarem de mais uma etapa da coleta de dados. Vocês permitem que esse estudo aconteça.

À Clínica CEDRO, em especial ao Cristian e à Vanessa, por compreenderem muitas vezes minha ausência no dia a dia e por todo o incentivo no meu crescimento e evolução profissional. Obrigada por acreditarem em mim.

Aos meus **avós**, **Jacira**, **Saul**, **Claudio** e **Cecília**, por serem minha maior torcida e por vibrarem em cada etapa vencida. Obrigada por todos os afagos e carinhos, não apenas nesses dois anos, mas desde que me conheço por gente.

A toda **minha família**, tios, tias e primos, por toda a força que me dão, por vibrarem por mim em todas as conquistas e por serem exemplo de empenho e dedicação em tudo que fazem.

Aos meus sogros, **Joana** e **André Luis**, por me ajudarem em muitos momentos, por me adotarem também como filha, por acreditarem no meu potencial e vibrarem em todas as pequenas e grandes conquistas.

Aos "amigos do mate", por terem compartilhado comigo a rotina das aulas presenciais, por terem sido ombro nas dificuldades da pós-graduação e por tornarem os momentos mais complicados muito mais leves.

A todos os meus **amigos**, em especial a **Larissa**, **Arthur**, **Ana Luiza** e **Thais** que alegram a minha vida e me dão ombro e apoio. Sem vocês, as conquistas com certeza não seriam tão comemoradas e os percalços seriam ainda mais difíceis.

A todas as pessoas que fazem parte da minha vida e contribuíram de alguma forma para que tudo isso acontecesse: Muito obrigada!

RESUMO

EFEITO MODERADOR DO SENSO DE COERÊNCIA NA RELAÇÃO ENTRE PERCEPÇÃO DE DISCRIMINAÇÃO RACIAL E QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL DE ESCOLARES

AUTORA: Thaís Gioda Noronha ORIENTADORA: Fernanda Tomazoni CO-ORIENTADOR: Thiago Machado Ardenghi

A discriminação racial pode atuar como um estressor psicossocial que fundamenta as desigualdades raciais em saúde bucal. A percepção de eventos discriminatórios pode começar na infância e refletir na adolescência e vida adulta e, através de diferentes privações sociais, pode influenciar na qualidade de vida dos indivíduos. A qualidade de vida relacionada à saúde bucal (QVRSB) se refere ao quanto as condições de saúde bucal interferem na vida cotidiana e no bem-estar das pessoas. Muitos estudos têm avaliado os determinantes clínicos, socioeconômicos, sociais e ambientais que possivelmente melhorariam a saúde bucal de indivíduos e populações e entre esses determinantes está o senso de coerência (SDC). O SDC é utilizado para explicar por que algumas pessoas continuam bem apesar das situações de estresse que enfrentam. Dessa forma, considerando que a discriminação racial envolve situações estressantes que impactam na percepção de saúde bucal, o objetivo desse estudo foi avaliar o efeito moderador do SDC na relação entre discriminação racial e QVRSB em escolares. Esse é um estudo transversal aninhado em uma coorte com 10 anos de acompanhamento. A QVRSB foi avaliada usando a versão brasileira reduzida do Child Perception Questionnaire (CPQ11-14). A percepção da discriminação racial foi avaliada por meio de uma questão contida no Questionário de Bullying de Olweus - Vítima e para medir o senso de coerência, os alunos responderam à versão reduzida da Escala de Senso de Coerência de 13 itens (SOC-13). Dados relacionados a sexo, idade, cor da pele, condições socioeconômicas e cárie dentária também foram mensurados como covariáveis. Os dados foram analisados através da análise de regressão de Poisson, a fim de testar o efeito moderador do SDC na relação entre discriminação racial e QVRSB. Os resultados são apresentados em Razão de Médias (RM) e intervalo de confiança de 95% (95% IC). Um total de 429 escolares foi considerado neste estudo. A média de idade foi de 12,5 (erro padrão 0,1) anos. Considerando as variáveis preditoras separadamente, os indivíduos que perceberam discriminação racial apresentaram pior QVRSB (RM 1,38; IC95% 1,25-1,52); e indivíduos com maior SDC apresentaram melhor QVRSB (RM 0,54 IC 95% 0,51-0,57). No modelo ajustado, considerando a interação entre discriminação racial e SDC, escolares que perceberam discriminação racial, mas apresentavam alto SDC, relataram menor impacto sobre QVRSB (RR 0,70; IC 95% 0,55-0,89) em comparação com àqueles com baixo SDC. Com isso, o SDC pode ser considerado uma variável moderadora na relação entre discriminação racial e QVRSB. Esses resultados destacam a potencial importância do senso de coerência na redução dos efeitos nocivos da discriminação racial na QVRSB.

Palavras-chave: Discriminação racial. Senso de coerência. Qualidade de vida. Saúde bucal.

ABSTRACT

MODERATING EFFECT OF THE SENSE OF COHERENCE IN THE RELATIONSHIP BETWEEN PERCEIVED RACIAL DISCRIMINATION AND ORAL HEALTH-RELATED QUALITY OF LIFE IN SCHOLARS

AUTHOR: Thaís Gioda Noronha ADVISOR: Fernanda Tomazoni CO-ADVISOR: Thiago Machado Ardenghi

Racial discrimination can act as a psychosocial stressor that underlies racial inequalities in oral health. Perception of discriminatory events can start in childhood and reflect in adolescence and adulthood and, through different social deprivations, can influence the individuals' quality of life. The oral health-related quality of life (OHRQoL) refers to how much oral health conditions interfere with people's daily life and well-being. Many epidemiological studies have evaluated the clinical, socioeconomic, social and environmental determinants that could possibly improve the oral health of individuals and populations, and among these determinants is the sense of coherence (SOC). The SOC is used to explain why some people continue to do well despite the stressful situations they face. Thus, considering that racial discrimination brings on stressful situations that impact on oral health perception, the aim of this study was to evaluate the moderating effect of SOC on the relationship between racial discrimination and OHRQoL in schoolchildren. This is a cross-sectional study nested in a cohort with 10 years of follow-up. OHRQoL was assessed using the reduced Brazilian version of the Child Perception Questionnaire (CPQ11-14). Perceived racial discrimination was assessed using a question contained in the Olweus Bullying Questionnaire - Victim, and to measure the sense of coherence, students answered the reduced version of the 13-item Sense of Coherence Scale (SOC-13). Data related to sex, age, skin color and socioeconomic conditions were also assessed. Poisson regression analysis was performed to test the moderating effect of SOC on the relationship between racial discrimination and OHRQoL. A total of 429 students were considered in this study. Considering the predictor variables separately, individuals who perceived racial discrimination had worse OHRQoL (RR 1.38; 95%CI 1.25-1.52); and individuals with higher SOC had better OHRQoL (RR 0.54 95%CI 0.51-0.57) than their counterparts. In the adjusted model, considering the interaction among racial discrimination and SOC, students who perceived racial discrimination, but had high SOC, reported less impact on OHRQoL (RR 0.70; 95% CI 0.55-0.89) than those with low SDC. Thus, the SOC can be considered a moderating variable in the relationship between racial discrimination and OHRQoL. These results highlight the potential importance of SOC in reducing the harmful effects of racial discrimination on OHRQoL.

Keywords: Racial discrimination. Sense of coherence. Quality of life. Oral health.

SUMÁRIO

1	INTRODUÇÃO	11
	ARTIGO - ARTIGO - SENSE OF COHERENCE MODERATES THE	
2	RELATIONSHIP BETWEEN PERCEIVED RACIAL DISCRIMINATION	
	AND ORAL HEALTH-RELATED QUALITY OF LIFE IN SCHOLARS	17
	Introduction	20
	Methods	21
	Results	24
	Discussion	25
	Conclusions	27
	References	27
	Tables	33
	Figures	36
3	CONSIDERAÇÕES FINAIS	37
	REFERÊNCIAS	38
	ANEXO A – CARTA DE APROVAÇÃO DO COMITÊ DE ÉTICA EM	
	PESQUISA	44
	ANEXO B – NORMAS PARA PUBLICAÇÃO NO PERIÓDICO QUALITY	
	OF LIFE RESEARCH	47
	ANEXO C - ESCALA DE SENSO DE COERÊNCIA (SOC-13)	72
	ANEXO D - CHILD PERCEPTION QUESTIONNAIRE (CPQ11-14)	73
	ANEXO E - QUESTIONÁRIO DE BULLYING DE OLWEUS – VÍTIMA	74
	APÊNDICE A – QUESTIONÁRIO DEMOGRÁFICO E	
	SOCIOECONÔMICO	75

1 INTRODUÇÃO

Durante muito tempo, as doenças que acometem a saúde bucal foram reduzidas a processos exclusivamente orgânicos e comportamentais (WATT, 2007). A concepção ampliada de saúde, em contraponto ao mecanicismo do modelo biomédico vigente, entende que os determinantes sociais, culturais, econômicos, políticos e a disponibilidade/acesso aos serviços se manifestam no corpo biológico e, dessa forma, modificam o processo saúde/doença (MARCENES, 2013; KASSEBAUM, 2015; SOLAR, 2010; WILLIAMS, 2011). Assim, fatores comportamentais, socioeconômicos, psicossociais e contextuais podem atuar como determinantes na etiopatogenia destas doenças.

Alguns modelos teóricos foram desenvolvidos para a melhor compreensão da relação existente entre os fatores individuais e contextuais e os desfechos em saúde (DAHLGREN; WHITEHEAD, 1991; CSDH, 2007). O primeiro modelo proposto foi o de Dahlgren e Whitehead (1991), que sugere a existência de uma rede de relações entre fatores em diferentes níveis, demonstrando que características individuais são influenciadas pelas redes sociais e estas afetadas por condições socioeconômicas, culturais e ambientais nas quais os indivíduos se estabelecem. (DAHLGREN, WHITEHEAD, 1991). Posteriormente entrou em evidência o modelo proposto pela Comissão dos Determinantes Sociais de Saúde (Figura 1), o qual se diferencia por acrescentar características que se relacionam ao contexto político e socioeconômico em que as pessoas se inserem. Esse modelo também incluiu um novo componente transversal, que representa o capital social e a coesão social (CSDH, 2007).

Ao longo do tempo, houve muitas mudanças na ocorrência das doenças e nos fatores de risco que poderiam estar associados a elas. Mesmo diante dessas mudanças, tem-se observado que a associação entre nível socioeconômico e morbidade/mortalidade se mostra persistente. Dessa maneira, existem evidências de que, de fato, o baixo nível socioeconômico é uma causa fundamental de piores condições de saúde, onde as situações desfavoráveis em relação a riscos e tratamentos se mostram mais frequentes. (LINK, 1995; PHELAN, 2015). Assim, as melhorias nas condições das causas fundamentais das doenças devem fazer parte das políticas de saúde, e envolvem, por exemplo, o salário mínimo, uma habitação para pessoas sem-teto, programas de avanço ou outras iniciativas dessa natureza. (LINK, 1995).

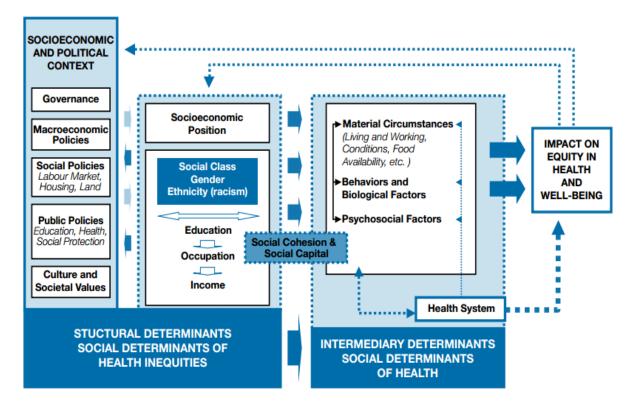


Figura 1 – Modelo conceitual proposto pela Comissão sobre os Determinantes Sociais de Saúde

Fonte: (SOLAR; IRWIN, 2010, p. 6).

Uma característica que tem sido apontada como determinante social e estrutural relacionado a diferentes desfechos de saúde é a raça do indivíduo. A raça, diferente da cor da pele, é um conceito que está relacionado a grupos sociais que compartilham as mesmas características culturais, identidade individual e acesso a recursos. Dessa forma, raça não é apenas uma característica pessoal, mas um conceito socialmente construído (FORD, 2010). Segundo Jary & Jary (2005), no "Collins Dictionary of Sociology", os cientistas sociais atualmente reconhecem que raça é uma categorização construída socialmente que especifica regras para a identificação de um determinado grupo, mas consideram o conceito como um termo cientificamente desacreditado, usado para descrever grupos biologicamente distintos de pessoas que têm características de natureza inalterável. Dessa forma, pode ser considerado preferível referir-se à etnia ou grupos étnicos, principalmente para distanciar essa categorização de suas conotações históricas e biológicas (JARY, 2005).

Disparidades raciais são observadas no mundo inteiro (especialmente na América Latina) e refletem as piores condições socioeconômicas e de saúde para os indivíduos de pele negra (WILLIAMS, 2001; PHELAN, 2015; HUNT, 2015; FRANKS, 2006). No Brasil, o rendimento médio mensal, segundo o IBGE (2010), de homens brancos e amarelos é aproximadamente o dobro do valor relativo encontrado de homens pretos, pardos e indígenas e

os negros correspondem a 72% dos 10% mais pobres da população (IPEA, 2011). Essas disparidades nas condições socioeconômicas, podem ajudar a explicar boa parte das diferenças na distribuição de doenças: Nas mulheres pretas entre 40 e 69 anos de idade, a taxa de mortalidade no Brasil por doenças cerebrovasculares é aproximadamente duas vezes maior do que entre brancas, e a mortalidade por hipertensão e diabetes mellitus é muito mais expressiva entre as mulheres pretas (CHOR, 2005). Atualmente, os estudos que avaliam os resultados de raça/etnia na pandemia da COVID-19 relatam que indivíduos afro-americanos carregam uma carga desproporcional de casos (HOOPER, 2020; YANCY, 2020).

Ao se tratar de saúde bucal, as disparidades em saúde persistem. As pesquisas sobre os seus determinantes sociais são sustentadas por evidências de que as doenças bucais, incluindo a doença periodontal e a cárie dentária, são mais comuns em grupos populacionais em maior desvantagem social (MOIMAZ, 2016; AIDA, 2008; ANTUNES, 2006; BAGGIO, 2015; PERES, 2007, VETTORE, 2013). Além disso, a dor dentária também se apresenta mais prevalente entre adolescentes brasileiros não-brancos (COSTA, 2021). Em um estudo que avaliou a população brasileira entre 35 e 44 anos, foi observado que em comparação a indivíduos brancos, indivíduos pardos apresentaram probabilidade 50% maior de apresentar doença periodontal, enquanto os indivíduos pretos tinham probabilidade 59% maior. (PERES, 2007). Nessa mesma perspectiva, a maioria dos estudos incluídos na revisão sistemática publicada por Boing (2014) encontrou uma incidência mais elevada de cárie dentária entre pretos e pardos (BOING, 2014).

As disparidades raciais encontradas nos diferentes desfechos de saúde bucal são demonstradas também quando se avalia o acesso a serviços de saúde e a indicação de tratamentos odontológicos. No estudo de Cabral (2005), foi possível observar que profissionais da saúde, ainda que inconscientemente, indicam diferentes tratamentos de acordo com a cor da pele do paciente (CABRAL, 2005). O mesmo se observou no estudo de Chisini (2018), em que cirurgiões-dentistas escolheram opções de tratamento menos complexas e mais baratas para pacientes negros, mesmo com total liberdade para decidir a melhor opção de tratamento (CHISINI, 2018). Além disso, também é possível perceber que indivíduos pretos, pardos ou indígenas tem mais dificuldade no acesso aos serviços odontológicos (HERKRATH, 2018).

Embora a literatura tenha documentado importantes e persistentes lacunas raciais na saúde, a maioria dos estudos atribui essas disparidades ao nível socioeconômico dos indivíduos. Entretanto, é possível perceber que em muitas situações, quando o nível socioeconômico é controlado, essa discrepância continua para diferentes desfechos (PHELAN, 2015). Dessa forma, as explicações teóricas das associações entre disparidades raciais e desfechos em saúde

envolvem, além de questões socioeconômicas, fatores psicossociais, comportamentais, culturais e biológicos (MARMOT, 2011; PERREIRA, 2014).

Em estudos prévios que avaliam raça especificamente, pacientes não-brancos apresentaram piores desfechos subjetivos de saúde bucal (SFREDDO, 2019; PIOVESAN, 2010; EMMANUELLI, 2015, HUANG, 2015; ABANTO, 2017). Essa diferença se apresenta não apenas em crianças e adolescentes, mas também é observada em adultos (SOUZA, 2016). Em adição, alguns autores afirmam que a raça pode ter influência na autopercepção da saúde bucal por meio da discriminação e da exposição a um baixo nível socioeconômico, no entanto, a literatura ainda apresenta diversas lacunas acerca desse aspecto (PERREIRA, 2014).

Nesse sentido, alguns autores têm apontado que a discriminação pode atuar como um estressor psicossocial que fundamenta e perpetua as iniquidades em saúde bucal; a distribuição desigual de maus-tratos, ambos dentro e entre os grupos, dá origem não apenas a padrões específicos da saúde bucal, mas também às desigualdades raciais nos desfechos odontológicos (CELESTE, 2013; JAMIESON, 2013; BEM; JAMIESON, 2014; BEM; PARADIES, 2014; LAWRENCE, 2016; FINLAYSON, 2018; JUNIOR, 2020). Ainda que a maioria dos estudos que associam raça e cor da pele a diferentes desfechos de saúde bucal apresentem uma tendência em relação às suas conclusões – que indivíduos não-brancos apresentam piores condições –, a discriminação racial e suas consequências ainda é pouco explorada na literatura odontológica. As poucas evidências disponíveis apontam uma relação entre discriminação racial e condições clínicas e subjetivas de saúde bucal (BASTOS, 2018; SCHUCH, 2020; ALI, 2021; JAMIESON, 2021).

A discriminação, definida como "tratar injustamente", foi vista inicialmente pelos sociólogos como uma expressão do etnocentrismo (SCOTT, 2014). As formas de discriminação internalizadas, interpessoais e estruturais dão origem não apenas a padrões específicos de diferentes desfechos, mas também a desigualdades em saúde (HARNOIS; BASTOS, 2018). A discriminação pode impactar nos desfechos de saúde através das experiências diretas de atos discriminatórios, de uma maior exposição a substâncias tóxicas e a ambientes mais deletérios, e de uma inferior assistência à saúde. (CHOR, 2005; PERREIRA, 2014; KRIEGER, 2005). O estudo de Pascoe e Smart Richman (2009) expõe que as experiências discriminatórias são consideradas imprevisíveis e apresenta os mecanismos causais que ligam essas experiências a comportamentos e condições adversas de saúde geral. Nesse estudo, eles relatam que esses mecanismos podem causar efeitos diretos sobre a saúde (sintomas depressivos, ansiedade e bem-estar), alterações psicofisiológicas (aumento da frequência cardíaca, maior produção de hormônios em resposta ao estresse, etc) ou influenciar comportamentos em saúde (através da

adoção de comportamentos não saudáveis ou menor comprometimento com comportamentos benéficos para a saúde) (PASCOE; RICHMAN, 2009).

A literatura aponta também que alguns grupos raciais e étnicos apresentam riscos maiores de experimentar situações adversas na infância (como a discriminação racial e a violência doméstica) e isso influencia em desfechos de saúde. (KABANI, 2018). Além disso, essas situações adversas são cumulativas ao longo da vida, iniciando na infância, e podem influenciar em desfechos subjetivos, como a qualidade de vida em diferentes estágios de vida. Estudos sobre discriminação em crianças indicam que a exposição a eventos discriminatórios pode começar nessa fase e gerar importantes consequências para a saúde na infância e adolescência, podendo também refletir na vida adulta (COGBURN, 2011; COKER, 2009; PACHTER; COLL, 2009; SANDERS-PHILLIPS, 2009; BRODY, 2014; MATTHEWS, 2005; PRIEST, 2013; ZEIDERS, 2014; LEWIS, 2015).

Uma vez que as privações sociais durante a vida podem levar a um acesso reduzido aos cuidados e a piores hábitos de saúde bucal, também podem influenciar na qualidade de vida dos indivíduos expostos a elas (PERES, 2007). A qualidade de vida envolve uma sensação subjetiva de bem-estar acerca da sua saúde, não se restringindo apenas aos efeitos físicos e psicológicos, mas também a questões fisiológicas, familiares e ambientais (SISCHO; BRODER, 2011). Nesse sentido, é evidente que a saúde bucal não pode ser dissociada da saúde e bem-estar geral, uma vez que uma pior saúde bucal pode impactar em diversos âmbitos da vida dos indivíduos (MCGRATH, 2004).

Assim, um desfecho subjetivo de saúde bucal que vem sendo amplamente avaliado é a qualidade de vida relacionada à saúde bucal (QVRSB). A QVRSB é definida como um constructo multidimensional que se refere à extensão com que as condições de saúde bucal interferem na vida cotidiana e bem-estar dos indivíduos (SISCHO; BRODER, 2011). O modelo proposto por Sischo e Broder reconhece os efeitos de fatores contextuais (por exemplo, fatores socioculturais) e o acesso aos cuidados na percepção da saúde bucal e na qualidade de vida (SISCHO; BRODER, 2011).

Muitos estudos epidemiológicos têm avaliado os determinantes clínicos, socioeconômicos, psicossociais e ambientais que possivelmente melhorariam a QVRSB de indivíduos e populações (SHEIHAM, 2000; WATT, 2007; SCHEERMAN, 2016). Entre esses determinantes, pode-se destacar o senso de coerência (SDC) (BAKER, 2010; LINDSTROM, 2006). O SDC é utilizado para explicar por que algumas pessoas continuam bem, apesar das situações de estresse que elas enfrentam (ANTONOVSKY, 1987). Ele representa o constructo central do modelo da teoria salutogênica, destacando a capacidade de resposta dos indivíduos

a condições estressantes. É considerado um dos fatores mais importantes que determinam a satisfação com a vida e a capacidade de lidar com situações mais complexas (ERIKSSON; LINDSTROM, 2007). Os indivíduos com um alto senso de coerência têm uma capacidade de perceber que consegue gerenciar situações adversas, independente dos acontecimentos da vida e do dia-a-dia, e apresentam melhores desfechos de saúde geral e saúde bucal (LINDSTROM; ERIKSSON 2006; BAKER, 2010; ERIKSSON; LINDSTROM, 2007).

Com base no que foi exposto, pode-se verificar que tanto as experiências autorreferidas de discriminação, quanto o SDC estão associados a condições clínicas e subjetivas de saúde. Diferentes argumentos têm sido propostos para explicar a influência do SDC na saúde. Um deles é que o SDC pode estar associado com atitudes e comportamentos relacionados a melhores condições clínicas e subjetivas (ERIKSSON; LINDSTROM, 2007). Além disso, características psicossociais como o SDC podem influenciar os desfechos subjetivos de saúde, como a QVRSB, através da moderação de condições estressantes e adversas (GUPTA, 2015). Nesse sentido, o SDC é um atributo individual que pode servir como um recurso pelo qual os efeitos negativos da discriminação percebida podem ser reduzidos.

A literatura tem sugerido que estudos futuros se concentrem na identificação de fatores individuais e/ou contextuais que promovam resiliência e atenuem os efeitos da discriminação em saúde (LEWIS, 2015). Em um estudo que avalia saúde física e mental, os autores observaram que altos níveis de SDC podem reduzir os efeitos negativos da discriminação em saúde em grupos minoritários, podendo servir como um recurso de enfrentamento (BARON-EPEL, 2016). Entretanto, nenhum estudo avaliou esse possível efeito moderador do SDC na relação entre discriminação racial e desfechos de saúde bucal. Dessa maneira, fica evidente a importância de um estudo pioneiro que considere essas relações e as avalie utilizando ferramentas estatísticas apropriadas. Assim, o objetivo desse estudo foi avaliar o efeito moderador do senso de coerência na relação entre discriminação racial e qualidade de vida relacionada à saúde bucal em escolares.

2 ARTIGO - SENSE OF COHERENCE MODERATES THE RELATIONSHIP BETWEEN PERCEIVED RACIAL DISCRIMINATION AND ORAL HEALTH-RELATED QUALITY OF LIFE IN SCHOLARS

Este artigo será submetido ao periódico *Quality of Life Research*, ISSN: 0962-9343, Fator de impacto = 4.147; Qualis A2. As normas para publicação estão descritas no Anexo B.

18

Title page

Sense of coherence moderates the relationship between perceived racial discrimination and oral health-

related quality of life in scholars

Authors

Thaís Gioda Noronha², Jessica Klöckner Knorst², Bruno Emmanuelli¹, Leonardo da Silva Godois², Thiago

Machado Ardenghi¹, Fernanda Tomazoni¹.

¹Department of Stomatology, School of Dentistry, Federal University of Santa Maria, Santa Maria, Brazil

²Post Graduate Program in Dental Sciences, Federal University of Santa Maria, Santa Maria, Brazil

Corresponding Author:

Fernanda Tomazoni

Curso de Odontologia da Universidade Federal de Santa Maria, Av. Roraima, 1000, Cidade Universitária - 26F,

Departamento de Estomatologia, 97015-372, Santa Maria, RS, Brazil. Phone - Fax: +55.55. 3220-9272. E-mail:

fernanda.tomazoni@ufsm.br.

ORCID:

Thaís Gioda Noronha: 0000-0002-7690-3930

Jessica Klöckner Knorst: 0000-0001-7792-8032

Bruno Emmanuelli: 0000-0002-9226-0832

Leonardo da Silva Godois: 0000-0001-7341-8369

Thiago Machado Ardenghi: 0000-0002-5109-740X

Fernanda Tomazoni: 0000-0001-6291-552X

Acknowledgments: The authors thank all the children, their parents and schools that took part in this study, as

well as the Health and Education Authorities from Santa Maria, RS, Brazil for all information and authorization.

Compliance with Ethical Standards

Conflicts of interest: The authors declare that they have no conflict of interest.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the

ethical standards of the Human Research Ethics Committee of the Federal University of Santa Maria (protocol

number 11765419.1.0000.5346), Brazil.

Informed consent: Informed consent was obtained from all individual participants included in the study.

19

Abstract

Purpose: Self-reported experiences of racial discrimination and sense of coherence (SOC) have been found to be

associated with oral health outcomes. The study aimed to evaluate the moderating effect of the SOC in the

relationship between racial discrimination and oral health-related quality of life (OHRQoL) in scholars.

Methods: This is a cross-sectional study nested in a cohort performed in southern Brazil. OHRQoL was assessed

using the short version of the Child Perceptions Questionnaire 11-14 (CPQ11-14). The perception of racial

discrimination was measured using a question contained in the Bullying Questionnaire by Olweus, and SOC

through the shortened version of the 13-item Sense of Coherence Scale (SOC-13). Data related to demographic,

socioeconomic, and dental caries characteristics were also collected. A simple slop test and Poisson regression

analysis were performed to test the interaction effects of the predictors on OHRQoL. The results are presented in

Rate Ratio (RR) and 95% confidence interval (95% CI).

Results: A total of 429 scholars were included in this study. About 6.7% reported had perceived racial

discrimination. The simple slope test indicated that the negative effects of racial discrimination on OHRQoL were

significant under different SOC levels. Among scholars who suffered racial discrimination, those who had higher

SOC reported lower impact on OHRQoL (RR 0.70; 95%CI 0.55-0.89) when compared to those with low SOC.

Conclusion: SOC can be considered a moderating variable in the relationship between racial discrimination and

OHRQoL. These findings highlight the potential importance of the SOC in reducing the harmful effects of racial

discrimination on OHRQoL.

Keywords: Racial discrimination. Sense of coherence. Quality of life. Oral health. Adolescent.

Introduction

Discrimination is defined as "treating unfairly" and may rise specific patterns of health outcomes and health inequalities [1]. A wide body of research has investigated the association between perceived ethnic discrimination and different general and oral health conditions [2, 3, 4]. Most findings show that discrimination can impact health through direct experiences of discriminatory acts, greater exposure to toxic substances and more harmful environments, and lower health care [5, 6, 7].

Previous studies that evaluated discrimination in children indicate that exposure to discriminatory events can start in childhood and have important health consequences in childhood and adolescence, and may also affect adulthood [8-16]. Thus, since social deprivation throughout life can also lead to reduced access to oral health care and worse oral health habits, they can also influence the quality of life of the individuals [17].

Oral health-related quality of life (OHRQoL) is defined as a multidimensional construct that refers to the extent to which oral health conditions interfere in the individual's daily life and well-being. It evaluates the impact of oral diseases and disorders on daily life aspects, which are considered important for the individual, occurring with an adequate magnitude in terms of frequency, severity or duration to affect their self-perception as a whole [18]. The model proposed by Sischo and Broder (2011) recognizes the effects of contextual factors (e.g., sociocultural factors) and access to care on the perception of oral health and quality of life. Thus, the OHRQoL is an important subjective outcome resulting from an interaction between oral health conditions, general health, social and contextual factors [19, 20].

Studies have tried to identify individual and social attributes that may serve as a resource for resilience and improve the oral health of individuals and populations [21, 22, 23]. The sense of coherence (SOC) is one such individual attribute that can be highlighted [24, 25]. SOC represents the central construct of the salutogenic theory model, emphasizing the individual's responsiveness to stressful conditions. Thus, this construct is considered one of the most important factors that determine satisfaction with life and the ability to deal with more complex situations [26, 25]. An argument that has been proposed is that SOC can influence subjective health outcomes, such as OHRQoL, through the moderation of stressful and adverse conditions [27]. Moreover, it can be associated with health-related attitudes and behaviors [25].

In this context, taking into account that individuals who suffer racial discrimination can be subjected to stressful situations, which may impact their perception of general and oral health, the SOC could exert an important moderating role, attenuating this effect. Moreover, the literature has suggested that future studies focus on identifying individual and/or contextual factors that mitigate the effects of discrimination on health. [16]. In a

study that assesses general health, it was possible to observe that high levels of SOC can reduce the negative effects of discrimination on health and can serve as a coping resource [28]. However, there are no evidences accessing these effects on oral health outcomes. Thus, the aim of this study was to evaluate the moderating effect of SOC in the relationship between racial discrimination and OHRQoL among schoolchildren. The conceptual hypothesis is that a high sense of coherence could protect individuals from the effects of perceived racial discrimination on OHRQoL.

Methods

This study is reported according to STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines. [29]

Study design, participants and data collection

This is a cross-sectional study nested in a 10 years cohort. The first cohort's assessment was undertaken in 2010 in Santa Maria, a southern city in Brazil. In 2010, the city had an estimated population of 263,403, which included 27,520 children under 6 years old. A sample group was selected from all children who attended health centers in the municipality on the National Children's Vaccination Day. The sampling points were all 15 health centers with dental chairs, which were located in different administrative regions and neighborhoods of the city. Each health center was responsible for vaccinating children living in that area. A total of 639 children aged 1–5 years were examined for the assessment of their oral health status. The baseline (T1) was conducted in 2010 and three follow-ups (T2, T3 and T4) were conducted in 2012, 2017 and 2020, respectively. This study considers data from the last assessment (T4). Full details about the methodology used in the epidemiological survey were published elsewhere [30, 31, 32].

Data collection of T4 started in November, 2019. All adolescents who participated in the epidemiological survey at baseline were again invited to participate in this follow-up and were aged between 11 and 14 years old. Due to the COVID-19 pandemic, the data collection was interrupted in March 2020 [33]. Thereafter, as soon as possible, the continuation of this stage began in October 2020 and ended in January 2021.

Some strategies were adopted to reach the largest possible number of participants at T4. Before the COVID-19 pandemic, individuals were initially contacted in the school they studied during the T3 or using information from updated listings of students enrolled in public schools in the city of Santa Maria. As a second strategy, parents or caregivers were contacted by phone calls, to schedule an evaluation. Finally, home visits were

carried out to find the missing individuals, using the addresses previously registered. With the closing of schools due to the COVID-19 pandemic, phone calls were performed to contact those participants who had not been previously assessed, and home visits were scheduled. Some individuals were also contacted through social networks (Facebook or WhatsApp).

For evaluating the sample size, we performed a power test. The calculation considered an alpha error probability of 0.05, a mean score of CPQ11-14 of 10.3 (SD 8.3) for the non-exposed group (absence of racial discrimination), and a mean score of 14.3 (SD 8.8) for the exposed group (presence of racial discrimination), resulting in a sample power of 70%.

Racial discrimination

The perception of racial discrimination was measured using the item "Somebody insulted me because of my color or race" contained in the Bullying Questionnaire by Olweus – Victim [34], which was previously adapted and culturally transcribed to be used in Brazilian scholars [35]. The answer was obtained through the options 0 = "never", 1 = "once or twice a month", and 2 = "once or more a week". For the analysis, was considered the absence (score 0) or presence (scores 1 and 2) of racial discrimination. A similar question was used in other study [36].

Oral health related quality of life (OHRQoL)

OHRQoL was assessed using the short version of the Child Perceptions Questionnaire 11-14 (CPQ11-14) [37]. It was previously adapted and culturally transcribed to be used in Brazilian children in that age group [38]. The reduced version of CPQ11-14 has 16 questions, equally divided into 4 domains: oral symptoms, functional limitation, social well-being, and emotional well-being. Five answer options are given for each question in the questionnaire: "never" = 0; "Once or twice" = 1; "Sometimes" = 2; "Frequently" = 3; and "every day / almost every day" = 4. The final score is made up of the sum of all items. The total result of the questionnaire can vary from 0 to 64 points. The higher the score, the greater the impact of oral health conditions on the child's quality of life.

Sense of Coherence

Participants answered the shortened version of the 13-item sense of coherence scale (SOC-13), which was originally developed by Antonovsky (1987) and posteriorly translated, adapted and validated in Brazil to access individual SOC [39, 40, 41]. In the SOC-13, questions are divided into three components:

comprehensibility, manageability, and meaning. The answer options are presented according to a 5-point Likert scale, varying according to the item in the questionnaire, coded from 1 to 5. The items are added together to calculate the final score, and the result can vary from 13 to 65 points. Higher scores represent higher SOC. For data analysis, the SOC-13 was dichotomized according to the median in low (SOC-13 score \leq 38) and high (SOC-13 score > 38).

Covariates

Data about sex (girls or boys), age (in years), skin color, and socioeconomic conditions were also measured. For the classification of skin color, the criteria established by the Brazilian Institute of Geography and Statistics (IBGE) were used, using the following question: "What race do you consider yourself? 0 = white; 1 = brown; 2 = black; 3 = yellow or 4 = indigenous?" [42]. For analysis purpose, the variable was categorized in white (0) or non-white (1, 2, 3 and 4). The monthly household income was collected in Brazilian currency and subsequently dichotomized according to Brazilian Minimum Wages (BMW) in ≤ 1 BMW or > 1 BMW (1 BMW is equivalent to US\$220.0 approximately).

Dental caries was evaluated by six calibrated examiners following the International Caries Detection and Assessment System (ICDAS) [43]. The examination was performed with natural illumination, using a plane dental mirror, gauze pad, and periodontal probes (CPI; "ballpoint"). For the analysis, the absence (scores 0,1,2, and 4) or presence (scores 3, 5, and 6) of untreated dental caries was considered. The intra and inter-examiner agreement were verified through the Kappa coefficients and the values ranged from 0.70 and 0.92.

Data analysis

Data analysis was performed using STATA 14.0 statistical software (StataCorp. 2014. Stata Statistical Software: Release 14.0. College Station, TX: StataCorp L). A descriptive analysis of the demographic, socioeconomic, psychosocial, and oral health characteristics of the sample was performed. These analyzes were performed considering the sample weight ('svy'). The comparison between followed-up and dropouts, to confirm the representativeness of the sample over time, was assessed using the chi-square test (qualitative variables) and the t-test (quantitative variables). Comparison between individuals evaluated before and during the COVID-19 pandemic was also performed.

The study outcome was the overall CPQ11-14 scores. The moderating effect of SOC on the relationship between racial discrimination and CPQ11-14 (Figure 1) was tested using unadjusted and adjusted Poisson

regression analysis, considering the interaction between racial discrimination (RD) and SOC, in different categories (0= presence of RD x low SOC; 1= absence of RD x low SOC; 2= absence of RD x high SOC; and 3= presence of RD x high SOC). Demographic, socioeconomic and clinical variables related to the outcome were included in the adjusted model as possible confounders (variables with p <0.20 in the unadjusted analysis). The results presented the Rate Ratio (RR) and its respective 95% confidence interval (95% CI).

Posteriorly, when hypothesized moderation effects were statistically significant, we performed the simple slope test, obtaining the simple margins of predicted values by each level of the categorical moderator. This procedure allows the calculation of the conditional effect of X (racial discrimination) on Y (CPQ11-14) according to levels of the moderator (SOC), generating a confidence interval and p-values. In order to understand the interaction in the interest group, the contrast test to obtain the differences of predicted values was also performed [44, 45]. A significance level of 0.05 was considered.

Ethical Issues

This cohort study was approved by the Committee for Ethics in Research of School of Dentistry, Federal University of Santa Maria (protocol number 11765419.1.0000.5346) and the parents' participants signed a consent form.

Results

A total of 429 scholars were considered in this study (representing 67.1% of the individuals assessed at baseline of the cohort). Losses in follow-up occurred due to inability to find the child (n = 184), moving to another city (n = 19), or refusal (n = 7). There were no significant differences in sample characteristics between adolescents followed or dropouts, nor among those assessed before or during the COVID-19 pandemic (p > 0.05).

Table 1 shows the descriptive characteristics of the sample. The mean age was 12.5 (SE 0.1) years. The sample was balanced between boys and girls, and most individuals were white. Regarding socioeconomic variables, most individuals presented household income higher than one BMW (70.8%). In regard to the psychosocial characteristics, 50.1% of the children presented a high sense of coherence, and 6.7% reported racial discrimination. The overall mean CPQ11-14 score was 11.2 (SE 0.6).

Table 2 displays the unadjusted analysis of the interaction between racial discrimination and SOC on overall CPQ11-14 scores. Considering the predictor variables separately, individuals who suffered racial discrimination presented poorer OHRQoL (RR 1.38; 95%CI 1.25-1.52); and individuals with higher SOC had

better OHRQoL (RR 0.54 95%CI 0.51-0.57). Considering the interaction between RD and SOC level, all groups had lower CPQ11-14 scores compared to those who suffered RD and presented low SOC.

Moderation analysis after adjusting for confounders is shown in Table 3. Among adolescents who suffered RD, those who had higher SOC reported lower impact on OHRQoL (RR 0.70; 95%CI 0.55-0.89) when compared to those with low SOC. Regarding those who did not suffer RD, regardless of the SOC level, the impacts on CPQ11-14 were also lower compared to the counterparts (presence of RD and low SOC). Although SOC demonstrated a protective role for the association between perceived racial discrimination and OHRQoL, its protection effect was higher among individuals who did not report racial discrimination episodes (30% lower scores versus 52%).

Figure 2 displays the predictive marginal effects between racial discrimination and overall CPQ11-14 scores according to different SOC levels. The simple slope test (Table 4) indicated that the negative effects of racial discrimination on OHRQoL were statistically significant under different SOC levels (low and high). The greatest margin effect was observed in individuals that reported RD and presented low SOC (15.8; p<0.01). Contrast analysis among adolescents that suffered RD showed a difference of 4.80 in overall CPQ11-14 scores according to SOC level (low versus high) (Table 5).

Discussion

Our findings support the hypothesis that a high sense of coherence could attenuate the effects of perceived racial discrimination on OHRQoL. Children who presented a high SOC showed a lower impact of racial discrimination on OHRQoL. A recent study has reported this moderating relationship and protective effect of SOC, considering general health [28]. However, to the best of our knowledge, this issue has not been explored with oral health outcomes yet.

In our study, individuals who reported racial discrimination had a worse OHRQoL. Previous studies have shown similar results in different populations, and suggested that this relationship is due to direct experiences of discriminatory acts, greater exposure to toxic substances and more harmful environments, in addition to lower health care. [5, 6, 7] However, it is necessary to look deeper. While racial equity is not a reality, it is important to look for different individual and/or contextual factors that promote more resilience and can mitigate the negative effects of discrimination on health outcomes, such as the SOC. [16]

Our results showed that a high sense of coherence attenuated the effects of perceived racial discrimination on OHRQoL. It has been shown that SOC establishes the responsiveness of individuals to stressful conditions and

may moderate the relationship between racial discrimination and health. [28]. A previous study demonstrated that high levels of SOC can reduce the negative effects of discrimination on general health in minority groups. [28]. These moderating effects may be explained by the Salutogenic Theory, developed by Antonovsky (1987) [39]. The Salutogenic framework describes that SOC and general resistance resources may help people to cope with a stressful situation, improving the ability to perceive the environment as comprehensible, manageable, or meaningful. [39]. In this sense, the main concept of the salutogenic approach is to explain why some individuals remain healthy even after experiencing stressful circumstances in life [39]. Thus, subjects with a high SOC envisage life events and problems as challenges worthy of effort, perceive the available resources, and are able to use them to deal with stress [39]. Thus, it is suggested that individuals who suffered racial discrimination but who had high SOC were less likely to have their OHRQoL affected than individuals with low SOC.

In counterpart, in another study that evaluated the moderating effect of SOC and social support on the relationship between racial discrimination and psychological well-being, it was not possible to observe the moderation of SOC [46]. However, the authors could verify that social support, also a psychosocial characteristic, had this moderating effect. [46]. Thus, social support has also received a lot of attention as a resource for dealing with stress [47]. It has been suggested that SOC interacts with a person's natural coping style and social support. That is, the extent to which these elements are available is one of the main determinants in the development of a strong or weak SOC [27].

It is important to make clear that the SOC has mitigated the effect of racial discrimination on OHRQoL, but has not eliminated it. Both groups that perceived racial discrimination (high and low SOC) had a worse OHRQoL than those who did not report it. In addition, the individuals involved in this study are between 11 and 15 years of age, and we understand that the social environment in which young people are raised shapes the development of children and adolescents, who can be significantly impacted by racial discrimination. Consequently, young adults may still suffer consequences on their well-being and on different health outcomes due to discriminatory acts experienced in earlier stages of life and that is why it is so important to study individuals at this age and seek alternatives to mitigate these impacts [48].

This study has some limitations. The perception of racial discrimination was assessed using a single question. It is important that future studies are carried out taking into account that racial/ethnic discrimination is complex and multidimensional. It is also appropriate to consider more sensitive measures, for example, those assessing the different forms of racial discrimination. It is evident that racial discrimination is difficult to measure, and no instrument would be able to fully capture all instances of discriminatory experiences [49]. In the United

States, it is possible to see a large body of studies in search of instruments that assess discrimination more accurately, but in other parts of the world this is not yet a reality [50]. Although instruments already exist in Brazil, such as the Explicit Discrimination Scale, we did not find validated instruments that measure racial discrimination in the age group of this study [51]. Thus, it would be important to seek instruments that can assess racial discrimination in greater depth and that also take into account the complex intersections between different forms of discrimination, to help build evidence of the effects of discrimination on health. Another limitation that could be considered is that collections started before the onset of the pandemic and ended during the isolation period. However, we emphasize that there were no significant differences in sample characteristics among adolescents assessed before or during the COVID-19 pandemic.

Even so, we emphasize that our results are important because this is a pioneer study that assesses this relationship in oral health and should open paths for further research to be carried out on this issue. In addition, studies on discrimination in children indicate that exposure to discriminatory events can start at this stage and generate important health consequences in childhood, adolescence and can also reflect in adulthood [12]. Therefore, these findings may be considered in the planning of public interventions to promote SOC and enable the strengthening of this population. Finally, it would also be important to evaluate this relationship longitudinally, so that we can understand at which times through life these discriminatory acts are occurring, in addition to allow to establish a cause-and-effect relationship. However, as this is a cross-sectional nested within a cohort study, it is possible to evaluate the same individuals again in the future.

Conclusions

Our findings support the hypothesis that SOC may have a moderating effect on the relationship between perceived racial discrimination and OHRQoL. Schoolchildren with a high sense of coherence had a lower impact of racial discrimination on OHRQoL. This knowledge is important because it allowed us to start identifying factors that can reduce the harmful effects of racial discrimination on OHRQoL.

References

 Scott, J. (2014). A dictionary of sociology. Oxford (UK): Oxford University Press. Johnson AG. 2002.
 The Blackwell dictionary of sociology: a user's guide to sociological language. Oxford (UK): Blackwell.

- Krieger, N., Sidney, S. (1996) Racial discrimination and blood pressure: the CARDIA study. Am J Public Health, 86, 1370-1378.
- Dolezsar, C.M., McGrath, J.J., Herzig, A.J.M., Miller, S.B. (2014) Perceived racial discrimination and hypertension: a comprehensive systematic review. *Health Psychol.* 33, 20-34.
- 4. Schuch, H.S., Haag, D.G., Bastos, J.L., Paradies, Y., Jamieson, L.M. (2020) Intersectionality, racial discrimination and oral health in Australia. *Community Dent Oral Epidemiol*, 00:1–8.
- Chor, D., Lima, C. R. A. (2005). Epidemiologic aspects of racial inequalities in health in Brazil. *Cad. Saude Publica*, 21(5), 1586-1594.
- Perreira, K. M., Telles, E. E. (2014). The color of health: skin color, ethnoracial classification, and discrimination in the health of Latin Americans. Soc. Sci. Med., 116, 241-250.
- Krieger, N., Smith, K., Naishadham, D., Hartman, C., Barbeau, E. M. (2005). Experiences of discrimination: Validity and reliability of a self-report measure for population health research on racism and health. Soc. Sci. Med., 61(7), 1576–1596.
- 8. Cogburn, C. D., Chavous, T. M., Griffin, T. M. (2011). School-based racial and gender discrimination among African American adolescents: exploring gender variation in frequency and implications for adjustment. *Race Soc. Probl.*, 3, 25–37.
- 9. Coker, T. R., Elliott, M. N., Kanouse, D. E, Grunbaum, J. A., Schwebel, D. C., et al. (2009). Perceived racial/ethnic discrimination among fifth-grade students and its association with mental health. *Am. J. Public Health*, 99, 878–884.
- 10. Pachter, L. M., Coll, C. G. (2009). Racism and child health: a review of the literature and future directions. *J. Dev. Behav. Pediatr.*, 30, 255–63.
- 11. Sanders-Phillips K. (2009). Racial discrimination: a continuum of violence exposure for children of color. *Clin.Child Fam. Psychol. Rev.*, 12, 174–95.
- 12. Brody, G. H., Lei, M. K., Chae, D. H., Yu, T., Kogan, S. M., Beach, S. R. (2014). Perceived discrimination among African American adolescents and allostatic load: a longitudinal analysis with buffering effects. *Child Dev.*, 85, 989–1002.
- 13. Matthews, K. A., Salomon, K., Kenyon, K., Zhou, F. (2005). Unfair treatment, discrimination, and ambulatory blood pressure in black and white adolescents. *Health Psychol.*, 24, 258–265.

- 14. Priest, N., Paradies, Y., Trenerry, B., Truong, M., Karlsen, S., Kelly, Y. (2013). A systematic review of studies examining the relationship between reported racism and health and wellbeing for children and young people. *Soc. Sci. Med.*, 95, 115–127.
- Zeiders, K. H., Hoyt, L. T., Adam, E. K. (2014). Associations between self-reported discrimination and diurnal cortisol rhythms among young adults: the moderating role of racial-ethnic minority status. *Psychoneuroendocrinology.*, 50C, 280–288.
- Lewis, T. T., Cogburn, C. D., Williams, D. R. (2015). Self-Reported Experiences of Discrimination and Health: Scientific Advances, Ongoing Controversies, and Emerging Issues. *Annu. Rev. Clin. Psychol.*, 11(1), 407–440.
- 17. Peres, M. A., Peres, K. G., De Barros, A. J. D., Victora, C. G. (2007). The relation between family socioeconomic trajectories from childhood to adolescence and dental caries and associated oral behaviours. *J Epidemiol Community Health.*, 61(2), 141-145.
- 18. Locker, D., Allen, F. (2007) What do measures of 'oral health-related quality of life' measure? *Community Dent Oral Epidemiol*, 35(6), 401-411.
- 19. Sischo, L., & Broder, H. L. (2011). Oral health-related Quality of life: What, Why, How, and Future implications. J Dent Res, 90(11), 1264–70.
- 20. Locker, D. (2004) Oral Health and quality of life. Oral Health Prev Dent, 2(1), 247-250.
- 21. Sheiham, A., Watt, R. G. (2000). The common risk factor approach: a rational basis for promoting oral health. *Community Dent Oral Epidemiol*. 28(6), 399-406.
- 22. Watt, R. G. From victim blaming to upstream action: tackling the social determinants of oral health inequalities. (2007). *Community Dent Oral Epidemiol.*, 35(1), 1-11.
- Scheerman, J. F., Van Loveren, C., Van Meijel, B., Dusseldorp, E., Wartewig, E., Verrips, G. H., Ket, J. C., Van Empelen, P. Psychosocial correlates of oral hygiene behaviour in people aged 9 to 19 a systematic review with meta-analysis. (2016). *Community Dent Oral Epidemiol.*, 44(4), 331-341.
- 24. Baker, S. R., Mat, A., Robinson, P. G. (2010). What psychosocial factors influence adolescents' oral health? *J Dent Res.*, 89(11), 1230–1235.
- 25. Eriksson, M., Lindström, B. (2007). Antonovsky's sense of coherence scale and its relation with quality of life: a systematic review. *Journal of Epidemiology and Community Health*, 61(11), 938–944.
- Lindstrom, B., Eriksson, M. (2006). Contextualizing salutogenesis and Antonovsky in public health development. *Health Promot. Int.*, 21(3), 238–244.

- 27. Gupta, E., Robinson, P.G., Marya, C.M., Baker, S.R. (2015) Oral Health Inequalities: Relationships between Environmental and Individual Factors. *Journal of Dental Research*, 94(10), 1362 –1368.
- Baron-Epel, O., Berardi, V., Bellettiere, J., Shalata, W. (2017) The Relation Between Discrimination,
 Sense of Coherence and Health Varies According to Ethnicity: A Study Among Three Distinct
 Populations in Israel. J Immigr Minor Health. 19(6), 1386-1396.
- 29. Von Elm, E., Altman, D.G., Egger, M., Pocock, S.J., Gøtzsche, P.C., Vandenbroucke, J.P., STROBE Initiative. (2008). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *J Clin Epidemiol*, 61(4), 344-9.
- Piovesan, C., Ardenghi, T. M., Guedes, R. S., Ekstrand, K. R., Braga, M. M., Mendes, F. M. (2012).
 Activity assessment has little impact on caries parameters reduction in epidemiological surveys with preschool children. *Community Dent Oral Epidemiol*, 41(3), 204-211.
- Guedes, R. S., Piovesan, C., Floriano, I., Emmanuelli, B., Braga, M. M., Ekstrand, K. R., Ardenghi, T. M., Mendes, F. M. (2016). Risk of initial and moderate caries lesions in primary teeth to progress to dentine cavitation: a 2-year cohort study. *Int J Paediatr Dent.* 26(2), 116-124.
- 32. Knorst, J. K., Menegazzo, G. R., Emmanuelli, B., Mendes, F. M., Ardenghi, T. M. (2019). Effect of neighborhood and individual social capital in early childhood on oral health-related quality of life: a 7-year cohort study. *Qual. Life Res.*, 28(7), 1773-1782.
- 33. World Health Organization. (2020). Novel Coronavirus (2019-nCoV): situation report, 22. World Health Organization.
- 34. Olweus, D. (1996). The Revised Olweus Bully/Victim Questionnaire. *Bergen: Research Center for Health Promotion*.
- Gonçalves, F. G., Heldt, E., Peixoto, B. N., Rodrigues, G. A., Filipetto, M., Guimarães, L. S. P., et al. (2016). Construct validity and reliability of Olweus Bully/Victim Questionnaire Brazilian version.
 Psicol. Reflex. Crit., 29(0), 27.
- 36. Amin, M., Schumacher, C., Bohlouli, B. (2021). Perceived social support and discrimination and oral health behaviors in adolescents. *Clin. Exp. Dent. Res.*, 1–7.
- Jokovic, A., Locker, D., Stephens, M., Kenny, D., Tompson, B., Guyatt, G. (2002). Validity and reliability of a questionnaire for measuring child oralhealth-related quality of life. *J Dent Res*, 81, 459-463.

- Goursand, D., Paiva, S. M., Zarzar, P. M., Ramos-Jorge, M. L., Cornacchia, G. M., Pordeus, I. A.,
 Allison, P. J. (2008). Cross-cultural adaptation of the Child Perceptions Questionnaire 11-14 (CPQ11-14) for the Brazilian Portuguese language. *Health Qual. Life Outcomes*, 6, 2.
- 39. Antonovsky, A. (1987). The salutogenic perspective: Toward a new view of health and illness. *Advances*, 4(1), 47–55.
- Bonanato, K., Scarpelli, A. C., Goursand, D., Mota, J. P. T., Paiva, S. M., Pordeus, I. A. (2008). Sense
 of coherence and dental caries experience in preschool children from Belo Horizonte city. *Journal of Dental Science*, 23, 251-255.
- 41. Menegazzo, G. R., Knorst, J. K., Ortiz, F. R., Tomazoni, F., Ardenghi, T. M. (2020). Evaluation of Psychometric Properties of the 'Sense of Coherence Scale' in Schoolchildren. *Revista Interamericana De Psicología/Interamerican Journal of Psychology*, 54(1), 1148.
- 42. Instituto Brasileiro de Geografia e Estatística (2010). Censo 2010. Resource document. Instituto Brasileiro de Geografia e Estatística. Retrieved from http://www.ibge.gov.br/home/estat istic a/populacao/. Acessado em 27 de setembro de 2020.
- 43. Ismail, A. I., Sohn, W., Tellez, M., Amaya, A., Sen, A., Hasson, H., Pitts, N. B. (2007) The International Caries Detection and Assessment System (ICDAS): an integrated system for measuring dental caries. *Community Dent. Oral Epidemiol.*, 35, 170-178.
- 44. Preacher, K. J., Rucker, D. D., Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227.
- Introduction to SAS. UCLA: Statistical Consulting Group. from https://stats.idre.ucla.edu/sas/modules/sas-learning-moduleintroduction-to-the-features-of-sas/ (accessed June 13, 2021).
- 46. Koskinen, M., Elovainio, M., Raaska, H., Sinkkonen, J., Matomäki, J., Lapinleimu, H. (2015).
 Perceived racial/ethnic discrimination and psychological outcomes among adult international adoptees in Finland: Moderating effects of social support and sense of coherence. *Am J Orthopsychiatry*, 85(6), 550-64.
- 47. Mato, M., Tsukasaki, K. (2019) Factors promoting sense of coherence among university students in urban areas of Japan: individual-level social capital, self-efficacy, and mental health. *Glob Health Promot*, 26(1), 60-68.

- 48. Trent, M., Dooley, D.G., Dougé, J. (2019) Section on adolescent health, council on community pediatrics and committee on adolescence. *Pediatrics*, 144(2), e20191765.
- 49. Bastos, J.L., Celeste, R.K., Faerstein, E., Barros, A.J. (2010) Racial discrimination and health: a systematic review of scales with a focus on their psychometric properties. *Soc Sci Med*, 70(7), 1091-9.
- 50. Krieger, N. (2014). Discrimination and health inequities. In L. F. Berkman, I. Kawachi, & M. M. Glymour (Eds.), Social epidemiology (2nd ed., pp. 63–125). New York, NY: Oxford University Press.
- 51. Bastos, J.L., Reichenheim, M.E., Celeste, R.K., Faerstein, E., Barros, A.J.D., Paradies, Y.C. (2019)

 Perceived discrimination south of the equator: Reassessing the Brazilian Explicit Discrimination Scale.

 Cultur Divers Ethnic Minor Psychol, 25(3), 413-423.

Tables

Table 1. Demographic, socioeconomic, psychosocial and oral health variables of the sample, Santa Maria, (n=429).

Variables	n = 429*
Demographic and socieconomic	
Sex [n (%)]	
Boys	209 (49.8)
Girls	220 (50.2)
Age [mean SE)]	12.5 (0.1)
Skin color	
White	215 (48.5)
Non-white	211 (51.5)
Household income in BMW [n (%)]	
≤ 1BMW	110 (29.2)
> 1BMW	264 (70.8)
Psychosocial	
Sense of coherence [n (%)]	
Low	222 (49.9)
High	207 (50.1)
Racial discrimination [n (%)]	
No	398 (93.3)
Yes	31 (6.7)
Oral health	
Untreated dental caries [n (%)]	
Absent	300 (69.4)
Present	128 (30.6)
CPQ11-14 [mean (SE)]	11.2 (0.6)

^{*}Taking into account the sampling weight; BMW, Brazilian minimum wage; SE, standard error.

Table 2. Unadjusted analysis of the interaction of racial discrimination and sense of coherence on overall CPQ11-14 scores, (n=429)

Variables	CPQ11-14	
variables	RR (95% CI)	p-value
Sex		
Boys	1 (reference)	
Girls	1.25 (1.18-1.33)	< 0.01
Age	0.91 (0.86-0.97)	< 0.05
Skin color		
White	1 (reference)	
Non-white	1.09 (1.03-1.16)	< 0.01
Household income in BMW		
≤ 1BMW	1 (reference)	
> 1BMW	0.77 (0.72-0.82)	< 0.01
Sense of coherence		
Low	1 (reference)	
High	0.54 (0.51-0.57)	< 0.01
Racial discrimination		
No	1 (reference)	
Yes	1.38 (1.25-1.52)	< 0.01
Untreated dental caries		
Absent	1 (reference)	
Present	1.18 (1.11-1.25)	< 0.01
Racial discrimination x Sense of coherence		
Presence of RD - Low SOC	1 (reference)	
Absence of RD – Low SOC	0.84 (0.56-0.86)	< 0.01
Absence of RD – High SOC	0.45 (0.40-0.81)	< 0.01
Presence of RD – High SOC	0.69 (0.75-0.94)	< 0.01

BMW, Brazilian minimum wage; RR, rate ratio; CI, confidence interval; RD, racial discrimination; SOC, sense of coherence.

Table 3. Adjusted analysis of the interaction of racial discrimination and sense of coherence on overall CPQ11-14 scores

	CPQ11-14	
Interaction variable	RR (95% CI)*	p-value
Racial discrimination x Sense of choerence		
Presence of RD - Low SOC	1 (reference)	
Absence of RD – Low SOC	0.89 (0.79-1.01)	0.07
Absence of RD – High SOC	0.48 (0.44-0.54)	< 0.01
Presence of RD – High SOC	0.70 (0.55-0.89)	< 0.01

RR, rate ratio; CI, confidence interval; RD, racial discrimination; SOC, sense of coherence; *Adjuested by sex, skin color, age, household income and untreated dental caries.

Table 4. Predictive marginal effects between the racial discrimination and overall CPQ11-14 scores according to different levels of sense of coherence, (n=429)

	CPQ11-14	
Racial discrimination x Sense of choerence	Margin (95% CI)*	p-value
Presence of RD - Low SOC	15.8 (14.1-17.6)	< 0.01
Absence of RD – Low SOC	13.4 (12.9-13.9	< 0.01
Absence of RD – High SOC	7.2 (6.8-7.6)	< 0.01
Presence of RD – High SOC	11.1 (9.03-13.1)	< 0.01

RR, rate ratio; CI, confidence interval; RD, racial discrimination; SOC, sense of coherence. *Delta-method.

Table 5. Contrast analysis of overall CPQ11-14 scores according to SOC level among individuals' victims of racial discrimination, (n=31)

	CPQ11-14	
Racial discrimination x Sense of choerence	dy/dx* (SE)	p-value
Presence of RD - Low SOC x High SOC	-4.80 (1.36)	<0.01

RD, racial discrimination; SOC, sense of coherence. *dy/dx for factor levels is the discrete change from the base level.

Figures

Figure 1. The logic map of the moderation effects

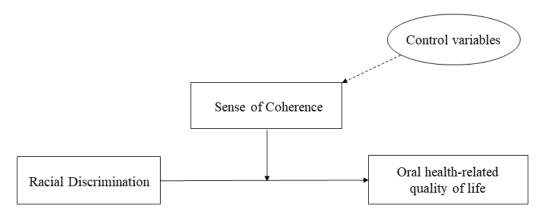
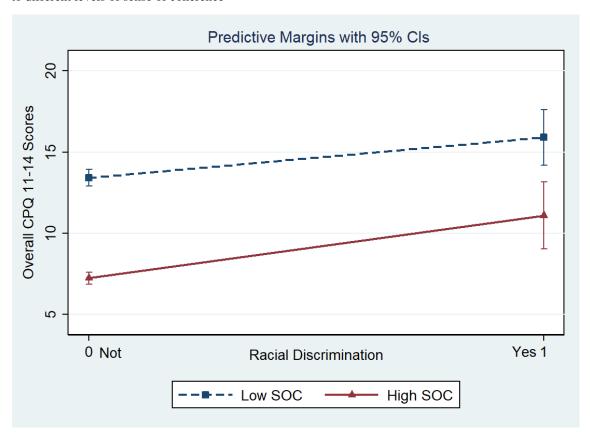


Figure 2. Predictive marginal effects between racial discrimination and overall CPQ11-14 scores according to different levels of sense of coherence



3 CONSIDERAÇÕES FINAIS

O presente estudo avaliou o efeito moderador do senso de coerência (SDC) na relação entre percepção de discriminação racial e qualidade de vida relacionada à saúde bucal (QVRSB). Para isso, foi realizado um estudo transversal aninhado a um estudo de coorte com acompanhamento de 10 anos, que avaliou no ano de 2020 escolares entre 11 e 15 anos de idade. Investigar essa relação é extremamente importante, pois um alto SDC pode atenuar os efeitos nocivos da discriminação racial e servir como um recurso de enfrentamento, através da melhora da capacidade de perceber as situações como compreensíveis, gerenciáveis e significativas.

Em nosso estudo, indivíduos que perceberam a discriminação racial apresentaram pior QVRSB. Ao avaliarmos o efeito moderador do SDC, foi possível observar um efeito protetor do SDC na relação entre percepção de discriminação racial e QVRSB. Isso indica que escolares que perceberam a discriminação racial e apresentaram um maior SDC, apresentaram um menor impacto sobre a QVRSB quando comparados àqueles que reportaram discriminação, mas tinham um baixo SOC.

É importante que estudos futuros sejam realizados levando em consideração que a discriminação racial / étnica é complexa e multidimensional, e, portanto, é oportuno considerar medidas mais sensíveis para mensurar, por exemplo, as diferentes formas de discriminação racial sofridas. Além disso, pode ser importante avaliar essas relações ao longo do tempo, permitindo estabeler relações de causa e efeito. No entanto, esse é um assunto que ainda está em desenvolvimento e o nosso estudo constitui parte importante desse processo. Além disso, o delineamento desse estudo permite que no futuro reavaliemos esses mesmos escolares e identifiquemos essa relação.

Os presentes achados suportaram a hipótese de que o SDC pode produzir efeito moderador na relação entre discriminação racial e QVRSB em escolares. Como sabemos que a discriminação racial pode iniciar na infância e gerar importantes consequências para a saúde na adolescência e na vida adulta, é extremamente importante apresentarmos formas de minimizar esses impactos, a fim de reduzir os efeitos dos atos discriminatórios em diferentes desfechos de saúde bucal ao longo da vida.

REFERÊNCIAS BIBLIOGRÁFICAS

- AIDA, J.; ANDO, Y.; OOSAKA, M.; NIIMI, K.; MORITA, M. Contributions of social context to inequality in dental caries: A multilevel analysis of Japanese 3-year-old children. **Community Dentistry and Oral Epidemiology**, v.36, p.149–156, 2008.
- ANTONOVSKY, A. The salutogenic perspective: Toward a new view of health and illness. **Advances**, v.4, n.1, p.47–55, 1987.
- ALI, A. RUMBOLD, A.R.; KAPELLAS, K. et al. The impact of interpersonal racism on oral health related quality of life among Indigenous South Australians: a cross-sectional study. **BMC Oral Health,** v.21, p.46, 2021.
- ANTUNES, J.L.F.; PERES, M.A.; MELLO, T.R.C.; WALDMAN, E.A. Multilevel assessment of determinants of dental caries experience in Brazil. **Community Dentistry and Oral Epidemiology**, v.34, n.2, p.146–52, 2006.
- ABANTO, J.; PANICO, C.; BONECKER, M.; FRAZÃO, P. Impact of demographic and clinical variables on the oral health-related quality of life among five-year-old children: a population-based study using self-reports. **International Journal of Paediatric Dentistry**, 2017.
- BAGGIO, S.; ABARCA, M.; BODENMANN, P.; GEHRI, M.; MADRID, C. Early childhood caries in Switzerland: a marker of social inequalities. **BMC Oral Health**, v.15:82, 2015.
- BAKER, S. R.; MAT, A.; ROBINSON, P. G. What psychosocial factors influence adolescents' oral health? **Journal of dental research**, v.89, n.11, p.1230–1235, 2010.
- BARON-EPEL, O.; BERARDI, V.; BELLETTIERE, J.; SHALATA, W. The Relation Between Discrimination, Sense of Coherence and Health Varies According to Ethnicity: A Study Among Three Distinct Populations in Israel. **Journal of immigrant and minority health**, v.19, n.6, p.1386-1396, 2017.
- BASTOS, J.L.; CELESTE, R.K.; PARADIES, Y.C. Racial inequalities in oral health. **Journal of Dental Research**, v.97, p.878-886, 2018.
- BEN, J.; JAMIESON, L.M.; PRIEST, N.; PARKER, E.J.; ROBERTS-THOMSON, K.F.; LAWRENCE, H.P.; BROUGHTON, J.; PARADIES, Y. Experience of racism and tooth brushing among pregnant Aboriginal Australians: exploring psychosocial mediators. **Community Dental Health**, v.31, n.3, p.145–152, 2014.
- BEN, J.; PARADIES, Y.; PRIEST, N.; PARKER, E.J.; ROBERTS-THOMSON, K.F.; LAWRENCE, H.P.; BROUGHTON, J.; JAMIESON, L.M. Self-reported racism and experience of toothache among pregnant Aboriginal Australians: the role of perceived stress, sense of control, and social support. **Journal of Public Health Dentistry**, v.74, n.4, p.301–309, 2014.

- BOING, A.F.; BASTOS, J.L.; PERES, K.G.; ANTUNES, J.L.F.; PERES, M.A. Social determinants of health and dental caries in Brazil: a systematic review of the literature between 1999 and 2010. **Revista Brasileira de Epidemiologia**, 102-115, 2014.
- BRODY, G.H.; LEI, M.K.; CHAE, D.H.; YU, T.; KOGAN, S.M.; BEACH, S.R. Perceived discrimination among African American adolescents and allostatic load: a longitudinal analysis with buffering effects. **Child development**, v.85, 989–1002, 2014.
- CABRAL, E.D.; CALDAS JR, A.F.; CABRAL, H.A. Influence of the patient's race on the dentist's decision to extract or retain a decayed tooth. **Community Dentistry and Oral Epidemiology**, v.33, p.461–466, 2005.
- CELESTE, R.K.; GONÇALVES, L.G.; FAERSTEIN, E.; BASTOS, J.L. The role of potential mediators in racial inequalities in tooth loss: the Pró-Saúde study. **Community Dentistry and Oral Epidemiology**, v.41, n.6, p.509–516, 2013.
- CHISINI, L.A.; NORONHA, T.G.; RAMOS, E.C.; SANTOS-JUNIOR, R.B.; SAMPAIO, K.H.; FARIA-E-SILVA, A.L.; CORRÊA, M.B. Does the skin color of patients influence the treatment decision-making of dentists? A randomized questionnaire-based study. **Clinical Oral Investigations**, v.23, n.3, p.1023-1030, 2019.
- CHOR, D.; LIMA, C.R.A. Aspectos epidemiológicos das desigualdades raciais em saúde no Brasil. **Cadernos de Saúde Pública**, v.21, n.5, p.1586-1594, 2005.
- COGBURN, C.D.; CHAVOUS, T.M.; GRIFFIN, T.M. School-based racial and gender discrimination among African American adolescents: exploring gender variation in frequency and implications for adjustment. **Race and Social Problems**, v.3, p.25–37, 2011.
- COKER, T.R.; ELLIOTT, M.N.; KANOUSE, D.E.; GRUNBAUM, J.A.; SCHWEBEL, D.C.; et al. Perceived racial/ethnic discrimination among fifth-grade students and its association with mental health. **American journal of public health**, v.99, p.878–84, 2009.
- COMISSION ON SOCIAL DETERMINANTS OF HEALTH. World Health Organization. Geneva: WHO Press, 2007.
- COSTA, F.; WENDT, A.; COSTA, C.; CHISINI, L.A.; AGOSTINI, B.; NEVES, R.; FLORES, T.; CORREA, M.B.; DEMARCO, F. Racial and regional inequalities of dental pain in adolescents: Brazilian National Survey of School Health (PeNSE), 2009 to 2015. **Cadernos de Saúde Publica**, v.37, n.6, e00108620, 2021.
- DAHLGREN, G.; WHITEHEAD, M. Policies and strategies to promote social equity in health. Stockholm: **Institute for Future studies**, v.14, 1991.
- EMMANUELLI, B.; KUCNER, A.A.; OSTAPIUCK, M.; TOMAZONI, F.; AGOSTINI, B.A.; ARDENGHI, T.M. Racial Differences in Oral Health-Related Quality of Life: A Multilevel Analysis in Brazilian Children. **Brazilian Dental Journal**, v.26, n.6, 689-694, 2015.

- ERIKSSON, M.; LINDSTRÖM, B. Antonovsky's sense of coherence scale and its relation with quality of life: a systematic review. **Journal of Epidemiology and Community Health**, v.61, p.11, 938–944, 2007.
- FINLAYSON, T.L.; LEMUS, H.; BECERRA, K.; KASTE, L.M.; BEAVER, S.M.; SALAZAR, C.R.; SINGER, R.H.; YOUNGBLOOD, M.E.Jr. Unfair treatment and periodontitis among adults in the Hispanic community health study/study of Latinos (Hchs/Sol). **Journal of Racial and Ethnic Health Disparities**, v.5, n.5, p.1093-1106.
- FORD, C.L.; AIRHIHENBUWA, C.O. Critical Race Theory, race equity, and public health: toward antiracism praxis. **American Journal of Public Health**, v.100 Suppl 1:S30-S35, 2010.
- FRANKS. P.; MUENNIG, P.; LUBETKIN, E.; JIA, H. The burden of disease associated with being African-American in the United States and the contribution of socio-economic status. **Social Science e Medicine**, v.62, p.2469–2478, 2006.
- GUPTA, E.; ROBINSON, P.G.; MARYA, C.M.; BAKER, S.R. Oral Health Inequalities: Relationships between Environmental and Individual Factors. **Journal of Dental Research**, v.94, n.10, p.1362 –8, 2015.
- HARNOIS, C. E.; BASTOS, J. L. Discrimination, Harassment, and Gendered Health Inequalities: Do Perceptions of Workplace Mistreatment Contribute to the Gender Gap in Self-reported Health? **Journal of Health and Social Behavior**, v.59, n.2, p.283–299, 2018.
- HERKRATH, F.J.; VETTORE, M.V.; WERNECK, G.L. Contextual and individual factors associated with dental services utilization by Brazilian adults: A multilevel analysis. **PLoSONE** v.13, n.2, e0192771, 2018.
- HOLST, D.; SCHULLER, A.A. Oral health in a life-course: birth-cohorts from 1929 to 2006 in Norway. **Community Dent Health**, v.29, n.2, p.134-43, 2012.
- HOOPER, W.M.; NÁPOLES, A.M.; PÉREZ-STABLE, E.J. COVID-19 and Racial/Ethnic Disparities. **JAMA**, v.323, n.24, p.2466–2467, 2020.
- HUANG, D.L; PARK, M. Socioeconomic and racial/ethnic oral health disparities among US older adults: oral health quality of life and dentition. **Journal of Public Health Dentistry**, v.75, p.85-92, 2015.
- HUNT, B.; WHITMAN, S. Black: white health disparities in the United States and Chicago: 1990-2010. **Journal of Racial and Ethnic Health Disparities**, v.2, p.93–100, 2015.

Instituto Brasileiro de Geografia e Estatística (2010). Censo 2010. Resource document. Instituto Brasileiro de Geografia e Estatística. Retrieved from http://www.ibge.gov.br/home/estat istic a/populacao/. Acessado em 27 de setembro de 2020.

Instituto de Pesquisa Econômica Aplicada, Retrato das desigualdades de gênero e raça, 4ª ed., Brasília: **IPEA**, 2011. 39 p.

JAMIESON, L.M.; STEFFENS, M.; PARADIES, Y.C. Associations between discrimination and dental visiting behaviours in an Aboriginal Australian birth cohort. **Australian and New Zealand Journal of Public Health**, v.37, n.1, p.92–93, 2013.

JAMIESON, L.M. Racism and oral health inequities; an introduction. **Community Dental Health**, v.38, n.2, p.131, 2021.

JARY, D.; JARY, J. Collins dictionary of sociology. Glasgow (UK): Collins, 2005.

JUNIOR, O.L.D.A.; MENEGAZZO, G.R.; FAGUNDES, M.L.B.; DE SOUSA, J.L.; TÔRRES, L.H.D.N.; GIORDANI, J.M.D.A. Perceived discrimination in health services and preventive dental attendance in Brazilian adults. **Community Dentistry and Oral Epidemiology**, v.48, n.6, p.533-539, 2020.

KABANI, F.; LYKENS, K.; TAK, H.J. Exploring the relationship between adverse childhood experiences and oral health-related quality of life. **Journal of Public Health Dentistry**, v.78, n.4, p. 313-320, 2018.

KASSEBAUM, N.J.; BERNABE, E.; DAHIYA, M.; BHANDARI, B.; MURRAY, C.J.; MARCENES, W. Global burden of untreated caries: a systematic review and metaregression. **Journal of Dental Research**. v.94, n.5, 650-8, 2015.

KRIEGER, N.; SMITH, K.; NAISHADHAM, D.; HARTMAN, C.; BARBEAU, E.M. Experiences of discrimination: Validity and reliability of a self-report measure for population health research on racism and health. **Social Science & Medicine**, v.61, n.7, p.1576–1596, 2005.

LAWRENCE, H.P.; CIDRO, J.; ISAAC-MANN, S.; PERESSINI, S.; MAAR, M.; SCHROTH, R.J.; GORDON, J.N.; HOFFMAN-GOETZ, L.; BROUGHTON, J.R.; JAMIESON, L. 2016. Racism and Oral Health Outcomes among Pregnant Canadian Aboriginal Women. **Journal of Health Care for the Poor and Underserved**, v.27, n.1 suppl, 178-206, 2016.

LEWIS, T. T.; COGBURN, C. D.; WILLIAMS, D. R. Self-Reported Experiences of Discrimination and Health: Scientific Advances, Ongoing Controversies, and Emerging Issues. **Annual Review of Clinical Psychology**, v.11, n.1, 407–440, 2015.

LINDSTROM, B.; ERIKSSON, M. Contextualizing salutogenesis and Antonovsky in public health development. **Health Promotion International**, v.21, n.3, p.238–244, 2006.

LINK, B.G.; PHELAN, J.C. Social conditions as fundamental causes of disease. **Journal of Health and Social Behavior**, v.35(Extraissue), p.80–84, 1995.

MARCENES, W.; KASSEBAUM, N.J.; BERNABE, E.; FLAXMAN, A.; NAGHAVI, M.; LOPEZ, A.; et al. Global burden of oral conditions in 1990-2010: a systematic analysis. **Journal of Dental Research**, v.92, n.7, p.592-7, 2013.

MARMOT, M.; BELL, R. Social determinants and dental health. **Advances in Dental Research**, v.23, n.2, p. 201–206, 2011.

- MATTHEWS, K.A.; SALOMON, K.; KENYON, K.; ZHOU, F. Unfair treatment, discrimination, and ambulatory blood pressure in black and white adolescents. **Health Psychology Journal**, v.24, p.258–65, 2005.
- MCGRATH, C.; BRODER, H.; WILSON-GENDERSON, M. Assessing the impact of oral health on the life quality of children: implications for research and practice. **Community Dentistry and Oral Epidemiology**, v.32, p.81-85, 2004.
- MOIMAZ, S.A.S; BORGES, H.C.; SALIBA, O.; GARBIN, C.A.S.; SALIBA, N.A. Early Childhood Caries: Epidemiology, Severity and Sociobehavioural Determinants. **Oral Health & Preventive Dentistry**, v.14, n.1, 2016.
- PASCOE, E.A.; SMART RICHMAN, L. Perceived discrimination and health: a meta-analytic review. **Psychological Bulletin**, v.135, n.4, p.531–54, 2009.
- PACHTER, L.M.; COLL, C.G. Racism and child health: a review of the literature and future directions. **Journal of Developmental & Behavioral Pediatrics**, v.30, p.255–63, 2009.
- PERES, K.G.; CASCAES, A.M.; LEÃO, A.T.T.; CÔRTES, M.I.S.; VETTORE. M.V. Sociodemographic and clinical aspects of quality of life related to oral health in adolescentes. **Revista de Saúde Pública**, v.47, Supl 3, p.1-9, 2013.
- PERES, M.A.; PERES, K.G.; DE BARROS, A.J.D.; VICTORA, C.G. The relation between family socioeconomic trajectories from childhood to adolescence and dental caries and associated oral behaviours. **Journal of Epidemiology and Community Health**, v.61 n.2, 141-145, 2007.
- PERREIRA, K.M.; TELLES, E.E. The color of health: skin color, ethnoracial classification, and discrimination in the health of Latin Americans. **Social Science and Medicine**, v.116, p. 241-250, 2014.
- PHELAN, J.C.; LINK, B.G. Is Racism a Fundamental Cause of Inequalities in Health? **Annual Review of Sociology**, v.41, p.311-330, 2015.
- PIOVESAN, C.; ANTUNES, J.L.; GUEDES, R.S.; ARDENGHI, T.M. Impact of socioeconomic and clinical factors on child oral health-related quality of life (COHRQoL). **Quality of Life Research**, v.19, p.1359-1366, 2010.
- PRIEST, N.; PARADIES, Y.; TRENERRY, B.; TRUONG, M.; KARLSEN, S.; KELLY, Y. A systematic review of studies examining the relationship between reported racism and health and wellbeing for children and young people. **Social Science and Medicine**, v.95, p.115–27, 2013.
- SANDERS-PHILLIPS, K. Racial discrimination: a continuum of violence exposure for children of color. **Clinical Child and Family Psychology Review**, v.12, p.174–95, 2009.
- \SHEIHAM, A.; WATT, R. G. The common risk factor approach: a rational basis for promoting oral health. **Community Dentistry and Oral Epidemiology**, v.28, n.6, p.399-406, 2000.

- SCHUCH, H. S., HAAG, D. G., BASTOS, J. L., PARADIES, Y., & JAMIESON, L. M. Intersectionality, racial discrimination and oral health in Australia. **Community Dentistry and Oral Epidemiology**, v.00, p.1–8, 2020.
- SFREDDO, C.S.; MOREIRA, C.H.C.; NICOLAU, B.; ORTIZ, F.R.; ARDENGHI, T.M. Socioeconomic inequalities in oral health-related quality of life in adolescents: a cohort study. **Quality of Life Research**, v.28, p.2491–2500, 2019.
- SCHEERMAN, J.F.; VAN LOVEREN, C.; VAN MEIJEL, B.; DUSSELDORP, E.; WARTEWIG, E.; VERRIPS, G. H.; KET, J. C.; VAN EMPELEN, P. Psychosocial correlates of oral hygiene behaviour in people aged 9 to 19 a systematic review with meta-analysis. **Community Dentistry and Oral Epidemiology**, v.44, n.4, p.331-341, 2016,
- SCOTT, J. A dictionary of sociology. Oxford (UK): Oxford University Press. Johnson AG. 2002. The Blackwell dictionary of sociology: a user's guide to sociological language. Oxford (UK): Blackwell, 2014.
- SISCHO, L.; BRODER, H.L. Oral health-related quality of life: what, why, how, and future implications. **Journal of Dental Research**, v.90, p.1264-1270, 2011.
- SOLAR, O.; IRWIN, A. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice). London: UCL, 2010.
- SOUZA, J.G.S.; OLIVEIRA, B.E.C.; MARTINS, A.M.E.B.L. Contextual and individual determinants of oral health-related quality of life in older Brazilians. **Quality of Life Research** v.26, n.5, p.1295-1302, 2017.
- STRAATMANN, V.S.; LAI, E.; LANGE, T.; CAMPBELL, M.C.; WICKHAM, S.; ANDERSON, A.M.; et al. How do early-life factors explain social inequalities in adolescent mental health? Findings from the UK Millennium Cohort Study. **Journal of Epidemiology and Community Health, v.7**3, n.11, p.1049-1060, 2019.
- VETTORE, M.V.; MARQUES, R.A.A.; PERES, M.A. Desigualdades sociais e doença periodontal no estudo SBBrasil 2010: abordagem multinível. **Revista de Saúde Pública**, v.47, supl. 3, p. 29-39, 2013.
- WATT, R.G. From victim blaming to upstream action: tackling the social determinants of oral health inequalities. **Community Dentistry and Oral Epidemiology**, v.35, n.1, p.1-11, 2007.
- WILLIAMS, D.M. Global oral health inequalities: the research Agenda. **Advances in Dental Research**, v. 23, p. 198–200, 2011.
- WILLIAMS, D.R.; COLLINS, C. Racial residential segregation: a fundamental cause of racial disparities in health. **Public Health Reports**, v.116, p.404–416, 2001.
- YANCY, C.W. COVID-19 and African Americans. **JAMA**, v.323, n.19, p.1891-1892, 2020.
- ZEIDERS, K.H.; HOYT, L.T.; ADAM, E.K. Associations between self-reported discrimination and diurnal cortisol rhythms among young adults: the moderating role of racial-ethnic minority status. **Psychoneuroendocrinology**, v.50C, p.280–88, 2014.

ANEXO A – CARTA DE APROVAÇÃO DO COMITÊ DE ÉTICA EM PESQUISA



UNIVERSIDADE FEDERAL DE SANTA MARIA/ PRÓ-REITORIA ' DE PÓS-GRADUAÇÃO E



PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Influência do capital social no desenvolvimento do senso de coerência e nas condições

bucais de escolares: uma coorte de 10 anos

Pesquisador: Thiago Machado Ardenghi

Área Temática: Versão: 2

CAAE: 11765419.1.0000.5346

Instituição Proponente: Departamento de Estomatologia

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 3.425.591

Apresentação do Projeto:

O objetivo deste estudo é explorar as inter-relações longitudinais entre fatores sociais individuais e comunitários no senso de coerência e nas condições de saúde bucal de escolares no município de Santa Maria, RS, Brasil. Esta pesquisa trata-se de uma coorte iniciado no ano de 2010 com 639 pré-escolares (1-5 anos) no qual se propõe uma quarta etapa de avaliação dos indivíduos que compõe a amostra, totalizando 10 anos de acompanhamento. As questões referentes aos fatores demográficos, condições socioeconômicas e fatores comportamentais serão obtidas através de um questionário semiestruturado aplicado aos pais/responsáveis dos escolares. Além disso, os escolares responderão questões referentes ao senso de coerência e outros medidas subjetivas. Os dados a respeito das condições bucais serão obtidos através de exames clínicos realizados por examinadores previamente treinados e calibrados. As variáveis clínicas consideradas serão cárie, traumatismo dentário, sangramento gengival, presença de placa visível, maloclusão e dor dentária. Modelagem de equações estruturais (MEE) será utilizada para testar as inter-relações entre o capital social individual e comunitário (como principais preditores) com SDC e resultados de saúde bucal (desfechos).

Objetivo da Pesquisa:

Explorar as inter-relações longitudinais entre fatores sociais individuais e comunitários no senso

Endereço: Av. Roraima, 1000 - prédio da Reitoria - 2º andar

Bairro: Camobi CEP: 97.105-970

UF: RS Município: SANTA MARIA

Telefone: (55)3220-9362 E-mail: cep.ufsm@gmail.com



UNIVERSIDADE FEDERAL DE SANTA MARIA/ PRÓ-REITORIA ' DE PÓS-GRADUAÇÃO E



Continuação do Parecer: 3.425.591

de coerência e nas condições de saúde bucal de escolares no município de Santa Maria, RS, Brasil.

Avaliação dos Riscos e Benefícios:

Considerando-se as características do projeto, a descrição de riscos e benefícios apresentada pode ser considerada suficiente.

Comentários e Considerações sobre a Pesquisa:

Considerações sobre os Termos de apresentação obrigatória:

Os termos de apresentação obrigatória podem ser considerados suficientes.

Recomendações:

Veja no site do CEP - http://w3.ufsm.br/nucleodecomites/index.php/cep - na aba "orientações gerais", modelos e orientações para apresentação dos documentos. ACOMPANHE AS ORIENTAÇÕES DISPONÍVEIS, EVITE PENDÊNCIAS E AGILIZE A TRAMITAÇÃO DO SEU PROJETO.

Conclusões ou Pendências e Lista de Inadequações:

.

Considerações Finais a critério do CEP:

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_P ROJETO 1331113.pdf	27/06/2019 15:35:37		Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TermoAssentimento_mod.pdf	27/06/2019 15:32:32	Thiago Machado Ardenghi	Aceito
Outros	Carta_ao_CEP.pdf	27/06/2019 15:29:54	Thiago Machado Ardenghi	Aceito
Outros	Autorizacao_munic.pdf	27/06/2019 15:29:33	Thiago Machado Ardenghi	Aceito

Endereço: Av. Roraima, 1000 - prédio da Reitoria - 2º andar

Bairro: Camobi CEP: 97.105-970

UF: RS Município: SANTA MARIA

Telefone: (55)3220-9362 E-mail: cep.ufsm@gmail.com



UNIVERSIDADE FEDERAL DE SANTA MARIA/ PRÓ-REITORIA DE PÓS-GRADUAÇÃO E



Continuação do Parecer: 3.425.591

Outros	autorizacao_estad.pdf	27/06/2019 15:28:57	Thiago Machado Ardenghi	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_mod.pdf	27/06/2019 15:25:36	Thiago Machado Ardenghi	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TermoConfidencialidadenovo.pdf	22/05/2019 12:11:40	Thiago Machado Ardenghi	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TermoConfidencialidade.pdf	12/04/2019 12:14:19	Thiago Machado Ardenghi	Aceito
Cronograma	cronograma.pdf	10/04/2019 09:49:59	Thiago Machado Ardenghi	Aceito
Declaração de Instituição e Infraestrutura	Autorizacao.pdf	10/04/2019 09:45:32	Thiago Machado Ardenghi	Aceito
Projeto Detalhado / Brochura Investigador	projeto.pdf	10/04/2019 09:45:02	Thiago Machado Ardenghi	Aceito
Folha de Rosto	folharosto.pdf	10/04/2019 09:44:43	Thiago Machado Ardenghi	Aceito

Situação do Parecer:
Aprovado
Necessita Apropiação d

Necessita Apreciação da CONEP:

Não

SANTA MARIA, 28 de Junho de 2019

Assinado por: **CLAUDEMIR DE QUADROS** (Coordenador(a))

Endereço: Av. Roraima, 1000 - prédio da Reitoria - 2º andar

Bairro: Camobi UF: RS CEP: 97.105-970

Município: SANTA MARIA

Telefone: (55)3220-9362 E-mail: cep.ufsm@gmail.com

ANEXO B - NORMAS PARA PUBLICAÇÃO NO PERIÓDICO QUALITY OF LIFE RESEARCH

ARTICLE TYPES

Quality of Life Research welcomes scientific articles in the following categories:

Original Articles

Original articles are a maximum of 4,000 words, exclusive of a 250-word structured abstract, figures, tables, and references. We encourage submissions of shorter length if the empirical study can be presented concisely. We also make authors aware of the option to publish additional detail as online appendices. We are particularly interested in studies that utilize patient-reported outcomes, focusing on clinical and policy applications of (health-related) quality-of-life research; showcasing quantitative and qualitative methodological advances; and/ or describing instrument development.

Original articles describe work that is not already published elsewhere or directly uses statements from previously published materials without appropriate acknowledgement or referencing. For example, if the submitted work forms part of a thesis dissertation or the abstract was published as part of conference proceedings, these should be acknowledged. If taking direct statements from published sources, these should be appropriately referenced.

• Registered Reports

The journal is pleased to offer Registered Reports for authors submitting to the journal. To learn more about this article type, please see the full instructions here.

• Letters to the editor

Quality of Life Research accepts on occasion letters to the editor. These letters are published at the Co-Editors in Chief's discretion. Letters would be expected to make a substantial informative point and usually cover material such as responses to published articles or viewpoints (usually of more than an individual, e.g. patient groups, scientific societies, stakeholder organizations, international research consortia). As with commentaries, letters can also be submitted on invitation of the editors. Letters are not for general news sharing or to summarize results of articles published elsewhere. Letters to the editor will be reviewed by the Co-Editors in Chief, and if necessary, by drawing on additional editorial board members. In the case of letters that are in direct response to work published in Quality of Life Research, the original handling Associate Editor will be invited to review.

The submission format for a letter is a maximum length of 1000 words; no abstract; no sections; no graphs/figures; and no tables are permitted. The manuscript should have at most 5 references. A maximum of three authors are permitted, and only first author's main affiliation should be included

• Other Types of Articles

The journal also publishes commentaries and editorials; reviews of the literature; reviews of recent books and software advances; and abstracts presented at the annual meeting of the

International Society of Quality of Life Research conference. These articles should be as long as needed to convey the desired information, and no more than 4,000 words in length. To the extent that it is possible, a structured abstract is appreciated.

Language

We appreciate any efforts that you make to ensure that the language usage is corrected before submission using standard United States or United Kingdom English. This will greatly improve the legibility of your paper if English is not your first language.

PLAIN ENGLISH SUMMARY

All submitting authors in Quality of Life Research have the opportunity to include a Plain English summary in addition to the Abstract. The plain English summary is a brief summary of the study written for the general public rather than for specialists. It is not a scientific abstract. Use clear and simple language, avoiding jargon, abbreviations, technical terms, uncommon words, and long sentences wherever possible.

Please address the following questions in your summary paragraph:

- 1. Why is this study needed?
- 2. What is the key problem/issue/question this manuscript addresses?
- 3. What is the main point of your study?
- 4. What are your main results and what do they mean?

The recommended length for the summary is 100-200 words and it should not exceed 250 words. Each question above should be addressed briefly (i.e., 1-2 sentences).

Please include your plain English summary as a separate submission file, and additionally within the main body of your manuscript file. The plain English summary should be inserted immediately after the official scientific abstract within the manuscript file under the heading "Plain English summary".

By adding a plain English summary, we hope to broaden the reach of the article and bring it to the attention of a more general audience. Researchers are trained to be highly focused, specific, and conservative with extrapolation and speculation. These attributes are useful for scientific publications, but not for wider public understanding. Many non-scientists have difficulty understanding technical terms and jargon, and the public requires more context-setting by way of introduction and more help drawing a conclusion.

An Example from the Journal of Eating Disorders

Original Manuscript

www.jeatdisord.biomedcentral.com/articles/10.1186/s40337-019-0264-0

Binge Eating Disorder is the most common eating disorder. Still, this disorder is often not addressed by the health care system, and current treatment shows poor results on a large group of these patients. Difficulties in relating to own body are linked to the development and maintenance of eating disorders in previous research and seem to influence treatment results and the risk of relapse. Basic Body Awareness Therapy is a psychomotor physiotherapeutic treatment addressing the relation to one's own body. In this study, we have explored in-depth the experiences of two patients with Binge Eating Disorder during their treatment-process with Basic Body Awareness Therapy. This study indicates that changes in how these patients related to their own bodies during the treatment processes were meaningful to them and implied a movement toward well-being and accepting one's own body. Findings from this study inspire more research on body awareness raising approaches in the treatment of patients with Binge Eating Disorder.

MANUSCRIPT SUBMISSION

Manuscript Submission

Submission of a manuscript implies: that the work described has not been published before; that it is not under consideration for publication anywhere else; that its publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation.

Permissions

Authors wishing to include figures, tables, or text passages that have already been published elsewhere are required to obtain permission from the copyright owner(s) for both the print and online format and to include evidence that such permission has been granted when submitting their papers. Any material received without such evidence will be assumed to originate from the authors.

Online Submission

Please follow the hyperlink "Submit manuscript" on the right and upload all of your manuscript files following the instructions given on the screen.

Please ensure you provide all relevant editable source files. Failing to submit these source files might cause unnecessary delays in the review and production process.

EDITORIAL PROCEDURE

Single-blind peer review

This journal follows a single-blind reviewing procedure.

TITLE PAGE

Title Page

Please make sure your title page contains the following information.

Title

The title should be concise and informative.

Author information

The name(s) of the author(s)

The affiliation(s) of the author(s), i.e. institution, (department), city, (state), country

A clear indication and an active e-mail address of the corresponding author

If available, the 16-digit ORCID of the author(s)

If address information is provided with the affiliation(s) it will also be published.

For authors that are (temporarily) unaffiliated we will only capture their city and country of residence, not their e-mail address unless specifically requested.

Abstract

Please provide a structured abstract of 150 to 250 words which should be divided into the following sections:

Purpose (stating the main purposes and research question)

Methods

Results

Conclusion

For life science journals only (when applicable)

Trial registration number and date of registration

Trial registration number, date of registration followed by "retrospectively registered"

Keywords

Please provide 4 to 6 keywords which can be used for indexing purposes.

Declarations

All manuscripts must contain the following sections under the heading 'Declarations'.

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

To be used for all articles, including articles with biological applications

Funding (information that explains whether and by whom the research was supported)

Conflicts of interest/Competing interests (include appropriate disclosures)

Availability of data and material (data transparency)

Code availability (software application or custom code)

Authors' contributions (optional: please review the submission guidelines from the journal whether statements are mandatory)

Additional declarations for articles in life science journals that report the results of studies involving humans and/or animals

Ethics approval (include appropriate approvals or waivers)

Consent to participate (include appropriate statements)

Consent for publication (include appropriate statements)

Please see the relevant sections in the submission guidelines for further information as well as various examples of wording. Please revise/customize the sample statements according to your own needs.

Please note:

The Title Page should also state the word count for the manuscript (exclusive of abstract, figures, tables, and references.

TEXT

Text Formatting

Manuscripts should be submitted in Word.

Use a normal, plain font (e.g., 10-point Times Roman) for text.

Use italics for emphasis.

Use the automatic page numbering function to number the pages.

Do not use field functions.

Use tab stops or other commands for indents, not the space bar.

Use the table function, not spreadsheets, to make tables.

Use the equation editor or MathType for equations.

Save your file in docx format (Word 2007 or higher) or doc format (older Word versions).

Manuscripts with mathematical content can also be submitted in LaTeX.

LaTeX macro package (Download zip, 190 kB)

Headings

Please use no more than three levels of displayed headings.

Abbreviations

Abbreviations should be defined at first mention and used consistently thereafter.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

Acknowledgments

Acknowledgments of people, grants, funds, etc. should be placed in a separate section on the title page. The names of funding organizations should be written in full.

SCIENTIFIC STYLE

Please always use internationally accepted signs and symbols for units (SI units).

Generic names of drugs and pesticides are preferred; if trade names are used, the generic name should be given at first mention.

REFERENCES

Citation

Reference citations in the text should be identified by numbers in square brackets. Some examples:

- 1. Negotiation research spans many disciplines [3].
- 2. This result was later contradicted by Becker and Seligman [5].
- 3. This effect has been widely studied [1-3, 7].

Authors are encouraged to follow official APA version 7 guidelines on the number of authors included in reference list entries (i.e., include all authors up to 20; for larger groups, give the first 19 names followed by an ellipsis and the final author's name). However, if authors shorten the author group by using et al., this will be retained.

Reference list

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text.

The entries in the list should be numbered consecutively.

Journal names and book titles should be italicized.

If available, please always include DOIs as full DOI links in your reference list (e.g. "https://doi.org/abc").

Journal article

Grady, J. S., Her, M., Moreno, G., Perez, C., & Yelinek, J. (2019). Emotions in storybooks: A comparison of storybooks that represent ethnic and racial groups in the United States. Psychology of Popular Media Culture, 8(3), 207–217. https://doi.org/10.1037/ppm0000185

Article by DOI

Hong, I., Knox, S., Pryor, L., Mroz, T. M., Graham, J., Shields, M. F., & Reistetter, T. A. (2020). Is referral to home health rehabilitation following inpatient rehabilitation facility associated with 90-day hospital readmission for adult patients with stroke? American Journal of Physical Medicine & Rehabilitation. Advance online publication. https://doi.org/10.1097/PHM.0000000000001435

Book

Sapolsky, R. M. (2017). Behave: The biology of humans at our best and worst. Penguin Books.

Book chapter

Dillard, J. P. (2020). Currents in the study of persuasion. In M. B. Oliver, A. A. Raney, & J. Bryant (Eds.), Media effects: Advances in theory and research (4th ed., pp. 115–129). Routledge.

Online document

Fagan, J. (2019, March 25). Nursing clinical brain. OER Commons. Retrieved January 7, 2020, from https://www.oercommons.org/authoring/53029-nursing-clinical-brain/view

TABLES

All tables are to be numbered using Arabic numerals.

Tables should always be cited in text in consecutive numerical order.

For each table, please supply a table caption (title) explaining the components of the table.

Identify any previously published material by giving the original source in the form of a reference at the end of the table caption.

Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body.

ARTWORK AND ILLUSTRATIONS GUIDELINES

Electronic Figure Submission

Supply all figures electronically.

Indicate what graphics program was used to create the artwork.

For vector graphics, the preferred format is EPS; for halftones, please use TIFF format. MSOffice files are also acceptable.

Vector graphics containing fonts must have the fonts embedded in the files.

Name your figure files with "Fig" and the figure number, e.g., Fig1.eps.

Line Art

Definition: Black and white graphic with no shading.

Do not use faint lines and/or lettering and check that all lines and lettering within the figures are legible at final size.

All lines should be at least 0.1 mm (0.3 pt) wide.

Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 1200 dpi.

Vector graphics containing fonts must have the fonts embedded in the files.

Halftone Art

Definition: Photographs, drawings, or paintings with fine shading, etc.

If any magnification is used in the photographs, indicate this by using scale bars within the figures themselves.

Halftones should have a minimum resolution of 300 dpi.

Combination Art

Definition: a combination of halftone and line art, e.g., halftones containing line drawing, extensive lettering, color diagrams, etc.

Combination artwork should have a minimum resolution of 600 dpi.

Color Art

Color art is free of charge for online publication.

If black and white will be shown in the print version, make sure that the main information will still be visible. Many colors are not distinguishable from one another when converted to black and white. A simple way to check this is to make a xerographic copy to see if the necessary distinctions between the different colors are still apparent.

If the figures will be printed in black and white, do not refer to color in the captions.

Color illustrations should be submitted as RGB (8 bits per channel).

Figure Lettering

To add lettering, it is best to use Helvetica or Arial (sans serif fonts).

Keep lettering consistently sized throughout your final-sized artwork, usually about 2–3 mm (8–12 pt).

Variance of type size within an illustration should be minimal, e.g., do not use 8-pt type on an axis and 20-pt type for the axis label.

Avoid effects such as shading, outline letters, etc.

Do not include titles or captions within your illustrations.

Figure Numbering

All figures are to be numbered using Arabic numerals.

Figures should always be cited in text in consecutive numerical order.

Figure parts should be denoted by lowercase letters (a, b, c, etc.).

If an appendix appears in your article and it contains one or more figures, continue the consecutive numbering of the main text. Do not number the appendix figures,"A1, A2, A3, etc." Figures in online appendices [Supplementary Information (SI)] should, however, be numbered separately.

Figure Captions

Each figure should have a concise caption describing accurately what the figure depicts. Include the captions in the text file of the manuscript, not in the figure file.

Figure captions begin with the term Fig. in bold type, followed by the figure number, also in bold type.

No punctuation is to be included after the number, nor is any punctuation to be placed at the end of the caption.

Identify all elements found in the figure in the figure caption; and use boxes, circles, etc., as coordinate points in graphs.

Identify previously published material by giving the original source in the form of a reference citation at the end of the figure caption.

Figure Placement and Size

Figures should be submitted separately from the text, if possible.

When preparing your figures, size figures to fit in the column width.

For large-sized journals the figures should be 84 mm (for double-column text areas), or 174 mm (for single-column text areas) wide and not higher than 234 mm.

For small-sized journals, the figures should be 119 mm wide and not higher than 195 mm.

Permissions

If you include figures that have already been published elsewhere, you must obtain permission from the copyright owner(s) for both the print and online format. Please be aware that some publishers do not grant electronic rights for free and that Springer will not be able to refund any costs that may have occurred to receive these permissions. In such cases, material from other sources should be used.

Accessibility

In order to give people of all abilities and disabilities access to the content of your figures, please make sure that

All figures have descriptive captions (blind users could then use a text-to-speech software or a text-to-Braille hardware)

Patterns are used instead of or in addition to colors for conveying information (colorblind users would then be able to distinguish the visual elements)

Any figure lettering has a contrast ratio of at least 4.5:1

SUPPLEMENTARY INFORMATION (SI)

Springer accepts electronic multimedia files (animations, movies, audio, etc.) and other supplementary files to be published online along with an article or a book chapter. This feature can add dimension to the author's article, as certain information cannot be printed or is more convenient in electronic form.

Before submitting research datasets as Supplementary Information, authors should read the journal's Research data policy. We encourage research data to be archived in data repositories wherever possible.

Submission

Supply all supplementary material in standard file formats.

Please include in each file the following information: article title, journal name, author names; affiliation and e-mail address of the corresponding author.

To accommodate user downloads, please keep in mind that larger-sized files may require very long download times and that some users may experience other problems during downloading. Audio, Video, and Animations

Aspect ratio: 16:9 or 4:3 Maximum file size: 25 GB Minimum video duration: 1 sec

Supported file formats: avi, wmv, mp4, mov, m2p, mp2, mpg, mpeg, flv, mxf, mts, m4v, 3gp

Text and Presentations

Submit your material in PDF format; .doc or .ppt files are not suitable for long-term viability. A collection of figures may also be combined in a PDF file.

Spreadsheets

Spreadsheets should be submitted as .csv or .xlsx files (MS Excel).

Specialized Formats

Specialized format such as .pdb (chemical), .wrl (VRML), .nb (Mathematica notebook), and .tex can also be supplied.

Collecting Multiple Files

It is possible to collect multiple files in a .zip or .gz file.

Numbering

If supplying any supplementary material, the text must make specific mention of the material as a citation, similar to that of figures and tables.

Refer to the supplementary files as "Online Resource", e.g., "... as shown in the animation (Online Resource 3)", "... additional data are given in Online Resource 4".

Name the files consecutively, e.g. "ESM_3.mpg", "ESM_4.pdf".

Captions

For each supplementary material, please supply a concise caption describing the content of the file.

Processing of supplementary files

Supplementary Information (SI) will be published as received from the author without any conversion, editing, or reformatting.

Accessibility

In order to give people of all abilities and disabilities access to the content of your supplementary files, please make sure that

The manuscript contains a descriptive caption for each supplementary material

Video files do not contain anything that flashes more than three times per second (so that users prone to seizures caused by such effects are not put at risk)

ENGLISH LANGUAGE EDITING

For editors and reviewers to accurately assess the work presented in your manuscript you need to ensure the English language is of sufficient quality to be understood. If you need help with writing in English you should consider:

Getting a fast, free online grammar check.

Asking a colleague who is proficient in English to review your manuscript for clarity.

Visiting the English language tutorial which covers the common mistakes when writing in English.

Using a professional language editing service where editors will improve the English to ensure that your meaning is clear and identify problems that require your review. Two such services are provided by our affiliates Nature Research Editing Service and American Journal Experts. Springer authors are entitled to a 10% discount on their first submission to either of these services, simply follow the links below.

ETHICAL RESPONSIBILITIES OF AUTHORS

This journal is committed to upholding the integrity of the scientific record. As a member of the Committee on Publication Ethics (COPE) the journal will follow the COPE guidelines on how to deal with potential acts of misconduct.

Authors should refrain from misrepresenting research results which could damage the trust in the journal, the professionalism of scientific authorship, and ultimately the entire scientific endeavour. Maintaining integrity of the research and its presentation is helped by following the rules of good scientific practice, which include*:

The manuscript should not be submitted to more than one journal for simultaneous consideration.

The submitted work should be original and should not have been published elsewhere in any form or language (partially or in full), unless the new work concerns an expansion of previous work. (Please provide transparency on the re-use of material to avoid the concerns about text-recycling ('self-plagiarism').

A single study should not be split up into several parts to increase the quantity of submissions and submitted to various journals or to one journal over time (i.e. 'salami-slicing/publishing'). Concurrent or secondary publication is sometimes justifiable, provided certain conditions are met. Examples include: translations or a manuscript that is intended for a different group of readers.

Results should be presented clearly, honestly, and without fabrication, falsification or inappropriate data manipulation (including image based manipulation). Authors should adhere to discipline-specific rules for acquiring, selecting and processing data.

No data, text, or theories by others are presented as if they were the author's own ('plagiarism'). Proper acknowledgements to other works must be given (this includes material that is closely copied (near verbatim), summarized and/or paraphrased), quotation marks (to indicate words taken from another source) are used for verbatim copying of material, and permissions secured for material that is copyrighted.

Important note: the journal may use software to screen for plagiarism.

Authors should make sure they have permissions for the use of software, questionnaires/(web) surveys and scales in their studies (if appropriate).

Research articles and non-research articles (e.g. Opinion, Review, and Commentary articles) must cite appropriate and relevant literature in support of the claims made. Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged.

Authors should avoid untrue statements about an entity (who can be an individual person or a company) or descriptions of their behavior or actions that could potentially be seen as personal attacks or allegations about that person.

Research that may be misapplied to pose a threat to public health or national security should be clearly identified in the manuscript (e.g. dual use of research). Examples include creation of harmful consequences of biological agents or toxins, disruption of immunity of vaccines, unusual hazards in the use of chemicals, weaponization of research/technology (amongst others).

Authors are strongly advised to ensure the author group, the Corresponding Author, and the order of authors are all correct at submission. Adding and/or deleting authors during the revision stages is generally not permitted, but in some cases may be warranted. Reasons for changes in authorship should be explained in detail. Please note that changes to authorship cannot be made after acceptance of a manuscript.

*All of the above are guidelines and authors need to make sure to respect third parties rights such as copyright and/or moral rights.

Upon request authors should be prepared to send relevant documentation or data in order to verify the validity of the results presented. This could be in the form of raw data, samples, records, etc. Sensitive information in the form of confidential or proprietary data is excluded.

If there is suspicion of misbehavior or alleged fraud the Journal and/or Publisher will carry out an investigation following COPE guidelines. If, after investigation, there are valid concerns, the author(s) concerned will be contacted under their given e-mail address and given an opportunity to address the issue. Depending on the situation, this may result in the Journal's and/or Publisher's implementation of the following measures, including, but not limited to:

If the manuscript is still under consideration, it may be rejected and returned to the author. If the article has already been published online, depending on the nature and severity of the infraction:

- an erratum/correction may be placed with the article
- an expression of concern may be placed with the article
- or in severe cases retraction of the article may occur.

The reason will be given in the published erratum/correction, expression of concern or retraction note. Please note that retraction means that the article is maintained on the platform, watermarked "retracted" and the explanation for the retraction is provided in a note linked to the watermarked article.

The author's institution may be informed

A notice of suspected transgression of ethical standards in the peer review system may be included as part of the author's and article's bibliographic record.

Fundamental errors

Authors have an obligation to correct mistakes once they discover a significant error or inaccuracy in their published article. The author(s) is/are requested to contact the journal and explain in what sense the error is impacting the article. A decision on how to correct the literature will depend on the nature of the error. This may be a correction or retraction. The retraction note should provide transparency which parts of the article are impacted by the error.

Suggesting / excluding reviewers

Authors are welcome to suggest suitable reviewers and/or request the exclusion of certain individuals when they submit their manuscripts. When suggesting reviewers, authors should make sure they are totally independent and not connected to the work in any way. It is strongly recommended to suggest a mix of reviewers from different countries and different institutions. When suggesting reviewers, the Corresponding Author must provide an institutional email address for each suggested reviewer, or, if this is not possible to include other means of verifying the identity such as a link to a personal homepage, a link to the publication record or a researcher or author ID in the submission letter. Please note that the Journal may not use the suggestions, but suggestions are appreciated and may help facilitate the peer review process.

AUTHORSHIP PRINCIPLES

These guidelines describe authorship principles and good authorship practices to which prospective authors should adhere to.

Authorship clarified

The Journal and Publisher assume all authors agreed with the content and that all gave explicit consent to submit and that they obtained consent from the responsible authorities at the institute/organization where the work has been carried out, before the work is submitted.

The Publisher does not prescribe the kinds of contributions that warrant authorship. It is recommended that authors adhere to the guidelines for authorship that are applicable in their specific research field. In absence of specific guidelines it is recommended to adhere to the following guidelines*:

All authors whose names appear on the submission

- 1) made substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data; or the creation of new software used in the work;
- 2) drafted the work or revised it critically for important intellectual content;
- 3) approved the version to be published; and
- 4) agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
- * Based on/adapted from:

ICMJE, Defining the Role of Authors and Contributors,

Transparency in authors' contributions and responsibilities to promote integrity in scientific publication, McNutt at all, PNAS February 27, 2018

Disclosures and declarations

All authors are requested to include information regarding sources of funding, financial or non-financial interests, study-specific approval by the appropriate ethics committee for research involving humans and/or animals, informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals (as appropriate).

The decision whether such information should be included is not only dependent on the scope of the journal, but also the scope of the article. Work submitted for publication may have implications for public health or general welfare and in those cases it is the responsibility of all authors to include the appropriate disclosures and declarations.

Data transparency

All authors are requested to make sure that all data and materials as well as software application or custom code support their published claims and comply with field standards. Please note that journals may have individual policies on (sharing) research data in concordance with disciplinary norms and expectations.

Role of the Corresponding Author

One author is assigned as Corresponding Author and acts on behalf of all co-authors and ensures that questions related to the accuracy or integrity of any part of the work are appropriately addressed.

The Corresponding Author is responsible for the following requirements:

ensuring that all listed authors have approved the manuscript before submission, including the names and order of authors;

managing all communication between the Journal and all co-authors, before and after publication;*

providing transparency on re-use of material and mention any unpublished material (for example manuscripts in press) included in the manuscript in a cover letter to the Editor;

making sure disclosures, declarations and transparency on data statements from all authors are included in the manuscript as appropriate (see above).

* The requirement of managing all communication between the journal and all co-authors during submission and proofing may be delegated to a Contact or Submitting Author. In this case please make sure the Corresponding Author is clearly indicated in the manuscript.

Author contributions

In absence of specific instructions and in research fields where it is possible to describe discrete efforts, the Publisher recommends authors to include contribution statements in the work that specifies the contribution of every author in order to promote transparency. These contributions should be listed at the separate title page.

Examples of such statement(s) are shown below:

• Free text:

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by [full name], [full name] and [full name]. The first draft of the manuscript was written by [full name] and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Example: CRediT taxonomy:

• Conceptualization: [full name], ...; Methodology: [full name], ...; Formal analysis and investigation: [full name], ...; Writing - original draft preparation: [full name, ...]; Writing - review and editing: [full name], ...; Funding acquisition: [full name], ...; Resources: [full name], ...; Supervision: [full name], ...

For review articles where discrete statements are less applicable a statement should be included who had the idea for the article, who performed the literature search and data analysis, and who drafted and/or critically revised the work.

For articles that are based primarily on the student's dissertation or thesis, it is recommended that the student is usually listed as principal author:

A Graduate Student's Guide to Determining Authorship Credit and Authorship Order, APA Science Student Council 2006

Affiliation

The primary affiliation for each author should be the institution where the majority of their work was done. If an author has subsequently moved, the current address may additionally be stated. Addresses will not be updated or changed after publication of the article.

Changes to authorship

Authors are strongly advised to ensure the correct author group, the Corresponding Author, and the order of authors at submission. Changes of authorship by adding or deleting authors, and/or changes in Corresponding Author, and/or changes in the sequence of authors are not accepted after acceptance of a manuscript.

Please note that author names will be published exactly as they appear on the accepted submission!

Please make sure that the names of all authors are present and correctly spelled, and that addresses and affiliations are current.

Adding and/or deleting authors at revision stage are generally not permitted, but in some cases it may be warranted. Reasons for these changes in authorship should be explained. Approval of the change during revision is at the discretion of the Editor-in-Chief. Please note that journals may have individual policies on adding and/or deleting authors during revision stage.

Author identification

Authors are recommended to use their ORCID ID when submitting an article for consideration or acquire an ORCID ID via the submission process.

Deceased or incapacitated authors

For cases in which a co-author dies or is incapacitated during the writing, submission, or peerreview process, and the co-authors feel it is appropriate to include the author, co-authors should obtain approval from a (legal) representative which could be a direct relative.

Authorship issues or disputes

In the case of an authorship dispute during peer review or after acceptance and publication, the Journal will not be in a position to investigate or adjudicate. Authors will be asked to resolve the dispute themselves. If they are unable the Journal reserves the right to withdraw a manuscript from the editorial process or in case of a published paper raise the issue with the authors' institution(s) and abide by its guidelines.

Confidentiality

Authors should treat all communication with the Journal as confidential which includes correspondence with direct representatives from the Journal such as Editors-in-Chief and/or Handling Editors and reviewers' reports unless explicit consent has been received to share information.

COMPLIANCE WITH ETHICAL STANDARDS

To ensure objectivity and transparency in research and to ensure that accepted principles of ethical and professional conduct have been followed, authors should include information regarding sources of funding, potential conflicts of interest (financial or non-financial), informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals.

Authors should include the following statements (if applicable) in a separate section entitled "Compliance with Ethical Standards" when submitting a paper:

Disclosure of potential conflicts of interest

Research involving Human Participants and/or Animals

Informed consent

Please note that standards could vary slightly per journal dependent on their peer review policies (i.e. single or double blind peer review) as well as per journal subject discipline. Before submitting your article check the instructions following this section carefully.

The corresponding author should be prepared to collect documentation of compliance with ethical standards and send if requested during peer review or after publication.

The Editors reserve the right to reject manuscripts that do not comply with the above-mentioned guidelines. The author will be held responsible for false statements or failure to fulfill the above-mentioned guidelines.

CONFLICTS OF INTEREST / COMPETING INTERESTS

Authors are requested to disclose interests that are directly or indirectly related to the work submitted for publication. Interests within the last 3 years of beginning the work (conducting the research and preparing the work for submission) should be reported. Interests outside the 3-year time frame must be disclosed if they could reasonably be perceived as influencing the submitted work. Disclosure of interests provides a complete and transparent process and helps readers form their own judgments of potential bias. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate.

Interests that should be considered and disclosed but are not limited to the following:

Funding: Research grants from funding agencies (please give the research funder and the grant number) and/or research support (including salaries, equipment, supplies, reimbursement for attending symposia, and other expenses) by organizations that may gain or lose financially through publication of this manuscript.

Employment: Recent (while engaged in the research project), present or anticipated employment by any organization that may gain or lose financially through publication of this manuscript. This includes multiple affiliations (if applicable).

Financial interests: Stocks or shares in companies (including holdings of spouse and/or children) that may gain or lose financially through publication of this manuscript; consultation fees or other forms of remuneration from organizations that may gain or lose financially; patents or patent applications whose value may be affected by publication of this manuscript.

It is difficult to specify a threshold at which a financial interest becomes significant, any such figure is necessarily arbitrary, so one possible practical guideline is the following: "Any undeclared financial interest that could embarrass the author were it to become publicly known after the work was published."

Non-financial interests: In addition, authors are requested to disclose interests that go beyond financial interests that could impart bias on the work submitted for publication such as professional interests, personal relationships or personal beliefs (amongst others). Examples include, but are not limited to: position on editorial board, advisory board or board of directors or other type of management relationships; writing and/or consulting for educational purposes; expert witness; mentoring relations; and so forth.

Primary research articles require a disclosure statement. Review articles present an expert synthesis of evidence and may be treated as an authoritative work on a subject. Review articles therefore require a disclosure statement. Other article types such as editorials, book reviews, comments (amongst others) may, dependent on their content, require a disclosure statement. If you are unclear whether your article type requires a disclosure statement, please contact the Editor-in-Chief.

Please note that, in addition to the above requirements, funding information (given that funding is a potential conflict of interest (as mentioned above)) needs to be disclosed upon submission of the manuscript in the peer review system. This information will automatically be added to the Record of CrossMark, however it is not added to the manuscript itself. Under 'summary of requirements' (see below) funding information should be included in the 'Declarations' section.

Summary of requirements

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Funding' and/or 'Conflicts of interests'/'Competing interests'. Other declarations include Ethics approval, Consent, Data, Material and/or Code availability and Authors' contribution statements.

Please see the various examples of wording below and revise/customize the sample statements according to your own needs.

When all authors have the same (or no) conflicts and/or funding it is sufficient to use one blanket statement.

Examples of statements to be used when funding has been received:

Partial financial support was received from [...]

The research leading to these results received funding from [...] under Grant Agreement No[...].

This study was funded by [...]

This work was supported by [...] (Grant numbers [...] and [...]

Examples of statements to be used when there is no funding:

The authors did not receive support from any organization for the submitted work.

No funding was received to assist with the preparation of this manuscript.

No funding was received for conducting this study.

No funds, grants, or other support was received.

Examples of statements to be used when there are interests to declare:

Financial interests: Author A has received research support from Company A. Author B has received a speaker honorarium from Company Wand owns stock in Company X. Author C is consultant to company Y.

Non-financial interests: Author C is an unpaid member of committee Z.

Financial interests: The authors declare they have no financial interests.

Non-financial interests: Author A is on the board of directors of Y and receives no compensation as member of the board of directors.

Financial interests: Author A received a speaking fee from Y for Z. Author B receives a salary from association X. X where s/he is the Executive Director.

Non-financial interests: none.

Financial interests: Author A and B declare they have no financial interests. Author C has received speaker and consultant honoraria from Company M and Company N. Dr. C has received speaker honorarium and research funding from Company M and Company O. Author D has received travel support from Company O.

Non-financial interests: Author D has served on advisory boards for Company M, Company N and Company O.

Examples of statements to be used when authors have nothing to declare:

The authors have no relevant financial or non-financial interests to disclose.

The authors have no conflicts of interest to declare that are relevant to the content of this article. All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

The authors have no financial or proprietary interests in any material discussed in this article. Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

RESEARCH INVOLVING HUMAN PARTICIPANTS, THEIR DATA OR BIOLOGICAL MATERIAL

Ethics approval

When reporting a study that involved human participants, their data or biological material, authors should include a statement that confirms that the study was approved (or granted exemption) by the appropriate institutional and/or national research ethics committee (including the name of the ethics committee) and certify that the study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. If doubt exists whether the research was conducted in accordance with the 1964 Helsinki Declaration or comparable standards, the authors must explain the reasons for their approach, and demonstrate that an independent ethics committee or institutional review board explicitly approved the doubtful aspects of the study. If a study was granted exemption from requiring ethics approval, this should also be detailed in the manuscript (including the reasons for the exemption).

Retrospective ethics approval

If a study has not been granted ethics committee approval prior to commencing, retrospective ethics approval usually cannot be obtained and it may not be possible to consider the manuscript for peer review. The decision on whether to proceed to peer review in such cases is at the Editor's discretion.

Ethics approval for retrospective studies

Although retrospective studies are conducted on already available data or biological material (for which formal consent may not be needed or is difficult to obtain) ethics approval may be required dependent on the law and the national ethical guidelines of a country. Authors should check with their institution to make sure they are complying with the specific requirements of their country.

Ethics approval for case studies

Case reports require ethics approval. Most institutions will have specific policies on this subject. Authors should check with their institution to make sure they are complying with the specific requirements of their institution and seek ethics approval where needed. Authors should be aware to secure informed consent from the individual (or parent or guardian if the participant is a minor or incapable) See also section on Informed Consent.

Cell lines

If human cells are used, authors must declare in the manuscript: what cell lines were used by describing the source of the cell line, including when and from where it was obtained, whether the cell line has recently been authenticated and by what method. If cells were bought from a life science company the following need to be given in the manuscript: name of company (that provided the cells), cell type, number of cell line, and batch of cells.

It is recommended that authors check the NCBI database for misidentification and contamination of human cell lines. This step will alert authors to possible problems with the cell line and may save considerable time and effort.

Further information is available from the International Cell Line Authentication Committee (ICLAC).

Authors should include a statement that confirms that an institutional or independent ethics committee (including the name of the ethics committee) approved the study and that informed consent was obtained from the donor or next of kin.

Research Resource Identifiers (RRID)

Research Resource Identifiers (RRID) are persistent unique identifiers (effectively similar to a DOI) for research resources. This journal encourages authors to adopt RRIDs when reporting key biological resources (antibodies, cell lines, model organisms and tools) in their manuscripts.

Examples:

Organism: Filip1tm1a(KOMP)Wtsi RRID:MMRRC_055641-UCD

Cell Line: RST307 cell line RRID:CVCL_C321

Antibody: Luciferase antibody DSHB Cat# LUC-3, RRID:AB_2722109

Plasmid: mRuby3 plasmid RRID:Addgene 104005

Software: ImageJ Version 1.2.4 RRID:SCR_003070

RRIDs are provided by the Resource Identification Portal. Many commonly used research resources already have designated RRIDs. The portal also provides authors links so that they can quickly register a new resource and obtain an RRID.

Clinical Trial Registration

The World Health Organization (WHO) definition of a clinical trial is "any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects on health outcomes". The WHO defines health interventions as "A health intervention is an act performed for, with or on behalf of a person or population whose purpose is to assess, improve, maintain, promote or modify health, functioning or health conditions" and a health-related outcome is generally defined as a change in the health of a person or population as a result of an intervention.

To ensure the integrity of the reporting of patient-centered trials, authors must register prospective clinical trials (phase II to IV trials) in suitable publicly available repositories. For

example www.clinicaltrials.gov or any of the primary registries that participate in the WHO International Clinical Trials Registry Platform.

The trial registration number (TRN) and date of registration should be included as the last line of the manuscript abstract.

For clinical trials that have not been registered prospectively, authors are encouraged to register retrospectively to ensure the complete publication of all results. The trial registration number (TRN), date of registration and the words 'retrospectively registered' should be included as the last line of the manuscript abstract.

Standards of reporting

Springer Nature advocates complete and transparent reporting of biomedical and biological research and research with biological applications. Authors are recommended to adhere to the minimum reporting guidelines hosted by the EQUATOR Network when preparing their manuscript.

Exact requirements may vary depending on the journal; please refer to the journal's Instructions for Authors.

Checklists are available for a number of study designs, including:

Randomised trials (CONSORT) and Study protocols (SPIRIT)

Observational studies (STROBE)

Systematic reviews and meta-analyses (PRISMA) and protocols (Prisma-P)

Diagnostic/prognostic studies (STARD) and (TRIPOD)

Case reports (CARE)

Clinical practice guidelines (AGREE) and (RIGHT)

Qualitative research (SRQR) and (COREQ)

Animal pre-clinical studies (ARRIVE)

Quality improvement studies (SQUIRE)

Economic evaluations (CHEERS)

Summary of requirements

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Ethics approval'.

Examples of statements to be used when ethics approval has been obtained:

• All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Bioethics Committee of the Medical University of A (No. ...).

- This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of University B (Date.../No. ...).
- Approval was obtained from the ethics committee of University C. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.
- The questionnaire and methodology for this study was approved by the Human Research Ethics committee of the University of D (Ethics approval number: ...).

Examples of statements to be used for a retrospective study:

- Ethical approval was waived by the local Ethics Committee of University A in view of the retrospective nature of the study and all the procedures being performed were part of the routine care.
- This research study was conducted retrospectively from data obtained for clinical purposes. We consulted extensively with the IRB of XYZ who determined that our study did not need ethical approval. An IRB official waiver of ethical approval was granted from the IRB of XYZ.
- This retrospective chart review study involving human participants was in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Human Investigation Committee (IRB) of University B approved this study.

Examples of statements to be used when no ethical approval is required/exemption granted:

- This is an observational study. The XYZ Research Ethics Committee has confirmed that no ethical approval is required.
- The data reproduced from Article X utilized human tissue that was procured via our Biobank AB, which provides de-identified samples. This study was reviewed and deemed exempt by our XYZ Institutional Review Board. The BioBank protocols are in accordance with the ethical standards of our institution and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

INFORMED CONSENT

All individuals have individual rights that are not to be infringed. Individual participants in studies have, for example, the right to decide what happens to the (identifiable) personal data gathered, to what they have said during a study or an interview, as well as to any photograph that was taken. This is especially true concerning images of vulnerable people (e.g. minors, patients, refugees, etc) or the use of images in sensitive contexts. In many instances authors will need to secure written consent before including images.

Identifying details (names, dates of birth, identity numbers, biometrical characteristics (such as facial features, fingerprint, writing style, voice pattern, DNA or other distinguishing characteristic) and other information) of the participants that were studied should not be published in written descriptions, photographs, and genetic profiles unless the information is essential for scholarly purposes and the participant (or parent/guardian if the participant is a minor or incapable or legal representative) gave written informed consent for publication. Complete anonymity is difficult to achieve in some cases. Detailed descriptions of individual participants, whether of their whole bodies or of body sections, may lead to disclosure of their identity. Under certain circumstances consent is not required as long as information is anonymized and the submission does not include images that may identify the person.

Informed consent for publication should be obtained if there is any doubt. For example, masking the eye region in photographs of participants is inadequate protection of anonymity. If identifying characteristics are altered to protect anonymity, such as in genetic profiles, authors should provide assurance that alterations do not distort meaning.

Exceptions where it is not necessary to obtain consent:

- Images such as x rays, laparoscopic images, ultrasound images, brain scans, pathology slides unless there is a concern about identifying information in which case, authors should ensure that consent is obtained.
- Reuse of images: If images are being reused from prior publications, the Publisher will assume that the prior publication obtained the relevant information regarding consent. Authors should provide the appropriate attribution for republished images.

Consent and already available data and/or biologic material

Regardless of whether material is collected from living or dead patients, they (family or guardian if the deceased has not made a pre-mortem decision) must have given prior written consent. The aspect of confidentiality as well as any wishes from the deceased should be respected.

Data protection, confidentiality and privacy

When biological material is donated for or data is generated as part of a research project authors should ensure, as part of the informed consent procedure, that the participants are made aware what kind of (personal) data will be processed, how it will be used and for what purpose. In case of data acquired via a biobank/biorepository, it is possible they apply a broad consent which allows research participants to consent to a broad range of uses of their data and samples which is regarded by research ethics committees as specific enough to be considered "informed". However, authors should always check the specific biobank/biorepository policies or any other type of data provider policies (in case of non-bio research) to be sure that this is the case.

Consent to Participate

For all research involving human subjects, freely-given, informed consent to participate in the study must be obtained from participants (or their parent or legal guardian in the case of children under 16) and a statement to this effect should appear in the manuscript. In the case of articles describing human transplantation studies, authors must include a statement declaring that no

organs/tissues were obtained from prisoners and must also name the institution(s)/clinic(s)/department(s) via which organs/tissues were obtained. For manuscripts reporting studies involving vulnerable groups where there is the potential for coercion or where consent may not have been fully informed, extra care will be taken by the editor and may be referred to the Springer Nature Research Integrity Group.

Consent to Publish

Individuals may consent to participate in a study, but object to having their data published in a journal article. Authors should make sure to also seek consent from individuals to publish their data prior to submitting their paper to a journal. This is in particular applicable to case studies. A consent to publish form can be found

here. (Download docx, 36 kB)

Summary of requirements

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Consent to participate' and/or 'Consent to publish'. Other declarations include Funding, Conflicts of interest/competing interests, Ethics approval, Consent, Data and/or Code availability and Authors' contribution statements.

Please see the various examples of wording below and revise/customize the sample statements according to your own needs.

Sample statements for "Consent to participate":

Informed consent was obtained from all individual participants included in the study.

Informed consent was obtained from legal guardians.

Written informed consent was obtained from the parents.

Verbal informed consent was obtained prior to the interview.

Sample statements for "Consent to publish":

The authors affirm that human research participants provided informed consent for publication of the images in Figure(s) 1a, 1b and 1c.

The participant has consented to the submission of the case report to the journal.

Patients signed informed consent regarding publishing their data and photographs.

Sample statements if identifying information about participants is available in the article:

Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

Images will be removed from publication if authors have not obtained informed consent or the paper may be removed and replaced with a notice explaining the reason for removal.

RESEARCH DATA POLICY

This journal operates a type 1 research data policy. The journal encourages authors, where possible and applicable, to deposit data that support the findings of their research in a public repository. Authors and editors who do not have a preferred repository should consult Springer Nature's list of repositories and research data policy.

List of Repositories

Research Data Policy

General repositories - for all types of research data - such as figshare and Dryad may also be used.

Datasets that are assigned digital object identifiers (DOIs) by a data repository may be cited in the reference list. Data citations should include the minimum information recommended by DataCite: authors, title, publisher (repository name), identifier.

DataCite.

Authors who need help understanding our data sharing policies, help finding a suitable data repository, or help organising and sharing research data can access our Author Support portal for additional guidance.

AFTER ACCEPTANCE

Upon acceptance, your article will be exported to Production to undergo typesetting. Once typesetting is complete, you will receive a link asking you to confirm your affiliation, choose the publishing model for your article as well as arrange rights and payment of any associated publication cost.

Once you have completed this, your article will be processed and you will receive the proofs.

Article publishing agreement

Depending on the ownership of the journal and its policies, you will either grant the Publisher an exclusive licence to publish the article or will be asked to transfer copyright of the article to the Publisher.

Offprints

Offprints can be ordered by the corresponding author.

Color illustrations

Online publication of color illustrations is free of charge. For color in the print version, authors will be expected to make a contribution towards the extra costs.

Proof reading

The purpose of the proof is to check for typesetting or conversion errors and the completeness and accuracy of the text, tables and figures. Substantial changes in content, e.g., new results, corrected values, title and authorship, are not allowed without the approval of the Editor.

After online publication, further changes can only be made in the form of an Erratum, which will be hyperlinked to the article.

Online First

The article will be published online after receipt of the corrected proofs. This is the official first publication citable with the DOI. After release of the printed version, the paper can also be cited by issue and page numbers.

Open Choice

Open Choice allows you to publish open access in more than 1850 Springer Nature journals, making your research more visible and accessible immediately on publication.

Article processing charges (APCs) vary by journal – view the full list

Benefits:

Increased researcher engagement: Open Choice enables access by anyone with an internet connection, immediately on publication.

Higher visibility and impact: In Springer hybrid journals, OA articles are accessed 4 times more often on average, and cited 1.7 more times on average*.

Easy compliance with funder and institutional mandates: Many funders require open access publishing, and some take compliance into account when assessing future grant applications. It is easy to find funding to support open access – please see our funding and support pages for more information.

*) Within the first three years of publication. Springer Nature hybrid journal OA impact analysis, 2018.

OPEN CHOICE

Funding and Support pages

Copyright and license term – CC BY

Open Choice articles do not require transfer of copyright as the copyright remains with the author. In opting for open access, the author(s) agree to publish the article under the Creative Commons Attribution License.

OPEN ACCESS PUBLISHING

Quality of Life Research publishes open access articles. Authors of open access articles published in this journal retain the copyright of their articles and are free to reproduce and disseminate their work.

ANEXO C – ESCALA DE SENSO DE COERÊNCIA (SOC-13)

Senso de Coerência (SOC-13)

INSTRUÇÕES

Aqui estão 13 perguntas sobre vários aspectos da sua vida. Cada pergunta tem cinco respostas possíveis. Escolha a opção que melhor expresse a sua maneira de pensar e sentir em relação ao que está sendo falado. Dê apenas uma única resposta em cada pergunta. Não existem respostas certas ou erradas.

		Um enorr sofriment aborrecime	е	Um sofri		Nem aborrecimento nem satisfação		Um prazer e satisfação	Um enorme prazer e satisfação
01	Aquilo que você faz diariamente é:						•		·
		Sem nenh		Com poucos objetivos		Com alguns objetivos		Com muitos objetivos	Repleta de objetivos
02	Até hoje a sua vida tem sido:	oojeave	<u>'</u>	oojei		vos objetivos		oojeavos	oojenvos
								1	1
				Nunca	Pouc		Algumas vezes	Muitas vezes	Sempre
03	Você tem interesse ao seu		assa						
04	Você acha que voc	ê é tratado(a)	com						
0.5		tiça?						1	
05	Você tem ideia confi		5						
06	Você acha que as o	•							
07	na sua vida têm Já lhe aconteceu ter	•							
	com pessoas em qu	•							
08	Você tem sentimentos que gostaria de não ter?								
09	Você tem dúvida	ê tem dúvida se pode controlar							
	seus sentimentos?								
10	Já lhe aconteceu de ficar surpreendida com o comportamento de pessoas que você achava que conhecia bem?								
11	Em algumas situações, as pessoas sentem-se fracassadas. Você já se sentiu fracassado(a)?								
12	Você sente que es pouco comum, e faz	stá numa situa sem saber o q							
	1			,					T . 1
				almente rrada	Errada	Nem correta e nem errada		Correta	Totalmente correta
13	As vezes acontece vida da gente qu achamos que não devida importânci alguma coisa acon vida, você acaba a deu a import	ne depois o demos a a. Quando tece na sua chando que							Concen

${\bf ANEXO~D-CHILD~PERCEPTION~QUESTIONNAIRE~(CPQ~11-14)}$

CPQ-11-14

Você diria que a <u>saúde</u> de seus dentes, lábios, maxilares e boca é: () Excelente () Boa () Regular () Ruim
Até que ponto a condição dos seus dentes, lábios, maxilares e boca afetam sua <u>vida em geral?</u> () De jeito nenhum () Um pouco () Moderadamente () Bastante () Muitíssimo

PERGUNTAS SOBRE PROBLEMAS BUCAIS

Nos últimos 3 meses, com que frequência você teve?

	nunca	1 ou 2 vezes	algumas vezes	frequentemente	todos os dias ou quase todos
1. Dor nos seus dentes, lábios, maxilares ou boca?					
2. Feridas na boca?					
3. Mau hálito?					
4. Restos de alimentos presos dentro ou entre os seus dentes?					
5. Demorou mais que os outros para terminar sua refeição?					
6. Dificuldade para morder ou mastigar alimentos como maçãs, espiga de milho ou carne?					
7. Dificuldades para dizer algumas palavras?					
8. Dificuldades para beber ou comer alimentos quentes ou frios?					
9. Ficou irritado (a) ou frustrado (a)?					
10. Ficou tímido (a), constrangido (a) ou com vergonha?					
11. Ficou chateado?					
12. Ficou preocupado com o que as outras pessoas pensam sobre seus dentes, lábios, boca ou maxilares?					
13. Evitou sorrir ou dar risadas quando está com outras crianças?					
14. Discutiu com outras crianças ou pessoas de sua família?					
15. Outras crianças lhe aborreceram ou lhe chamaram por apelidos?					
16. Outras crianças fizeram perguntas sobre seus dentes, lábios, maxilares e boca?					

ANEXO E – QUESTIONÁRIO DE BULLYING DE OLWEUS – VÍTIMA

Questionário de Bullying de Olweus – Vítima

Instruções: você vai encontrar abaixo uma lista de situações nas quais pode ter se envolvido na escola. Assinale com um X a resposta que melhor representa a frequência com que você se envolveu nessa situação *no último mês*.

		Nenhuma vez	Uma ou duas vezes por mês	Uma ou mais vezes por semana
01	Me deram socos, pontapés ou empurrões			
02	Puxaram meu cabelo ou me arranharam			
03	Me ameaçaram			
04	Fui obrigado(a) a entregar dinheiro ou minhas coisas			
05	Pegaram sem consentimento meu dinheiro ou minhas coisas		. 🗖	
06	Estragaram minhas coisas		. \square	
07	Me xingaram			
08	Me insultaram por causa da minha cor ou raça			
09	Me insultaram por causa de alguma característica física			
10	Fui humilhado(a) por causa da minha orientação sexual ou trejeito			
11	Fizeram zoações por causa do meu sotaque			
12	Deram risadas e apontaram para mim			
13	Colocaram apelidos em mim que eu não gostei			
14	Fui encurralado(a) ou colocado(a) contra a parede			
15	Fui perseguido(a) dentro ou fora da escola			
16	Fui sexualmente assediado(a)			
17	Não me deixaram fazer parte de um grupo de colegas			
18	Me ignoraram completamente, me deram "gelo"			
19	Inventaram que peguei coisas dos colegas			
20	Disseram coisas maldosas sobre mim ou sobre minha família			
21	Fizeram ou tentaram fazer com que os outros não gostassem de mim			
22	Fui forçado(a) a agredir outro(a) colega			
23	Usaram da internet ou celular para me agredir			

APÊNDICE A – QUESTIONÁRIO DEMOGRÁFICO E SOCIOECONÔMICO

Questionário demográfico e socioeconômico
1) Estrutura familiar - você mora com? () Pai e mãe () Só com a mãe () Só com o pai () Outro
2) Quantos cômodos tem na sua casa (exceto banheiro)?
3) Contando com você, quantas pessoas moram na sua casa ou apartamento?
4) Qual é o rendimento mensal, em reais, de todos que moram na casa?
5) De que raça você se considera? () Branco () Parda () Preta () Amarela () Indígena
6) Escolaridade materna: () Não estudou () 1° grau incompleto () 1° grau completo () 2° grau incompleto
() 2° grau completo () 3° grau incompleto () 3° grau completo
Overther (steer expense) At steer and a second seco
Questionário comportamental (higiene, uso de serviços, dieta e hábitos nocivos)
7) Como você considera ser desempenho escolar? () Excelente () Bom () Regular () Ruim
8) No último mês, quantas vezes por dia você escovou os seus dentes? () Não escovo os dentes diariamente
() Uma vez por dia () Duas vezes por dia () Três vezes por dia () Quatro ou mais vezes por dia
9) Você utiliza fio dental? () Não utilizo () Menos de uma vez ao dia () 1 vez por dia
10) Quanto medo você tem de visitar um dentista? () De jeito nenhum () Um pouco () Muito
11) No último ano (12 meses) quantas vezes você foi ao dentista? () Nenhuma vez () 1 vez () 2 vezes
() 3 vezes ou mais
12) Qual foi o motivo da última consulta? () Dor de dente () Dor na boca () Batidas e quedas () Rotina
() Aparelho () Outros:() Nunca fui.
13) Qual foi o tipo de serviço que você procurou na última consulta? () Dentista particular () Público
14) Você acha que necessita de tratamento dentário atualmente? () Não () Sim
15) Com que frequência você consome alimentos ou bebidas açucaradas? () Três ou mais vezes por dia
() Duas vezes por dia () Pelo menos uma vez por dia () Menos de uma vez por dia; () Nunca/quase nunca
16) Você range seus dentes enquanto dorme? () Sim () Não
17) Como você classificaria a qualidade do seu sono? () Eu durmo bem/boa qualidade () Eu durmo mal
18) No último mês, quantos dias você fumou cigarros? () Nunca experimentei () dia(s)
19) No último mês, quantos <u>dias</u> você consumiu bebida alcoólica? () Não bebi ()dia(s)
20) Qual droga você já experimentou? () Nenhuma () Nome da droga: