UNIVERSITÉ DU QUÉBEC À TROIS-RIVIÈRES

PORNOGRAPHIE ET BIEN ÊTRE SEXUEL ET CONJUGAL DES INDIVIDUS ET
DES COUPLES : LE RÔLE DU CONTENU ET DES MÉDIAS UTILISÉS

THÈSE PRÉSENTÉE
COMME EXIGENCE PARTIELLE DU

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(PROFIL INTERVENTION/RECHERCHE)

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Sommaire

La présente thèse a pour objectif d'examiner les liens entre la fréquence d'utilisation de pornographie et le bien-être sexuel et conjugal des jeunes adultes et des couples en portant une attention particulière au contenant et au contenu de la pornographie utilisée. Plus spécifiquement, la première étude a pour objectif d'examiner les associations entre l'utilisation des différents contenus pornographiques et le bien-être sexuel (c.-à-d., la satisfaction sexuelle et la fonction sexuelle) au sein d'un échantillon de 827 jeunes adultes de 17 à 30 ans de la communauté. Les résultats des analyses acheminatoires révèlent qu'en contrôlant pour la fréquence de la masturbation, l'utilisation de pornographie de passion et romance est associée à une satisfaction sexuelle plus élevée, alors que l'utilisation de pornographie de pouvoir, contrôle et sexe brutal est associée à une plus faible satisfaction sexuelle et, pour les hommes cisgenres uniquement, à une plus faible fonction sexuelle. La seconde étude a pour objectif d'examiner les associations entre l'utilisation de différents types de médias pornographiques (c.-à-d., vidéos, photos, matériel écrit et matériel audio) et la satisfaction conjugale et sexuelle au sein d'un échantillon de 706 couples (1368 participants) cohabitant depuis au moins six mois. Les résultats de modèles d'interdépendance acteur-partenaire indiquent que l'utilisation de vidéos d'une personne est associée à sa plus faible satisfaction conjugale et sexuelle et une plus faible satisfaction sexuelle chez leur partenaire. L'utilisation de photos d'une personne est associée à sa plus faible satisfaction conjugale et à une plus faible satisfaction sexuelle chez leur partenaire. L'utilisation de matériel écrit d'une personne est associée à sa plus faible satisfaction sexuelle. L'utilisation de matériel

audio des femmes cisgenres est associée à leur propre satisfaction sexuelle plus élevée, alors que l'utilisation de matériel audio des hommes cisgenres est associée à une plus faible satisfaction sexuelle chez leur partenaire. Ces deux études soutiennent l'importance de dépasser la simple évaluation de la fréquence d'utilisation de pornographie et de s'intéresser de manière plus détaillée au contenant et au contenu de l'utilisation de pornographie des personnes présentant des difficultés sexuelles ou conjugales.

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Introduction générale

Des données portant sur le trafic en ligne font ressortir que l'utilisation de pornographie en ligne a augmenté de plus de 310 % entre 2004 et 2016 (Lewczuk et al., 2019). En 2023, deux des dix sites Internet présentant le plus de trafic en ligne étaient des sites pornographiques, avec plus de 4,5 milliards de visites chaque mois (Wright, Tokanuga et al., 2023). Par sa grande accessibilité via Internet, l'utilisation de la pornographie est maintenant considérée comme une activité sexuelle courante pour une majorité de gens (Perry & Schleifer, 2019; Price et al., 2016; Ropelato, 2007). Environ 70 à 94 % des adultes (Grubbs, Kraus et al., 2019; Herbenick et al., 2020; Lewczuk et al., 2020) et 63 à 68 % des adolescents (Bőthe, Tóth-Király et al., 2020; Wright et al., 2020) rapportent avoir déjà utilisé de la pornographie au cours de leur vie. Alors que la plupart des hommes et des femmes rapportent avoir utilisé de la pornographie au cours de leur vie (94 % des hommes contre 87 % des femmes; Herbenick et al., 2020), les hommes rapportent des proportions et des fréquences d'utilisation généralement plus élevées que les femmes peu importe leur statut conjugal actuel (Carroll et al., 2017; Poulsen et al., 2013). Cette activité sexuelle est également courante chez les individus en couple, puisque 36 à 90 % des hommes et 6 à 56 % des femmes en couple ont utilisé de la pornographie récemment, peu importe s'ils le faisaient seul ou en couple (Bridges & Morokoff, 2011; Daneback et al., 2009; Willoughby & Leonhardt, 2018a). Compte tenu de sa popularité et de la nature sexuelle de cette activité, il importe de mieux

comprendre les associations entre l'utilisation de la pornographie et le bien-être conjugal et sexuel des individus et des couples.

La sexualité et les relations de couples sont des composantes centrales de la qualité de vie des gens (Anderson, 2013; Flynn et al., 2016; Lee et al., 2016; Neto & da Conceição Pinto, 2015; Stephenson & Meston, 2015). Cependant, malgré leur rôle déterminant, 55 % des adultes rapportent être insatisfaits sexuellement, 30 à 40 % souffrent d'une dysfonction sexuelle et 20 à 31 % des couples mariés rapportent de la détresse conjugale (Beach et al., 2005; Mulhall et al., 2008; Rosen, 2000; Shifren et al., 2008; Whisman et al., 2008). Face à cette réalité, quelques chercheurs et plusieurs médias populaires ont blâmé l'utilisation accrue de pornographie dans notre société (Montgomery-Graham et al., 2015; Park et al., 2016). Pourtant, les connaissances scientifiques actuelles ne permettent pas de tirer de conclusions quant aux associations entre l'utilisation de pornographie et le bien-être sexuel et conjugal des utilisateur(trice)s. En effet, certaines études rapportent des associations entre l'utilisation de pornographie et un plus faible bien-être sexuel et conjugal (p. ex., Wright et al., 2017), alors que d'autres rapportent des associations positives (p. ex., Prause & Pfaus, 2015; Willoughby & Leonhardt, 2018a) ou ne rapportent aucune association significative (p. ex., Grubbs, Kraus et al., 2019; Landripet & Štulhofer, 2015). De plus, alors que les modèles théoriques actuels sous-tendent l'importance de s'intéresser au contexte d'utilisation de pornographie (Campbell & Kohut, 2017), incluant son contenant et son contenu (c.-à-d., les médias et les contenus pornographiques utilisés),

les études actuelles examinent principalement la fréquence d'utilisation, ignorant le contenu du matériel consulté et les médias utilisés (Vaillancourt-Morel et al., 2019; Wright et al., 2017). Dans ce contexte, cette thèse propose d'incorporer une vision plus complète de l'utilisation de pornographie que la simple fréquence générale pour tenir compte du contenant et du contenu dans l'utilisation de pornographie. Ainsi, l'objectif général de cette thèse est d'examiner les associations entre les contenus pornographiques utilisés (Article 1)[1] de même que les types de médias utilisés (Article 2)[2] et le bien-être sexuel et conjugal des individus et des couples.

Définition de l'utilisation de pornographie

La définition de la pornographie varie grandement autant pour les individus que pour les chercheurs (Short et al., 2012; Vaillancourt-Morel et al., 2019; Willoughby & Busby, 2016). En effet, une grande variabilité a été rapportée dans ce qui est considéré comme de la pornographie au sein d'une étude auprès de 2,089 individus ayant évalué si 20 types de contenus sexuels (p. ex., image d'une femme en costume de bain, vidéo d'un couple ayant des activités sexuelles) correspondaient à de la pornographie (Willoughby et al., 2016). Par exemple, une vidéo d'un couple ayant des activités sexuelles n'était pas nécessairement perçue comme de la pornographie si les organes génitaux n'étaient pas clairement visibles (Willoughby et al., 2016). La perception des différents contenus

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[1] Nolin, M. C., Daspe, M. È., Bőthe, B., Brassard, A., Joyal, C., & Vaillancourt-Morel, M. P. (2024). Associations Between Contents of Pornography and Sexual Satisfaction and Function Among Young Adults. *The Journal of Sex Research*, 1-14. https://doi.org/10.1080/00224499.2024.2311874

[2] Nolin, M. C., Bőthe, B., Villeneuve, E., & Vaillancourt-Morel, M. P. (2024). Associations Between Pornography Use Through Different Media and Sexual and Relationship Satisfaction Among Cohabiting Couples. *Archives of Sexual Behavior, 53,* 3405-3417. https://doi.org/10.1007/s10508-024-02899-1

variaient en fonction du genre, de la religiosité, du statut relationnel et de l'utilisation de pornographie (Willoughby et al., 2016). De plus, il existe peu de consensus chez les chercheurs quant aux comportements et aux médias pouvant être inclus dans la définition de la pornographie. Alors que certains restreignent leur définition aux contenus violents ou dégradants (Johnson, 1971; Steinem, 1980), d'autres élargissent leur définition à la simple nudité (Kohut et al., 2017) ou aux scènes montrant des organes génitaux dans le cadre d'actes sexuels (Reid et al., 2011). Une revue de la littérature ayant recensé 100 études sur la pornographie de 2008 à 2018 révèle que 20 % des études s'intéressaient spécifiquement à de la pornographie représentant des actes sexuels, 15 % incluaient spécifiquement la représentation de nudité et 65 % ne spécifiaient pas à quel point le contenu devait être explicite pour être considéré de la pornographie (Kohut et al., 2020). Les médias impliqués peuvent également varier d'une définition à l'autre, puisque certaines études incluent la littérature érotique ou les magazines XXX (Kohut et al., 2018; Willoughby et al., 2016), alors que d'autres se restreignent aux vidéos explicites (Wright et al., 2014).

Dans la présente étude, utiliser de la pornographie fait référence à regarder, lire ou écouter intentionnellement: (a) des images, des vidéos ou des films représentant des personnes nues ou ayant des activités sexuelles; ou (b) du matériel écrit ou audio (p. ex., livres érotiques audio, sons d'activités sexuelles, balado) qui décrit des personnes nues ou des personnes ayant des activités sexuelles. Cette définition correspond à celle récemment suggérée par des experts dans le domaine (Kohut et al., 2020) et est

considérée comme suffisamment exhaustive, puisqu'elle permet d'inclure plusieurs types de médias (c.-à-d., images, vidéos, films, matériel écrit ou audio) et contenus (c.-à-d., nudité, activités sexuelles). Cette définition permet également d'éviter de cibler spécifiquement l'utilisation de pornographie pour une motivation précise (p. ex., à des fins d'excitation sexuelle), alors que de nombreuses motivations à l'utilisation de pornographie existent (p. ex., curiosité sexuelle, réduction du stress, évitement de l'ennui; Bőthe, Tóth-Király, Bella et al., 2021).

Prévalence et fréquence de l'utilisation de pornographie

L'utilisation de pornographie est une activité sexuelle courante. Un total de 70 à 94 % des adultes (Herbenick et al., 2020; Lewczuk et al., 2020; Træen et al., 2006) et 63 à 68 % des adolescents (Bőthe, Vaillancourt-Morel et al., 2020; Wright et al., 2020) rapportent avoir déjà utilisé de la pornographie au cours de leur vie, alors que 23 à 40 % des adolescents (Lobe et al., 2011; Wolak et al., 2007) et 33 à 63 % des jeunes adultes rapportent en avoir utilisé dans la dernière année (Regnerus et al., 2016). Les études actuelles montrent bien que l'utilisation de pornographie est commune même chez les personnes en couple. Chez 430 individus en couple, 92 % des hommes et 83 % des femmes rapportaient avoir utilisé de la pornographie depuis le début de leur relation (Kohut et al., 2017). Auprès de 1755 couples de sexes mixtes, 71 % des hommes et 34 % des femmes rapportaient avoir utilisé de la pornographie dans la dernière année (Willoughby et al., 2016). Cette utilisation serait majoritairement solitaire, puisque 80 % des hommes et 68 % des femmes rapportent que plus de la moitié de leur utilisation de

pornographie est faite sans leur partenaire (Willoughby & Leonhardt, 2018b). En somme, les hommes et les femmes utilisent de la pornographie, et ce, peu importe leur statut conjugal, mais les hommes le font en plus grande proportion (Carroll et al., 2017; Peterson et al., 2017; Poulsen et al., 2013). Concernant la fréquence d'utilisation, chez les personnes utilisant de la pornographie, en moyenne, les hommes rapportent en utiliser à chaque semaine, alors que les femmes rapportent en utiliser à chaque mois ou moins souvent (Bridges & Morokoff, 2011; Carroll et al., 2017). Bien que quelques études suggèrent que les personnes faisant partie de la diversité sexuelle et de genre utilisent la pornographie plus tôt dans leur développement et plus fréquemment que les personnes cisgenre et hétérosexuelles (Bőthe, Vaillancourt-Morel et al., 2020; Lim et al., 2017; Træen & Daneback, 2013), aucune étude recensée ne s'est intéressée spécifiquement aux différences de genre en incluant des personnes faisant partie de la diversité de genre.

Conséquences de l'utilisation de pornographie

Puisque l'utilisation de pornographie est maintenant une activité sexuelle courante, plusieurs chercheurs ont tenté d'examiner comment elle peut être associée au bien-être des gens, leur sexualité le fonctionnement des relations de couple. Bien qu'utiliser de la pornographie soit très fréquent, la plupart de l'utilisation de pornographie est faite de manière récréative pour des motivations hédoniques (Grubbs, Wright et al., 2019). Ainsi, la plupart des études montrent des associations négatives ayant de petites tailles d'effets ou des associations non-significatives (Hoagland & Grubbs, 2021; Wright et

al., 2017). Par ailleurs, la littérature actuelle montre bien que les symptômes qui sont associés à l'utilisation de pornographie, tels que la détresse psychologique, des symptômes dépressifs et anxieux, la honte des difficultés liées à l'estime corporelle sont plus souvent trouvés chez les personnes qui présentent une utilisation problématique de pornographie (p. ex., impliquant de la compulsivité; Bőthe, Tóth-Király, Griffiths et al., 2021; Mennig et al., 2022; Vaillancourt-Morel et al., 2017), qui ne représentent qu'environ 3 à 8 % des utilisateur(trice)s de pornographie (Bőthe, Tóth-Király et al., 2020). Quelques études récentes portent sur les associations entre la fréquence d'utilisation de pornographie et la sexualité ou les relation interpersonnelles (Perry, 2020; Vaillancourt-Morel et al., 2019; Wright et al., 2017). Puisque le bien-être sexuel et conjugal sont des dimensions clés de la qualité de vie des gens (Anderson, 2013; Flynn et al., 2016; Lee et al., 2016; Neto & da Conceição Pinto, 2015; Stephenson & Meston, 2015) et que la pornographie est à connotation sexuelle et interpersonnelle, il apparait important de s'intéresser au rôle de l'utilisation de pornographie dans le bien-être sexuel et conjugal.

Associations entre l'utilisation de pornographie et le bien-être sexuel

Le bien-être sexuel est multidimensionnel, incluant les évaluations cognitives et affectives de différentes facettes de la sexualité (Byers & Rehman, 2014). Ces facettes incluent notamment la satisfaction sexuelle (c.-à-d., l'évaluation subjective de divers aspects positifs et négatifs de sa sexualité; Lawrance et al., 2019) et la fonction sexuelle (c.-à-d., l'absence de difficultés à franchir les étapes de la réponse sexuelle incluant le

désir, l'excitation, l'atteinte de l'orgasme, mais également l'absence de douleurs et la satisfaction avec les activités sexuelles; Rosen et al., 1997, 2000). En ce qui concerne la satisfaction sexuelle, les études trouvent généralement que la fréquence d'utilisation de pornographie des hommes est associée à une plus faible satisfaction sexuelle, alors que celle des femmes n'est soit pas associée significativement à leur satisfaction sexuelle ou associée à une satisfaction sexuelle plus élevée (Bridges & Morokoff, 2011; Leonhardt & Willoughby, 2019; Muusses et al., 2015; Poulsen et al., 2013; Wright et al., 2017; Yucel & Gassanov, 2010). Cette distinction dans les résultats des hommes et des femmes met en lumière l'importance de s'intéresser aux différences de genre. Pour ce qui est de la fonction sexuelle, quelques études qualitatives ont révélé que certains utilisateur(trice)s de pornographie rapportent un plus faible désir pour les activités sexuelles avec un(e) partenaire et des difficultés à atteindre et maintenir une excitation sexuelle ou à atteindre l'orgasme en lien avec leur utilisation de pornographie (Grov et al., 2011; Kohut et al., 2017). Toutefois, ces études démontrent aussi que la plupart des utilisateur(trice)s de pornographie ne rapportent aucun effet négatif ou des effets positifs (p. ex., une plus grande qualité et fréquence des activités sexuelles avec un(e) partenaire; Grov et al., 2011; Kohut et al., 2017). Les études quantitatives rapportent aussi des résultats contradictoires, avec quelques études concluant que la pornographie n'est pas reliée aux dysfonctions érectiles de manière transversale (Landripet & Štulhofer, 2015; Prause & Pfaus, 2015) et après une période d'un an (Grubbs, Kraus et al., 2019), ou qu'elle est reliée à un désir sexuel plus élevé (Prause & Pfaus, 2015; Willoughby & Leonhardt, 2018a). De plus, d'autres études transversales ont révélé que l'utilisation de

pornographie est associée à une plus grande fonction sexuelle chez les hommes et chez les femmes (Blais-Lecours et al., 2016; Bőthe, Tóth-Király, Griffiths et al., 2021; Willoughby & Leonhardt, 2018b). Ces divergences dans les résultats des études pourraient être expliquées par le fait que, bien que les contenus et les médias utilisés soient très variés (Kohut et al., 2017; Pornhub, 2019), les études actuelles s'intéressent presqu'exclusivement à la fréquence générale d'utilisation de pornographie, sans tenir compte des contenus visionnés ou des médias utilisés. Elles ne permettent donc pas de saisir les potentiels effets différentiels de multiples types de médias et contenus pornographiques sur le bien-être sexuel.

Associations entre l'utilisation de pornographie et le fonctionnement des couples

Utiliser de la pornographie en étant en couple pourrait avoir des associations différentes avec le bien-être sexuel et la satisfaction conjugale étant donné la connotation particulière que peut avoir cette activité au sein de certains couples (p. ex., bris d'ententes sexuelles, secret; sentiment d'être inadéquat; Shuler et al., 2021; Willoughby & Leonhardt, 2018b). De plus, en plus d'être liée à la sexualité de l'utilisateur(trice) que celle du ou de la partenaire, l'utilisation de pornographie pourrait être liée différemment avec les activités sexuelles avec un(e) partenaire amoureux.se et être liée aux dynamiques conjugales. En effet, les activités sexuelles avec un(e) partenaire pourraient être plus spécifiquement affectées, puisque les stimulations sexuelles visuelles, auditives et/ou cognitives de la pornographie ne sont pas nécessairement présentes. Pourtant, l'une des limites importantes concernant les

recherches sur les effets de la pornographie est qu'elles étudient principalement des individus peu importe leur statut relationnel, empêchant ainsi de tirer des conclusions sur les couples.

Une méta-analyse incluant 30 études nationalement représentatives portant sur le lien entre l'utilisation de pornographie et la satisfaction conjugale, c'est-à-dire l'évaluation subjective de la qualité de sa relation de couple (Keizer, 2014), montre que l'utilisation de pornographie est soit faiblement associée à une plus faible satisfaction conjugale chez les hommes et les femmes, soit non-significativement associée à celle-ci (Perry, 2020). Quant aux études dyadiques, c'est-à-dire, incluant les données des deux partenaires d'un couple, quelques études transversales, longitudinales et à journaux quotidien ayant inclus les deux partenaires ne révèlent aucun lien significatif entre l'utilisation de pornographie d'une personne et la satisfaction conjugale et sexuelle de leur partenaire (Bőthe, Vaillancourt-Morel, & Bergeron, 2022; Muusses et al., 2015; Vaillancourt-Morel et al., 2020; Yucel & Gassanov, 2010). Notamment, dans une étude incluant 190 couples hétérosexuels nouvellement mariés, l'utilisation de pornographie des hommes et des femmes n'était pas liée significativement à la satisfaction sexuelle de leur partenaire un an plus tard (Muusses et al., 2015). Parmi 433 couples de sexes mixtes, l'utilisation de pornographie des hommes et des femmes n'était pas associée significativement à la satisfaction sexuelle et conjugale de leur partenaire (Yucel & Gassanov, 2010). Parallèlement, d'autres études révèlent tout de même que l'utilisation de pornographie des hommes est associée à des insatisfactions sexuelles et conjugales

chez leur partenaire (Bridges & Morokoff, 2011; Poulsen et al., 2013). Les résultats d'une étude incluant 617 couples (Poulsen et al., 2013) et d'une étude incluant 240 couples (Willoughby & Leonhardt, 2018b) révèlent que l'utilisation de pornographie des hommes est associée à une moins grande qualité de la sexualité (incluant la satisfaction sexuelle et de faibles problèmes sexuels affectant la relation de couple) chez leur partenaire féminine (Poulsen et al., 2013) et un plus faible désir sexuel chez les femmes (Willoughby & Leonhardt, 2018b), alors que l'utilisation des femmes était associée à une plus grande qualité de la sexualité (Poulsen et al., 2013) et un plus grand désir sexuel (Willoughby & Leonhardt, 2018b) chez elle-même, mais pas chez leur partenaire (Poulsen et al., 2013; Willoughby & Leonhardt, 2018a). Bref, les résultats actuels sur les associations entre l'utilisation de pornographie et la satisfaction sexuelle et conjugale de l'utilisateur(trice) et de son(sa) partenaire sont mixtes.

Modèles théoriques

Devant cette mixité de résultats, plusieurs auteurs ont développé des modèles théoriques afin de clarifier les effets de la pornographie sur la sexualité et le couple (Campbell & Kohut, 2017; Willoughby et al., 2020; Wright, 2011). Parmi les théories et modèles et existants, deux modèles ont été retenus pour contextualiser cette thèse en raison de leurs appuis empiriques et de leur utilisation fréquente dans le domaine, soient le modèle Antécédents-Contexte-Effets (ACE; Campbell & Kohut, 2017) et la théorie d'acquisition, activation et application des scripts sexuels (3AM; Wright, 2011).

Modèle ACE

Alors que plusieurs études en pornographie incluaient une vision étroite de la pornographie comme étant la simple cause d'effets négatifs sur les relations amoureuses, le modèle théorique Antécédents-Contexte-Effets (ACE; Campbell & Kohut, 2017) a été proposé pour mieux comprendre les potentiels effets positifs ou négatifs de l'utilisation de pornographie sur le couple (Campbell & Kohut, 2017). Selon ce modèle, l'utilisation de pornographie est guidée par de multiples antécédents, incluant notamment des différences individuelles, le genre, la culture ou les expériences de vie (Campbell & Kohut, 2017). Ces antécédents détermineraient le contexte de l'utilisation de pornographie, qui comprennent entre autres la fréquence d'utilisation, les contenus utilisés, les médias utilisés et si l'utilisation est faite de manière solitaire ou en couple. Par exemple, un plus haut niveau d'engagement amoureux (p. ex., fréquentation, cohabitation, mariage) est associé à une plus faible fréquence d'utilisation de pornographie (Bridges & Morokoff, 2011; Carroll et al., 2017). À leur tour, les éléments du contexte de l'utilisation de pornographie pourraient avoir une variété de conséquences, comme des effets positifs ou négatifs sur la sexualité ou la satisfaction conjugale des utilisateur(trice)s, mais également de leurs partenaires (Campbell & Kohut, 2017). Par exemple, alors que l'utilisation solitaire de pornographie est parfois associée négativement au bien-être sexuel et conjugal, la plupart des études portant sur l'utilisation en couple montrent qu'elle est associée à un bien-être sexuel et conjugal plus élevé (Bridges & Morokoff, 2011; Grov et al., 2011; Kohut et al., 2017; Willoughby & Leonhardt, 2018b).

Parmi les différents antécédents importants, le genre a été proposé dans ce modèle et plusieurs études ont démontré son rôle important dans les effets de l'utilisation de la pornographie (p. ex., Bridges & Morokoff, 2011; Wright et al., 2017). En ce qui concerne les contextes d'utilisation de pornographie, les contenus et les médias utilisés pourraient permettre de clarifier les liens entre l'utilisation de pornographie et le bien-être sexuel et conjugal (Campbell & Kohut, 2017; Kohut et al., 2017). En effet, étudier comment certains contenus ou médias pornographiques spécifiques pourraient être reliés au bien-être sexuel pourrait aider à comprendre les résultats contradictoires des études précédentes portant sur la fréquence d'utilisation en plus de saisir la complexité du lien entre l'utilisation de pornographie et le bien-être sexuel et conjugal.

La théorie d'acquisition, activation et application des scripts sexuels

La théorie des scripts sexuels suggère que la sexualité se construit en partie socialement, au travers d'expériences personnelles, de valeurs et des médias (Frith & Kitzinger, 2001; Simon & Gagnon, 1986). Les scripts sexuels sont des messages qui dictent comment agir durant une activité sexuelle ou ce qui est considéré comme une activité sexuelle agréable (Frith & Kitzinger, 2001). Étant donné la grande popularité de la pornographie, celle-ci pourrait constituer une source importante de socialisation pour la création de scripts sexuels. Ainsi, la théorie d'acquisition, activation et application (3AM; Wright, 2011) s'est inspirée de la théorie de scripts sexuels pour l'appliquer spécifiquement à l'utilisation de pornographie. Cette théorie propose que certains scripts sexuels sont acquis en utilisant de la pornographie, puisque les scripts excitants sont

susceptibles d'être plus saillants (acquisition). L'étape de l'activation réfère ensuite à comment les scripts acquis durant l'utilisation de pornographie peuvent susciter des attentes pour les activités sexuelles dans certaines situations. Finalement, l'application des scripts sexuels décrit la reproduction de certains comportements sexuels basés sur les scripts sexuels acquis (Wright, 2011).

Quelques études appuient la théorie d'acquisition, activation et application des scripts sexuels en montrant que la pornographie semble en effet jouer un rôle dans l'acquisition des scripts sexuels. Une étude qualitative réalisée auprès de 80 femmes de 18 à 30 ans montre que la pornographie semble être un vecteur dominant de scripts sexuels, plusieurs participantes rapportant avoir dû désapprendre des fausses idées véhiculées dans la pornographie sur le déroulement des activités sexuelles (Lebedíková, 2022). Une étude incluant 1,197 étudiant(e)s d'une université allemande montre qu'apprécier un contenu pornographique est associé à pratiquer l'activité sexuelle correspondante (Martyniuk et al., 2019). Ceci supporte ainsi la théorie des scripts sexuels, puisqu'apprécier certains contenus pourrait être relié aux attentes envers la sexualité et ainsi aux pratiques sexuelles (Martyniuk et al., 2019). Toutefois, malgré ces associations, plusieurs participants de l'étude rapportent aimer certains contenus pornographiques qu'ils ne mettent pas en action dans leur sexualité (p. ex., le sadomasochisme ou le sexe en groupe; Martyniuk et al., 2019). Une autre étude suggère quant à elle que l'utilisation de pornographie pourrait être associée à des comportements sexuels spécifiques en raison de l'acquisition de scripts sexuels correspondants. Dans un

échantillon de 780 hommes hétérosexuels, la fréquence d'utilisation de pornographie est associée à davantage de comportements d'asphyxie sexuelle (c.-à-d., *choking*) via le visionnement de scènes représentant de l'asphyxie sexuelle, puis une plus grande croyance que ce comportement est agréable, acceptable et sécuritaire (Wright, Herbenick et al., 2023). Ces résultats suggèrent ainsi que l'utilisation de pornographie pourrait influencer les scripts sexuels via les comportements exposés dans la pornographie, influençant ainsi possiblement la sexualité et les relations amoureuses des utilisateur(trice)s.

Deux facteurs pouvant potentiellement influencer l'acquisition des scripts sexuels sont les médias et les contenus utilisés. D'une part, les différents contenus pornographiques utilisés pourraient influencer différemment l'acquisition des scripts sexuels en amenant des scripts sexuels spécifiques et, par extension, des attentes entourant les activités sexuelles pouvant affecter leur sexualité. De plus, les médias pourraient influencer de manière plus ou moins importante les scripts sexuels en fonction de leur caractère explicite.

Contenus et médias pornographiques utilisés

Les données actuelles font ressortir la diversité de contenus présentés dans la pornographie et des médias disponibles pour en utiliser. En effet, *Pornhub*, l'un des sites pornographiques les plus populaires au monde, rapporte que parmi les contenus les plus fréquemment visionnés sur ce site se retrouvent notamment des vidéos de femmes

lesbiennes, des vidéos de sexe anal et des vidéos de triolisme (activité sexuelle à trois; Pornhub, 2019). D'autres auteurs ont fait ressortir une variété de niveaux de violence (Shor & Seida, 2019; Vera-Gray et al., 2021), de sexisme (Cowan & Campbell, 1994; Klaassen & Peter, 2015) ou de racisme (Cowan & Campbell, 1994) ainsi qu'une multitude de thèmes et de comportements (Gorman et al., 2010) d'une vidéo pornographique à l'autre. Une étude incluant 2,337 utilisateur(trice)s de pornographie de la Croatie rapportant leur niveau d'excitation envers 27 contenus pornographiques démontre que les femmes et les hommes hétérosexuels sont plus excités par des thèmes « vanille » (p. ex., sexe oral, sexe vaginal, masturbation), des thèmes reliés au sexe en groupe (p. ex., plan à trois, orgies, *gang bangs*), et, pour les hommes hétérosexuels spécifiquement, des thèmes reliés aux caractéristiques physiques des actrices (p. ex., gros seins, femme mature, adolescente; Hald & Štulhofer, 2016a, 2016b). La pornographie peut également être utilisée via différents médias. En effet, au sein d'un échantillon de 353 individus en couple utilisant de la pornographie, 95 % rapportent avoir utilisé des vidéos, 39 % des photos, 36 % du matériel écrit et 2 % du matériel audio (Kohut et al., 2017).

Des différences de genre sont observées dans l'appréciation et l'utilisation des différents contenus et médias pornographiques. Une étude incluant 688 jeunes adultes hétérosexuels danois démontre des différences entre les hommes et les femmes dans leur préférence de différents contenus pornographiques. Par exemple, les hommes plaçaient plus souvent que les femmes le sexe anal (33 % contre 17 %), le sexe oral (29 % contre

16 %), alors que les femmes rapportaient plus souvent que les hommes la pornographie *softcore* (36 % contre 19 %; Hald, 2006). Pour ce qui est des différents médias pornographiques, parmi 353 personnes en couple utilisant de la pornographie de manière solitaire, les hommes étaient significativement plus susceptibles de rapporter avoir utilisé des vidéos (98 %) ou des photos (48 %) que les femmes (vidéo : 92 %; photos : 29 %), alors que les femmes étaient plus susceptibles de rapporter avoir utilisé du matériel écrit (49 %) que les hommes (25 %; Kohut et al., 2017). Bref, même si les hommes utilisent davantage de pornographie en général, il semble que les femmes en utilisent aussi, mais via des médias différents et en choisissant des contenus différents. Ainsi, comme les différentes études utilisent des définitions variables de la pornographie, les différences de genre concernant les associations entre l'utilisation de pornographie et le bien-être sexuel et conjugal pourraient entre autres s'expliquer par les différents médias et contenus utilisés, mais les données à ce sujet demeurent parcellaires.

Cette variabilité dans le contenu et dans les médias disponibles pour utiliser du matériel pornographique met en lumière le caractère limité de s'intéresser uniquement à la fréquence d'utilisation de la pornographie en général sans égard aux contenus et aux médias utilisés, qui pourraient expliquer les résultats divergents des études actuelles. La définition de la pornographie de Kohut et al. (2017), qui inclut des images, des vidéos des films, du matériel écrit et du matériel audio représentant ou décrivant des personnes nues ou des personnes ayant des activités sexuelles, permet de mieux circonscrire ce qu'on entend par de la pornographie. Toutefois, bien que l'utilisation d'une définition

précise de la pornographie permette de clarifier les questions pour les participants, amalgamer tous les médias et les contenus pornographiques en une seule question concernant la fréquence d'utilisation de pornographie dilue l'interprétation des résultats et diminue la généralisation que nous pouvons en faire.

Contenus et médias pornographiques et bien-être sexuel et conjugal

La théorie d'acquisition, activation et application des scripts sexuels suggère que les contenus et les médias utilisés pourraient exercer une influence sur l'acquisition des scripts sexuels (Wright, 2011). En effet, selon cette théorie, certains types de contenus pornographiques pourraient éliciter des attentes qui sont difficiles, voire impossibles à mettre en scène dans la vraie vie (p. ex., des actes illégaux), menant à des difficultés dans la réponse sexuelle ou des insatisfactions sexuelles. Il est également possible que certains contenus pornographiques amènent des scripts sexuels s'éloignant des scripts sexuels dominants dans la société, ce qui pourrait amener des sentiments contradictoires face à la sexualité. Les jeunes adultes pourraient être particulièrement influencés par l'utilisation de différents contenus pornographiques, puisque certaines données montrent que la pornographie constitue la source d'éducation à la sexualité qu'ils endossent le plus (Rothman et al., 2021). De plus, les jeunes adultes étant généralement à leurs premières expériences sexuelles, ils pourraient ainsi être plus susceptibles d'être influencés par la pornographie que par des scénarios vécus dans leurs propres interactions sexuelles pour former leurs scripts sexuels.

Deux études recensées permettent d'établir un lien entre l'utilisation de différents contenus pornographique et le bien-être sexuel (Leonhardt & Willoughby, 2019; Štulhofer et al., 2010). Au sein d'un échantillon de 858 individus en couple, Leonhardt et Willoughby (2019) ont trouvé que l'utilisation de pornographie dite *mainstream* est associée à une plus faible satisfaction avec la variété des activités sexuelles et le temps passé sur les relations sexuelles chez les hommes, mais elle n'est pas significativement associée à la satisfaction des femmes. L'utilisation de contenus excitants (c.-à-d., contenu suggestif, mais ne présentant pas d'activités sexuelles explicites, p. ex., une image d'une femme en sous-vêtements posant de manière suggestive) est quant à elle associée à une plus faible satisfaction avec l'amour et l'affection dans les activités sexuelles pour les hommes et les femmes, de même qu'à une plus faible satisfaction globale, une plus faible satisfaction avec la variété sexuelle et une plus faible satisfaction par rapport au temps passé sur les relations sexuelles chez les femmes (Leonhardt & Willoughby, 2019). Auprès de 650 jeunes adultes de 18 à 25 ans de la Croatie, Štulhofer et al. (2010) ont trouvé que le contenu pornographique utilisé (c.-à-d., paraphilique vs *mainstream*) modère l'association entre l'exposition précoce à la pornographie et la satisfaction sexuelle, alors que l'exposition précoce à la pornographie est associée à une plus faible satisfaction sexuelle à l'âge adulte seulement chez ceux utilisant de la pornographie dite paraphilique (c.-à-d., sadomasochisme, bestialité, bondage et domination, fétichisme, activités sexuelles violentes ou coercitives; Štulhofer et al., 2010). Les résultats de ces études suggèrent que l'utilisation de différents types de contenus pornographiques est associée différemment à la sexualité, incluant les

composantes du bien-être sexuel. Toutefois, ces recherches sont limitées par le nombre et la nature des contenus examinés, et restreintes par une catégorisation dichotomique des types de pornographie (c'est-à-dire *mainstream* vs. *non-mainstream*), ce qui ne reflète pas la variété des contenus disponibles. Elles s'intéressent aussi uniquement aux associations avec la satisfaction sexuelle, alors que le bien-être sexuel est multidimensionnel.

La théorie des scripts sexuels (Wright, 2011) et des hypothèses cliniques portent à croire que les médias existant pour utiliser de la pornographie (p. ex., vidéos, photos, matériel audio et matériel écrit) pourraient également affecter de manière différente l'acquisition des scripts sexuels, puisqu'ils présentent des caractères explicites différents. Par exemple, les vidéos incluent une composante visuelle et sonore, alors que le matériel écrit, bien qu'il puisse comporter une description des différentes composantes de la scène, laisse davantage place à l'imagination des utilisateur(trice)s en incluant seulement du texte. Les médias plus explicites pourraient être associés à un bien-être sexuel et conjugal plus faible, puisqu'ils seraient plus susceptibles d'amener des attentes inatteignables dans leurs activités sexuelles avec un(e) partenaire. Ils pourraient aussi amener davantage d'insécurités en lien avec la performance ou l'apparence des corps (Goldsmith et al., 2017), nuisant ainsi possiblement au bien-être sexuel et conjugal. En revanche, les utilisateur(trice)s et les partenaires des utilisateur(trice)s de pornographie moins explicite pourraient avoir un bien-être sexuel et conjugal plus élevé, car leur imaginaire sexuel contiendrait des scripts sexuels plus

réalistes et pourraient avoir moins tendance à suggérer des scripts sexuels précis ou inatteignables à leur partenaire.

Deux études se sont penchées sur les liens potentiels entre les médias pornographiques utilisés et le bien-être sexuel et conjugal. Une première étude réalisée auprès de 1001 étudiant(e)s au baccalauréat, montre que l'utilisation de pornographie visuelle (c.-à-d., photos et vidéos) est associée à davantage d'insécurités sexuelles et d'attentes par rapport aux performances du ou de la partenaire, alors que l'utilisation de matériel écrit n'y est pas significativement associée (Goldsmith et al., 2017). Toutefois, nous ignorons si ces insécurités et attentes se traduisent en des insatisfactions conjugales ou sexuelles. Une seconde étude auprès d'un échantillon de 221 adultes espagnols en couple et célibataires montre une différence statistique sur la satisfaction sexuelle et conjugale en fonction du format d'utilisation de la pornographie (c.-à-d., Internet, littérature, magazines, dessins ou images, vidéos hors-ligne ou films; Sánchez-Lamadrid et al., 2022). Même si cette étude montre que le média utilisé peut être associé à la satisfaction sexuelle et conjugale, elle ne considère pas que les participants puissent utiliser plus d'un média et à différentes fréquences. De plus, les auteurs ne rapportent pas de spécifications quant aux différences observées. Bref, les études recensées sur l'utilisation de différents médias pornographiques permettent de faire ressortir un lien entre les médias utilisés et le bien-être sexuel et conjugal, mais les données disponibles ne permettent pas de tirer de conclusions claires quant à la direction des associations et aux types de médias précis pouvant avoir des associations différentielles avec le

bien-être sexuel et conjugal. Ces études s'intéressent également uniquement aux associations avec le bien-être de l'utilisateur(trice), sans regard au bien-être de leur partenaire. Pourtant, si l'utilisation de différents médias peut être associée de manière différentes aux insécurités et attentes sexuelles des utilisateur(trice)s envers leur partenaire (Goldsmith et al., 2017), il est possible que celles-ci affectent également leurs partenaires.

En somme, les résultats des études actuelles suggèrent que les associations entre l'utilisation de pornographie et le bien-être sexuel et conjugal pourraient différer selon les types de contenus et les types de médias utilisés, mais aucune d'entre elles ne s'est intéressée à plus de deux types de pornographie, à plusieurs indicateurs du bien-être sexuel ou aux partenaires des utilisateur(trice)s. Les recherches actuelles sur les effets de la pornographie sur le bien-être sexuel et conjugal s'intéressent aussi largement à des couples de sexes mixtes et à des personnes cisgenres, laissant souvent de côté les membres de la diversité sexuelle et de genre.

Objectifs de recherche

L'objectif général de la thèse est d'examiner les liens potentiels entre l'utilisation de pornographie et le bien-être sexuel et conjugal en portant une attention particulière au contenant et au contenu de la pornographie utilisée. Plus précisément, l'article 1 a pour objectif de décrire la fréquence d'utilisation de plusieurs contenus pornographiques selon le genre (incluant les personnes s'identifiant à la diversité de genre) et d'examiner

les associations entre l'utilisation des différents contenus pornographiques et le bien-être sexuel (c.-à-d., la satisfaction sexuelle et la fonction sexuelle) au sein d'un échantillon de jeunes adultes de la communauté. Le rôle modérateur du genre sera examiné de manière exploratoire. Étant donné l'absence d'études empiriques permettant de proposer des hypothèses, cette étude s'inscrit dans une démarche essentiellement exploratoire. L'article 2 a pour objectif de décrire la fréquence d'utilisation de pornographie via différents médias selon le genre et d'examiner les associations entre l'utilisation de différents types de médias pornographiques (c.-à-d., vidéos, photos, matériel écrit et matériel audio) et la satisfaction conjugale et sexuelle de l'utilisateur(trice) et du ou de la partenaire au sein d'un échantillon de couples. Le rôle modérateur du genre sera examiné de manière exploratoire. Il est attendu qu'une plus grande fréquence d'utilisation de médias plus explicites (c.-à-d., vidéos ou photos) soit associée à des niveaux plus faibles de satisfaction conjugale et sexuelle de l'utilisateur(trice) et du ou de la partenaire que l'utilisation de médias pornographiques moins explicites (c.-à-d., matériel écrit ou audio).

Article scientifique 1
Associations Between Contents of Pornography and Sexual Satisfaction and Function Among Young Adults

Associations Between Contents of Pornography and Sexual Satisfaction and Function Among Young Adults

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Abstract

Pornography offers a wide variety of sexual contents and has documented potential positive (e.g., higher sexual satisfaction) and negative associations (e.g., lower sexual function) with sexuality. The aims of this study were to describe the proportion of use of five different contents of pornography (i.e., group sex, passion and romance, gender-bending, taboo transgression and forbidden sex, power, control, and rough sex pornography), to examine gender-based differences in the frequency of use of these contents, and to examine the associations between the frequency of use of these contents and sexual satisfaction and function, considering potential differences among genders and individuals with and without a romantic or sexual partner, and controlling for frequency of masturbation. A sample of 827 young adults (503 women; $M_{age} = 23.44$) completed online self-report questionnaires. Results of path analysis indicated that, controlling for frequency of masturbation, the use of passion and romance pornography was associated with higher sexual satisfaction, whereas the use of power, control, and rough sex pornography was associated with lower sexual satisfaction. Cisgender men's use of power, control, and rough sex pornography was also associated with lower sexual function. These findings suggest different associations between pornography use and sexual satisfaction and function depending on the pornographic contents used.

Keywords: pornography, contents of pornography, sexual satisfaction, sexual function, young adults

Introduction

Pornography is now easily accessible and offers a wide variety of sexual contents. In nationally representative and large-scale studies, 63 to 68% of adolescents (Bőthe et al., 2020; Wright et al., 2020) and 70% to 94% of adults (Grubbs, Kraus et al., 2019; Herbenick et al., 2020; Lewczuk et al., 2020; Rissel et al., 2017) reported lifetime pornography use, while 23% to 40% of adolescents (Lobe et al., 2011; Wolak et al., 2007) and 33% to 63% of young adults reported past-year use (Regnerus et al., 2016). Pornography users steadily increased in number during the past decades (Perry & Schleifer, 2019; Price et al., 2016) and are over-represented by young male adults who report using it at least once a month (Herbenick et al., 2020). Women also report using pornography, although at lower rate and frequency than men (Carroll et al., 2017; Poulsen et al., 2013). Thus, pornography use is part of most young adults' sexuality.

In parallel, sexual dysfunctions and dissatisfaction also rose in young adults in the last decades (Martins & Abdo, 2010; Mialon et al., 2012; Mulhall et al., 2008), prompting some researchers and several popular media outlets to tie it to pornography's growing popularity (Montgomery-Graham et al., 2015; Park et al., 2016). However, scientific results are divergent, with some studies suggesting that pornography use is related to lower sexual satisfaction and function, and others, to higher sexual satisfaction and function (Dwulit & Rzymski, 2019; Hoagland & Grubbs, 2021; Vaillancourt-Morel et al., 2019; Wright et al., 2017). This suggests that contextual factors may be at play to account for the mixed sexual outcomes of pornography use. The content of pornography

used is one of the multiple factors suggested in recent conceptual frameworks that may help contextualize pornography use and disentangle its links with sexuality (Campbell & Kohut, 2017; Willoughby et al., 2020). However, how pornographic contents used is related to sexual satisfaction and function remains unknown. The main goal of this study was to examine the associations between pornography content and sexual satisfaction and function in young adults.

Pornography Use and Sexual Satisfaction and Function

The evaluation of one's sexual life includes cognitive and affective aspects (Byers & Rehman, 2014) such as sexual satisfaction (i.e., the subjective evaluation of positive and negative aspects of one's sexuality; Lawrance et al., 2019) and sexual function (i.e., desire, arousal, orgasm, pain, overall satisfaction, intercourse satisfaction; Rosen et al., 1997, 2000). A mostly cross-sectional literature has examined the associations between pornography use and sexuality, while focusing on frequency of overall pornography use. These studies have shown that pornography use frequency is negatively associated with men's sexual satisfaction, with small effect sizes, whereas in women, it is rather unrelated or positively related to sexual satisfaction (e.g., Bridges & Morokoff, 2011; Leonhardt & Willoughby, 2019; Muusses et al., 2015; Poulsen et al., 2013; Wright et al., 2017; Yucel & Gassanov, 2010). As for sexual function, qualitative studies showed that most pornography users report no impacts or positive effects of their pornography use, whereas some users reported negative effects. For instance, some users report how pornography use decreases their desire for partnered sexual activities, along with

difficulties achieving and maintaining sexual arousal or reaching orgasm, whereas others reported that pornography use increases their sexual desire and enhances their orgasm (Grov et al., 2011; Kohut et al., 2017). Quantitative studies also report mixed findings for sexual function, with some studies reporting that pornography use is unrelated to erectile dysfunction, cross-sectionally (Landripet & Štulhofer, 2015; Prause & Pfaus, 2015) and over a one-year period (Grubbs & Gola, 2019), and others showing that pornography use is associated with higher sexual desire and sexual function in both men and women with small effect sizes (Blais-Lecours et al., 2016; Bőthe et al., 2021; Willoughby et al., 2020). As all these studies examined the frequency of pornography use without considering the content, they might have failed to capture the potential differential effects of the pornographic contents used on sexuality.

Contents of Pornography Used

The Antecedents-Context-Effects theoretical model (Campbell & Kohut, 2017) contends that pornography use is driven by multiple antecedents that determine its context (e.g., frequency of use, solitary use, joint use, hidden use, content of use), which in turn may have a variety of consequences (Campbell & Kohut, 2017). Among different contexts of pornography use, the pornographic content might represent an important variable in relation with sexuality.

Several studies showed that the contents of popular pornographic videos are highly diverse (Gorman et al., 2010; Hald & Štulhofer, 2016a), and that users, especially young

adults, report a broad range of searches among all pornography contents (Ballester-Arnal et al., 2022; Ogas & Gaddam, 2011). Gorman et al. (2010) described that the content of 45 randomly selected online videos depicted a variety of themes (e.g., showed domination 33% of the time, exploitation 22%, reciprocity 20%, and autoeroticism 22%) and sexual behaviors (i.e., 90% involved genital stimulation, 79% fellatio, 68% vaginal penetration, 50% kissing, 38% female masturbation, 37% cunnilingus, 32% anal penetration, and 13% male masturbation). Other studies have highlighted different levels of violence (Shor & Seida, 2019), sexism (Klaassen & Peter, 2015), and racism (Shor & Golriz, 2019) depicted in pornographic videos. A large-scale study conducted among 2,337 frequent pornography users from Croatia who reported their arousal level toward 27 pornographic contents showed that heterosexual men and women were more aroused by "vanilla" sexual themes (e.g., oral sex, vaginal sex, and masturbation), group sex themes (e.g., threesomes, orgies, and gang bangs), and, for heterosexual men specifically, by female-specific sexual themes (e.g., big breasts, mature/MILF women, Lolita/teen; Hald & Štulhofer, 2016a, 2016b). This variability in the content of pornography highlights the limitations of past studies focusing on the frequency of pornography use and not differentiating between types of content, which hinders the possibility to identify specific contents associated with more negative outcomes than others. Moreover, while these studies highlighted the variety of existing pornography contents (Gorman et al., 2010; Klaassen & Peter, 2015; Shor & Golriz, 2019; Shor & Seida, 2019) or reported levels of arousal to different contents (Hald & Štulhofer, 2016a, 2016b), proportion of use were rarely reported, and potential gender differences in the frequency of use of these contents have not been examined thoroughly.

Associations Between Pornography Contents Used and Sexuality

Research on the associations between violent pornography and sexually violent behaviors has been extensive (Ferguson & Hartley, 2020), but only a handful of studies investigated the associations between the pornographic contents used and sexual satisfaction and function. According to the sexual scripts theory, how sexuality unfolds is socially constructed through personal experiences, media, and values (Frith & Kitzinger, 2001; Simon & Gagnon, 1986). Sexual scripts are messages defining how to act during sexual activities and what is considered good sex (Frith & Kitzinger, 2001). As pornography use is associated with sexual scripts, particularly among adolescents and young adults (Braithwaite et al., 2015; Bridges et al., 2016; Marshall et al., 2021; Štulhofer et al., 2010), the contents of pornography used could be closely related to expectations around sexual activity that may affect their sexual satisfaction and function. Some types of pornographic contents may elicit script expectations that are difficult, if not impossible, to enact in real-life (e.g., illegal acts) or more susceptible to affect partnered sexual activity (e.g., higher sexual objectification), which may lead to sexual dissatisfaction or difficulties in sexual response. Moreover, as sexual scripts are typically gendered (i.e., men and women are expected to have different roles or characteristics in their sexuality; Frith & Kitzinger, 2001), they may be associated differently with sexuality, depending on gender.

In a probability-based sample of 4160 Norwegian adults, both a higher frequency of pornography use and a preference for non-mainstream pornography (i.e., bizarre,

bondage, fetish, sadomasochism, and violent sex) were associated with higher odds of reporting both positive and mixed or negative self-assessed effects of pornography use (Koletić et al., 2021). In a sample of 858 individuals in a committed romantic relationship, mainstream pornography use was associated with lower satisfaction with variety of partnered sexual activities and time spent on intercourse among men, whereas it was unrelated to all components of sexual satisfaction among women. Provocative sexual media use (i.e., not depicting explicit sexual act) was associated with lower satisfaction with love and affection in the sexual relationship for both men and women, and with lower overall sexual satisfaction, satisfaction with sexual variety, and satisfaction with time spent on intercourse among women (Leonhardt & Willoughby, 2019). In a study among 650 young Croatian men aged 18 to 25, the pornographic content used (i.e., paraphilic vs mainstream) moderated the association between early exposure to pornography and sexual satisfaction, as early exposure to pornography was associated with lower sexual satisfaction only among paraphilic pornography users (Štulhofer et al., 2010). The results of these three studies suggest that the use of different contents of pornography could be associated differently with some components of sexuality. However, these studies are limited by the number and the nature of contents examined, and restricted to dichotomous categorisations (i.e., mainstream vs. nonmainstream pornography, explicit vs. non-explicit), which do not reflect the diversity of contents available.

To our knowledge, only one study examined multiple contents of pornography in relation to sexuality. A study conducted among 1,197 German university students

examined the associations between the appreciation of 11 different pornographic contents and real-life sexual practices (Martyniuk et al., 2019). Findings showed that the contents participants reported to like in pornography were related to the respective real-life experiences, which supports the sexual scripts theory, as liking these contents might be related to script expectations and therefore sexual practices. However, despite these associations, a considerable proportion of participants did not experience activities they liked in pornography, in particular for unconventional activities (e.g., of those who like group sex, leather clothing and sadomasochism in pornography, only 9.4% to 20.4% experienced it; Martyniuk et al., 2019). Although this study did not examine the associations with sexual satisfaction and function, these results show that different pornographic contents can be associated differently with sexuality. Therefore, studying how the use of different contents of pornography may be associated with sexual satisfaction and function could bring light to the mixed findings regarding the link between frequency of pornography use and sexuality.

Aims of The Current Study

The first aim of this study was to describe the proportion of use of different contents of pornography and to examine gender based differences in the frequency of use of these contents. The second aim of this study was to examine the associations between the frequency of use of different contents of pornography and sexual satisfaction and function, considering potential differences among genders and individuals with and without a romantic or sexual partner. Indeed, as pornography use may have specific

connotations for partners (e.g., betrayal, feelings of inadequacy; Shuler et al., 2021), and considering the role of having a romantic or sexual partner for sexual satisfaction and function, differences among individuals with and without a romantic or sexual partner was examined. Moreover, previous studies highlighted that pornography use often occurs in conjunction with masturbation (Prause, 2019), and that negative outcomes of pornography use might be better explained by masturbation frequency as the associations between pornography use and sexual and relational outcomes are usually lower when masturbation is considered (Miller et al., 2019; Perry, 2020). Therefore, frequency of masturbation was included as a control variable in all models to rule out the role of this potential confounding variable. However, given the potential shortcomings of using control variables in pornography studies (Wright, 2021), we reported our findings with and without the inclusion of this control variable for full transparency. As previous empirical findings are scarce regarding the use of different pornographic contents, and even more so regarding their associations with sexual satisfaction and function, this study was exploratory, and no a priori hypotheses were formulated.

Method

Participants

A convenience sample of 827 young adults was recruited through university email lists, Kijiji adds, and social networking sites (e.g., paid advertisings targeting men and women on Facebook and Instagram, advertisements published in small ads Facebook groups, Instagram publications through the project's account). Participants were aged 17

to 30 years old (M_{age} = 23.44, SD = 3.14). Sociodemographic data for the total sample are presented in Table 1.

Procedure

This study was part of a larger longitudinal study advertised as a survey about digital technologies and intimate relationships in adolescents and young adults across all recruitment methods. Other published papers using the data from the Time 1 examined the associations between attachment, sexting, and sexual satisfaction (Lefebvre et al., 2022), and the associations between dating app use and risky sexual behaviors (Mignault et al., 2022). Data used in the present study were collected via a self-report survey at the second wave of data collection. To be eligible, interested participants had to be aged between 16 and 29 years old at Time 1 and understand French. A hyperlink led interested participants to an eligibility survey in which, if they were eligible, they gave their name, phone number, and email address. Before sending the survey link to eligible participants, research assistants made sure that no participant duplicated an already existing participant. This link directed participants to an anonymous survey hosted on the Qualtrics Research Suite, which included the study description and an informed consent form. Three attention-testing questions were included in the survey battery. Based on recent recommendations to detect invalid responses due to carelessness (Curran, 2016), participants failing at least two of the three attention-testing questions (e.g., I am assessing your level of attention, answer "Never" to this question) were excluded from the study.

Table 1

Sociodemographic Data for the Total Sample (N = 827)

	%	*n*
Biological sex		
Women	62.5	517
Men	37.5	310
Gender identity		
Women	60.7	503
Men	37.0	306
Native or cultural gender identity or gender experience, non-binary, gender fluid, or questioning their gender identity	2.1	18
Occupation		
Employed	73.2	605
Highest completed education degree		
Primary school degree	2.3	19
Secondary school degree	14.0	116
Vocational degree	3.9	32
College degree	42.2	349
Bachelor's degree	28.7	237
Master's degree	7.9	65
Doctorate degree	1.1	9
Sexual orientation		
Heterosexual	77.1	719
Heteroflexible	5.7	53
Bisexual	5.4	50
Gay or lesbian	5.1	48
Pansexual or omnisexual	2.6	24
Queer	1.3	12
Asexual	0.6	6
Homoflexible	0.4	4
Demisexual	0.2	2
Uncertain or questioning their sexual orientation	1.6	15
Relationship status		
In an exclusive romantic relationship (without any other sexual or romantic partner)	69.2	646
Single without any sexual partner	18.7	171
Single with one sexual partner	5.6	52
Single with multiple sexual partners	3.4	32
In a romantic relationship with other sexual or romantic partners	3.1	29

At the beginning of the study (i.e., Time 1), of the 1508 interested participants that started the eligibility survey, 1384 were eligible and gave their informed consent, and thus were directed to the online survey. Of these participants, 364 did not complete enough of the survey to be included (i.e., they did not complete any of the first two attention-testing questions scattered throughout the whole survey), and 19 failed the attention-testing questions (e.g., I am assessing your level of attention, answer "Never" to this question). Thus, 1001 participants were included in the first data collection wave and invited for the second wave. Of these, 939 participated in the survey at Time 2, but 5 were excluded (i.e., 3 did not complete enough of the survey to be included and 2 failed the attention-testing questions), leaving a sample size of 934 participants. As dyads (i.e., both members of a couple) were also included in the study (i.e., the larger project examined individuals and dyads as well), one member from each of the 107 dyads was randomly removed. Thus, the final sample used in the present study included 827 participants. Participants received CAN$10 after completing the survey. This study was approved by our universities' Institutional Review Boards.

Measures

Sociodemographic Questionnaire

Items regarding participants' sociodemographic characteristics were used to gather information about occupation ("Do you currently have a job?"; answer options: Yes, no), education ("What is your highest level of education completed?"; answer options: Primary school degree, Secondary school degree, Vocational degree, College degree,

Bachelor's degree, Master's degree, Doctorate degree) and sexual orientation ("People describe their sexual orientation in different ways. Which expression best describes your current sexual orientation?"; answer options: Heterosexual, Heteroflexible, Bisexual, Gay or lesbian, Pansexual or omnisexual, Queer, Asexual, Homoflexible, Demisexual, Uncertain or questioning their sexual orientation).

The presence of a romantic or sexual partner was assessed with one question ("What relationship status best defines you right now?"; answer options: I am single and I do not have any sexual partner; I am single and I have a sexual partner without commitment ,[what is sometimes called *fuckfriends*]; I am single and I have multiple sexual partners without commitment; I have a romantic partner and other sexual or romantic partners [non-exclusive relationship]; I have an exclusive romantic partner [without other romantic or sexual partner]). Participants were regrouped into two groups for moderation analyses, 0 = *I do not have any sexual or romantic partner*; 1 = *I have a sexual or romantic partner*.

Participants were also asked about their biological sex ("What is your biological sex, that is, what sex were you assigned at birth (on your original birth certificate*)?*''; "male sex", "female sex") and their gender identity ("What gender or sex is yours or do you feel is yours (your gender identity)?''; "female/women", "male/man" , "indigenous or other cultural gender minority identity (e.g., "two-spirit", "non-binary, genderfluid, multi-gender, or gender queer", "other"). To increase the statistical power and simplify

the analysis, participants were regrouped into three groups for analyses. Participants reporting a female biological sex and female/women gender identity formed the cisgender women group (60.7%, *n* = 502). Participants reporting a male biological sex and a male/man gender identity formed the cisgender men group (36.4%, *n* = 301). Finally, participants who had other combinations of biological sex and gender formed the gender-/sex-diverse individuals group (2.9%, *n* = 24).

Frequency of Use of Different Contents of Pornography. Before answering any pornography-related questions, we provided the following definition to participants: "For the following questions, the term 'pornography' is used to refer to intentionally looking at or listening to (1) pictures or videos of nude individuals, (2) pictures or videos in which people are having sexual activities" (Kohut et al., 2020). First, participants answered one question about their lifetime pornography use (*"Have you ever watched pornography in your life?"*; 0 = *no*, 1 = *yes*). A total of 91.3% of participants (*n* = 755) reported lifetime pornography use. If they had viewed pornography in their lifetime, they were asked about their overall frequency of use in the past three months ("On average, in the past THREE months, how often have you watched pornography?"; 0 = *never*, 1 = *less than once a month*, 2 = *once a month*, 3 = *2-3 times a month*, 4 = *once a week*, 5 = *many times per week*, 6 = *once a day*, 7 = *many times per day*). Those participants' naturally "missing" answers who had not used pornography in their life (*n* = 72, 8.7%) were recoded as 0 (*never*) for further analyses (Bőthe et al., 2022).

Then, a list of pornographic contents based on popular sexual fantasies (Joyal et al., 2015) and pornographic categories frequently used by individuals according to a popular pornographic website (Pornhub, 2019), was developed for the purpose of the study. This list was reviewed by our team only which included an expert in sexual fantasies and an expert in pornography use (all items are presented in Appendix S1 in the supplemental material). Each item, referring to one content of pornography, was rated on a six-point Likert scale ($0 = never$ to $5 = always$), providing information about how often participants used a given content when they used pornography in the last three months. Participants' naturally "missing" answers who reported no pornography use in the past three months ($n = 188$, 22.8%) were recoded as 0 (*never*) for all pornographic contents.

An exploratory factor analysis (EFA; principal axis factoring method, Promax rotation) was conducted on all items and selection of the optimal number of factors was based on eigenvalues greater than 1.0 and the scree test (Watkins, 2018). Results revealed a five-factor solution, with eigenvalue between 1.04 and 4.84, factor loadings varying from .475 to .912 (all factor loadings of the EFA are presented in Table S1 in the supplemental material), and accounting for 68.84% of the variance. The five underlying latent factors of pornographic contents were theoretically sound (Lehmiller, 2018) and represent: *power, control, and rough sex pornography* (four items, i.e., sadomasochism, bondage and domination, spanking, and rape/sexual assault; $α = .81$), *passion and romance pornography* (four items, i.e., romantic place [e.g., beach], romantic sex or couple having sex, massage, and mutual masturbation; $α = .75$), *taboo*

and forbidden sex pornography (three items, i.e., teen, MILF [''mother I'd like to fuck''], and fake incest [e.g., step mom, step dad, step brother, mom]; α = .72), *gender-bending pornography* (two items, i.e., transgender/"shemale'', and male or female transvestites; α = .78) and *multipartner sex pornography* (three items, i.e., orgy, gangbang, and threesome; α = .82). The exact wording of the selected items are presented in the Appendix S1 of the supplemental material. Theoretically, the obtained factors replicated five out of seven popular sexual fantasies themes extracted from a survey among 4,175 American adults (Lehmiller, 2018). Mean scores ranged from zero to five, with higher scores indicating a more frequent use of the given content of pornography. The five subscales showed adequate internal consistencies.

Sexual Satisfaction. Satisfaction with one's sexual life was measured using the *Global Measure of Sexual Satisfaction* (Lawrance & Byers, 1995). The five items were rated on seven-point bipolar scales (*good-bad*, *pleasant-unpleasant*, *positive-negative*, *satisfying-unsatisfying*, *valuable-worthless*). Sum scores ranged five to 35, with higher scores indicating higher sexual satisfaction. This measure showed excellent internal consistency in the present sample (α = .91).

Sexual Function. Participants were first asked to decide if they wanted to complete a questionnaire related to female or male anatomy, or if they wanted to skip the sexual function measure. A total of 5.5% (*n* = 45) chose to skip the sexual function measure. For the male anatomy questionnaire, the *International Index of Erectile Function* (IIEF;

Rosen et al., 1997) was used to assess erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. The 15 items (e.g., "Over the past 4 weeks, how often were you able to get an erection during sexual activity?") were rated on five- and six-point scales (e.g., 1 = *Almost never or never* to 5 = *Almost always or always*). As two items refer to overall sexual satisfaction, there is a small overlap with the sexual satisfaction measure. Items were summed to provide a total score, ranging from 15 to 75, with a higher score indicating better sexual function. The IIEF demonstrated good reliability in the present sample (α = .86).

For the female anatomy questionnaire, the *Female Sexual Function Index* (FSFI; Rosen et al., 2000) was used to assess subjective desire, arousal, lubrication, orgasm, pain/discomfort, and satisfaction. The 19 items (e.g., "Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?") were rated on five- and six-point scales (e.g., 1 = *Very low or absent* to 5 = *Very high*). Scores obtained in the sexual domains were summed and multiplied by a respective factor that homogenizes the influence of each dimension to form a total score, with a higher score indicating better sexual function. As three items refer to overall sexual satisfaction, there is a small overlap with the sexual satisfaction measure. The FSFI demonstrated acceptable internal consistency in the present sample (α = .75). For both the IIEF and the FSFI, to avoid biasing the total scores toward dysfunction, the "no sexual activity" answer option was recoded into a missing value based on Meyer-Bahlburg and Dolezal (2007) and Meston et al.'s (2020) recommendations. Moreover, scores on the FSFI were rescaled to match

men's scores on the IIEF using the following formula: (score - 2) × (75/34) (Corsini-Munt et al., 2017). Scores ranged from 15.88 to 75.00, with higher scores indicating higher sexual function.

Frequency of Masturbation. Frequency of masturbation in the past three months was assessed through the following question "Over the past three months, how often did you masturbate?". Participants indicated their response on an eight-point scale (1 = *not at all*; 8 = *more than once a day*).

Statistical Analysis

For statistical analyses, *SPSS* 28 and M*plus* 8.6 (Muthén & Muthén, 2017) were used. Cisgender women, cisgender men, and gender-/sex-diverse individuals were compared on their frequency of use of different contents of pornography using Welch-corrected ANOVAs and Games-Howell post-hoc tests, as the assumptions (e.g., homogeneity of variances) of the one-way ANOVAs were not met.

Path analyses were used to examine the associations between the frequency of use of different contents of pornography (i.e., *multipartner sex*, *gender-bending*, *power, control, and rough sex*, *taboo and forbidden sex*, and *passion and romance*) and sexual function and sexual satisfaction in separate models, while controlling for frequency of masturbation. Multigroup path analysis was used to examine potential gender differences (i.e., differences between cisgender women and cisgender men) as well as

differences between people with a sexual or romantic partner and those without a sexual or romantic partner by constraining all path coefficients to be equal across groups. When the constrained model was significantly different from the unconstrained model based on the Satorra-Bentler Scaled chi-square difference test, the model including the grouping variable was considered the best model. When the constrained model was not significantly different from the unconstrained model, group invariance was assumed. Following the principle of parsimony, the grouping variable was dropped and the total sample was used. Analyses were conducted using the robust maximum-likelihood (MLR) estimator that provides robust standard errors and fit statistics. Missing data were handled using full information maximum likelihood (FIML). As all models were fully saturated, commonly used fit indices (CFI, TLI, or RMSEA) were not applicable.

Despite efforts to include gender-/sex-diverse individuals in all the analyses, only 24 gender-/sex-diverse individuals participated in the study, which was a too small group size to include them in the multi-group path analysis. However, in light of recent ethical considerations (Frohard-Dourlent et al., 2017; Sharman & Johnson, 2012) and to avoid excluding these participants from the sample, they were included in the group comparisons and models that were invariant between women and men, and descriptive and correlational results were reported for this subsample, providing preliminary results.

Results

Proportion of Use of Different Contents of Pornography and Gender Differences in the Frequency of Use

Descriptive statistics related to the prevalence of use of each pornography content are shown in Table 2. *Passion and romance* pornography was the most popular pornography content for ciswomen and gender-/sex-diverse individuals, and widely used across all genders (56.97% of ciswomen, 83.06% of cismen, and 83.33% of gender-/sex-diverse individuals). *Multipartner sex* pornography was also frequently used across genders (45.41% of ciswomen, 78.07% of cismen, 75.00% of gender-/sex-diverse individuals), and *Taboo and forbidden sex* pornography was the most popular pornography content among cismen (31.47% of ciswomen, 84.05% of cismen, 75.00% of gender-/sex-diverse individuals). As for *power, control and rough sex pornography*, its popularity appeared moderate in comparison to other types of content (29.28% of ciswomen, 39.20% of cismen, 62.50% of gender-/sex-diverse individuals). *Gender-bending* pornography's prevalence was low for ciswomen and cismen, and moderate for gender-/sex-diverse individuals (5.78% of ciswomen, 13.29% of cismen, 54.16% of gender-/sex-diverse individuals).

Table 2

Gender Differences Between Cisgender Women, Cisgender Men, and Gender-/Sex-Diverse Individuals on Frequency of Use of Different Contents of Pornography (N = 827)

	A. Cisgender women (n = 502)		B. Cisgender men (n = 301)		C. Gender-/sex-diverse individuals (n = 24)		
	Mean (*SD*)	% (*n*)	Mean (*SD*)	% (*n*)	Mean (*SD*)	% (*n*)	Welch ANOVAs
Contents of pornography							
1. Multipartner sex	0.59 (0.84)[b, c]	45.41 (228)	1.01 (0.82)[a]	78.07 (235)	1.26 (0.99)[a]	75.00 (18)	$F(2, 824) = 26.98$, $p < .001$
2. Taboo and forbidden sex	0.30 (0.56)[b, c]	31.47 (158)	1.21 (0.84)[a, c]	84.05 (253)	0.79 (0.72)[a, b]	75.00 (18)	$F(2. 824) = 138.90$, $p < .001$
3. Gender-bending	0.05 (0.24)[b, c]	5.78 (29)	0.14 (0.43)[a, c]	13.29 (40)	0.79 (1.01)[a, b]	54.16 (13)	$F(2, 823) = 11.64$, $p < .001$
4. Power, control, and rough sex	0.29 (0.61)[c]	29.28 (147)	0.27 (0.46)[c]	39.20 (118)	0.76 (0.86)[a, b]	62.50 (15)	$F(2, 824) = 3.81$, $p = .028$
5. Passion and romance	0.71 (0.84)[b]	56.97 (286)	0.89 (0.70)[a]	83.06 (250)	0.82 (0.68)	83.33 (20)	$F(2, 823) = 5.59$, $p = .006$

Note. Superscript letters indicate significant (*p* < .05) difference between the given group and the indexed group within the same variable.

Using Welch-corrected ANOVAs with Games-Howell post-hoc tests, potential gender differences on frequency of use of different pornographic contents were examined. As shown in Table 2, significant between-group differences were found on all variables. All contents of pornography were used more frequently by cisgender men than by cisgender women, except for power, control, and rough sex pornography, on which cisgender men and women did not differ. As for gender-/sex-diverse individuals, they showed similar levels of *multipartner sex* pornography use as cisgender men, while they tended to use *gender-bending* and *power, control, and rough sex* pornography more often than cisgender men and women. Their use of *taboo and forbidden sex* pornography was higher than that of cisgender women but lower than that of cisgender men. They did not show significant differences with cisgender men and women on *passion and romance* pornography use. Nevertheless, given the small sample size of the gender-/sex-diverse group, the results should be considered as preliminary findings.

Associations Between Frequency of Use of Different Contents of Pornography and Sexual Satisfaction and Function

Descriptive statistics and correlations between frequency of use of different pornographic contents, overall pornography use frequency, frequency of masturbation, and sexual satisfaction and function are shown in Table 3. Sexual function was positively and moderately related to *taboo and forbidden sex* pornography, *passion and romance* pornography, and overall pornography use, whereas sexual satisfaction was negatively and weakly related to *taboo and forbidden sex* pornography, *gender-bending* pornography, and *power, control, and rough sex* pornography.

Table 3

Correlations and Descriptive Statistics on Frequency of Use of Different Contents of Pornography, Masturbation Frequency, Sexual Function, and Sexual Satisfaction for the Total Sample (N = 827)

	Range	Mean	SD	Skewness	Kurtosis	1	2	3	4	5	6	7
1. Multipartner sex pornography	0-5	0.76	0.87	0.95	0.09	-						
2. Taboo and forbidden sex pornography	0-5	0.65	0.81	1.10	0.23	.45***	-					
3. Gender-bending pornography	0-5	0.11	0.38	4.52	23.05	.21***	.19***	-				
4. Power, control, and rough sex pornography	0-5	0.30	0.58	2.66	9.28	.50***	.27***	.26***	-			
5. Passion and romance pornography	0-5	0.78	0.79	0.98	0.66	.35***	.29***	.08*	.21***	-		
6. Masturbation frequency	0-8	4.08	2.15	-0.38	-0.91	.39***	.47***	.20***	.26***	.31***	-	
7. Sexual function	15.88-75.00	58.80	10.51	-0.96	0.62	.06	.15***	.01	-.05	.11**	.17***	-
8. Sexual satisfaction	5-35	26.62	6.28	-0.78	0.35	-.03	-.09*	-.07*	-.09*	.03	-.10**	.66***

Note. SD = Standard deviation.
*p < .05. **p < .01. ***p < .001.

Masturbation frequency had weak-to-moderate positive associations with all pornography contents, a weak and positive association with sexual function, and a weak and negative association with sexual satisfaction supporting the need to include it as a covariate.

The sexual satisfaction model was first estimated among the total sample, including sexual satisfaction as the outcome, and frequency of masturbation as a control variable. Second, the same model was estimated using gender (i.e., cisgender women and cisgender men) as a grouping variable. To test if the path coefficients were significantly different between cisgender men and women, the paths between the contents of pornography and sexual satisfaction were constrained to be equal across the two groups. The chi-square test results ($\Delta\chi^2 = 4.62$, $\Delta df = 5$, $p = .464$) indicated no significant differences between the constrained and unconstrained models including only cisgender men and women, suggesting that path coefficients are consistent across cisgender men and women. Third, the same procedure was followed to test if the path coefficients were significantly different between individuals with a romantic or sexual partner and individuals without a romantic or sexual partner, and no differences were found ($\Delta\chi^2 = 1.59$, $\Delta df = 5$, $p = .902$). Therefore, the models including the grouping variables were rejected, and the first model among the total sample (i.e., cisgender women, cisgender men and gender-/sex-diverse individuals), including frequency of masturbation as a control variable, was selected for the sake of parsimony. Results from the final model are depicted in Figure 1. Based on this model, *power, control, and rough*

sex pornography was weakly and negatively associated with sexual satisfaction (β = -.09, *p* = .033), and *passion and romance* pornography was weakly and positively associated with sexual satisfaction (β = .08, *p* = .039). This model explained 2.6% of the variance in sexual satisfaction. Results from this model without any control variable are also presented in Figure 1 and showed that *power, control, and rough sex* pornography was still weakly and negatively associated with sexual satisfaction (β = -.09, *p* = .026). Even if the strength of the association remains similar, *passion and romance* pornography was not significantly related to sexual satisfaction when masturbation frequency was not in the model (β = .07, *p* = .078). *Taboo and forbidden sex* pornography use was associated with lower sexual satisfaction when masturbation frequency was not in the model (β = -.09, *p* = .022).

As for the sexual function model, the chi-square difference test between the unconstrained and constrained models indicated significant differences between cisgender men and women ($\Delta\chi^2$ = 11.33, Δdf = 5, *p* = .045), but not between individuals with a romantic or sexual partner and individuals without a romantic or sexual partner ($\Delta\chi^2$ = 5.06, Δdf = 5, *p* = .409). Thus, the model including gender as a grouping variable was used. Results from the final sexual function model are depicted in Figure 2. Based on this model including frequency of masturbation as a control variable, only *power, control, and rough sex* pornography was associated with lower sexual function for cisgender men (β = -.26, *p* = .006), but this association was not significant for cisgender women (β = .01, *p* = .846).

Figure 1

Final Model of the Associations Between Frequency of Use of Different Contents of Pornography and Sexual Satisfaction
(N = 827)

Note. Significant associations are depicted with solid black arrows and two-headed arrows represent estimated covariances. For the sake of clarity, the covariances coefficients are not depicted. Coefficients from the model including masturbation as a control variable are above and coefficients from the model without any control variable are under. Coefficients are standardized regression coefficients.

*p < .05.

Figure 2

Final Model of the Associations Between Frequency of Use of Different Contents of Pornography and Sexual Function Among Cisgender Men and Women (n = 803)

Note. Significant associations are depicted with solid black arrows and two-headed arrows represent estimated covariances. For the sake of clarity, the covariances coefficients are not depicted. Coefficients are standardized regression coefficients. Coefficients from the model including masturbation as a control variable are above and coefficients from the model without any control variable are under. The first number on the arrow indicates the path coefficient for cisgender men, and the second number indicates the path coefficient for cisgender women.
p < .05. **p* < .01.

This model explained 2.6% of the variance in sexual function for cisgender women and 8.8% for cisgender men. Results from this model without any control variable are also presented in Figure 1 and showed that *power, control, and rough sex* pornography was still associated with lower sexual function for cisgender men (β = -.26, p = .006), but this association was still not significant for cisgender women (β = .03, p = .661). Moreover, when masturbation frequency was not in the model, *passion and romance* pornography was significantly related to higher sexual function in cisgender women (β = .12, p = .028), but this association was not significant for cisgender men (β = -.02, p = .819).

Preliminary Results Among Gender-/Sex-Diverse Individuals

As only 24 gender-/sex-diverse individuals were included in the sample, it was not possible to include them in the multigroup analysis. Therefore, correlations between the frequency of use of different contents of pornography, sexual satisfaction, and sexual function were examined to provide preliminary results (see Table 4). However, because of the underpowered nature of the data, most correlations were not significant. Thus, preliminary results will be discussed based on their effect sizes (i.e., $\leq$ |.10| is weak, $\leq$ |.30| is moderate and $\leq$ |.50| is strong; Cohen, 1992), and should be interpreted with caution.

Table 4

Correlations and Descriptive Statistics on Frequency of Use of Different Contents of Pornography, Masturbation Frequency, Sexual Function, and Sexual Satisfaction for Gender-/Sex-Diverse Individuals (n = 24)

	Range	Mean	SD	1	2	3	4	5	6	7
1. Multipartner sex pornography	0-5	1.26	0.99	-						
2. Taboo and forbidden sex pornography	0-5	0.79	0.72	.39	-					
3. Gender-bending pornography	0-5	0.79	1.01	.31	.38	-				
4. Power, control, and rough sex pornography	0-5	0.76	0.86	.33	.32	.48*	-			
5. Passion and romance pornography	0-5	0.82	0.68	.69***	.50*	.24	.40	-		
6. Masturbation frequency	0-8	5.29	1.52	.30	.34	.43*	.28	.11	-	
7. Sexual function	15.88-75.00	56.30	14.27	-.21	.21	-.14	.06	-.09	-.31	-
8. Sexual satisfaction	5-35	24.21	6.41	-.41*	.18	-.17	-.06	-.12	-.49*	.70**

Note. SD = Standard deviation.

p < .05. **p* < .01. ***p* < .001.

The associations between the frequency of use of all five contents of pornography were positive and moderate, except for the correlation between *taboo and forbidden sex* pornography and *power, control, and rough sex* pornography, which was positive and small. Sexual function had small and negative associations with *multipartner sex*, and *taboo and forbidden sex*, and a small and positive association with *passion and romance* pornography. Sexual satisfaction had a moderate, negative, and significant association with *multipartner sex* pornography, small and negative associations with *taboo and forbidden sex*, *gender-bending*, and *power, control, and rough sex* pornography, and a small and positive association with *passion and romance* pornography. Masturbation frequency had a moderate and positive association with *gender-bending* pornography.

Discussion

Pornographic contents used have been suggested as a key variable to untangle mixed findings regarding the associations between pornography use and sexual satisfaction and function (Dwulit & Rzymski, 2019; Hoagland & Grubbs, 2021; Vaillancourt-Morel et al., 2019; Wright et al., 2017), but have received little scientific attention until now. The goals of this study were to describe the proportion of use of different contents of pornography, to examine gender-based differences in their frequency of use, and to examine their associations with sexual satisfaction and function among a large sample of young adults.

Proportion of Use of Different Contents of Pornography and Gender Differences

In line with previous studies suggesting that men use pornography more often than women (Carroll et al., 2017; Peterson et al., 2017; Poulsen et al., 2013), all contents of pornography were used more frequently by cisgender men than by cisgender women, except for *power, control, and rough sex pornography*, on which cisgender men and women did not differ significantly. These results replicate those of previous research suggesting that men have higher levels of arousal than women for almost all types of pornography, except for *power, control, and rough sex* pornography, which was as arousing for women and men (Hald & Štulhofer, 2016a, 2016b). This finding challenges some scholars' speculation that the demand for more violent or aggressive contents is driven by a male audience (e.g., DeKeseredy & Corsianos, 2015). Our data rather suggests that interest for *power, control, and rough sex pornography* is not significantly different among cisgender men and women as there were no differences in the frequency of use of this content. Gender-/sex-diverse individuals presented multiple significant differences with cisgender men or women on their frequency of use of almost all pornographic contents, which could suggest a different pattern of pornography use for this group. However, given the small sample size ($n = 24$), we cannot overinterpret the results and further studies are needed to draw conclusions on contents of gender-/sex-diverse individuals' pornography use.

Passion and romance pornography was widely used across genders, and it was the most popular pornography content among women. This result is consistent with past

findings suggesting that this type of content is the most arousing and commonly searched for, including for young adults (Ballester-Arnal et al., 2022; Hald & Štulhofer, 2016a, 2016b). *Passion and romance* pornography might be popular because it is more representative of partnered sexual activities and represents idealized sexual fantasies. Moreover, qualitative data suggests that many women use strategies like content-selection to avoid problematic content(e.g., not women-friendly, inconsiderate of the actors' well-being, unrealistic; Chadwick et al., 2018), and *passion and romance* pornography might represent a low-risk content.

Multipartner sex was also frequently used across genders, which is consistent with past findings suggesting that sex involving more than two people is a highly prevalent sexual fantasy and among the most arousing pornography contents (Hald & Štulhofer, 2016a, 2016b; Joyal et al., 2015). *Taboo and forbidden sex* was the most prevalent content among men, which is in line with data suggesting that these themes were also among the most frequently searched for on pornography Websites (Ogas & Gaddam, 2011; Pornhub, 2019). As for *power, control and rough sex pornography*, its popularity appears moderate in comparison to other types of contents. While it is possible that some forms of violence are displayed in all the pornography contents we measured, the higher frequency of use of *passion and romance* pornography, *multipartner sex* pornography and *taboo and forbidden sex* pornography nuances past results suggesting that adolescents and young adults are using increasingly violent pornography (e.g., Romito & Beltramini, 2015). Although violent contents might be widely available and

advertised in mainstream pornographic websites (Vera-Gray et al., 2021), as other studies have shown (Baer et al., 2015; Ballester-Arnal et al., 2022; Shor & Seida, 2019), *power, control and rough sex* pornography was not the most frequently deliberately used content of pornography. Lastly, *gender-bending* pornography was used by gender-/sex-diverse individuals the most (54.16%), which could be explained by their higher identification with characters.

Pornographic Contents Used and Sexual Satisfaction

Among the whole sample, including individuals with and without a romantic or sexual partner and all genders, our results suggest that, controlling or not for frequency of masturbation, *power, control, and rough sex* pornography was associated with lower sexual satisfaction. While cross-sectional studies have shown that bondage-discipline/dominance-submission/sadomasochism (BDSM) interests and behaviors are associated with higher sexual satisfaction (Botta et al., 2019; Joyal & Carpentier, 2017; Strizzi et al., 2021), our results showed the opposite association for frequency of use of *power, control, and rough sex* pornography. This suggests that using pornography including a specific content implies different processes than fantasizing about or enacting those specific sexual behaviors in real life. Many people have masochistic (i.e., 27.8% of women, 19.2% of men) sexual fantasies that are associated with higher sexual satisfaction (Joyal & Carpentier, 2017). However, using pornography that includes this type of content might not be related to higher sexual satisfaction as users do not control the content of pornography used as much as their fantasies.

Moreover, *power, control, and rough sex* pornography might depict sexual scripts that are less achievable with a consenting partner and sometimes illegal (i.e., rape), thus being related to lower overall sexual satisfaction. Users of *power, control, and rough sex* pornography might also experience moral incongruence between the use of these contents and their beliefs regarding these contents (e.g., rape is fundamentally wrong to me, but I use rape pornography), which could potentially lower sexual satisfaction (Grubbs, Perry et al., 2019). This specific content may also instill more negative feelings (e.g., shame, betrayal of one's partner) regardless of a user's beliefs and be related to lower sexual satisfaction.

Our findings also showed that, controlling for frequency of masturbation, *passion and romance* pornography was associated with higher sexual satisfaction. In contrast with prior findings suggesting that overall pornography use frequency is associated with lower sexual satisfaction for men and unrelated to women's sexual satisfaction (e.g., Bridges & Morokoff, 2011; Leonhardt & Willoughby, 2019; Muusses et al., 2015; Wright et al., 2017), our results rather suggest that this association depends on the pornographic content used, without significant gender differences. As it includes more traditionally common or accepted sexual practices, *passion and romance* pornography might trigger more positive feelings, less moral incongruence, and therefore be related to higher sexual satisfaction. Moreover, *passion and romance* pornography might include more realistic sexual scripts that do not contrast as much with sexual practices and rather stimulate sexual activities by giving achievable ideas, which could explain the related

higher sexual satisfaction. In contrast with previous work overlooking the specific content of pornography used, the lack of significant difference between cisgender men and women found in our study also shows that pornography use may be associated with positive outcomes, even for men. As ciswomen use *passion and romance* pornography the most, this could partially explain why some studies show that women's pornography use is associated with higher sexual satisfaction (Koletić et al., 2021). Alternatively, it is possible that sexually satisfied young adults use *passion and romance* pornography as its content is similar to their own sexual practices. Interestingly, the association between *passion and romance* pornography and sexual satisfaction was not significant when masturbation frequency was not included in the model. Thus, *passion and romance* pornography may only be positively related to sexual satisfaction when its use is not paired with masturbation which may be the case when using pornography with a romantic partner or just before a sexual activity with a partner (Vaillancourt-Morel et al., 2020, 2021).

Finally, our findings showed that, controlling for frequency of masturbation, *taboo and forbidden sex* pornography was not significantly related to sexual satisfaction, but it was related to lower sexual satisfaction in the model without masturbation frequency. This is in line with previous studies that showed that the associations between pornography use and sexual and relational outcomes are usually lower when masturbation is considered (Miller et al., 2019; Perry, 2020), suggesting that the negative associations between *taboo and forbidden sex* and lower sexual satisfaction is

partly due to the negative associations between masturbation and sexual satisfaction. Thus, this negative association is better explained by the fact that this type of pornography is combined with masturbation.

Pornographic Contents Used and Sexual Function

Among both participants with and without a romantic or sexual partner, controlling or not for frequency of masturbation, *power, control, and rough sex* pornography was associated with lower sexual function for cisgender men only, which is in line with prior findings suggesting that men's overall pornography use frequency is associated with negative outcomes, while women's use is associated with more positive or neutral outcomes (Koletić et al., 2021; Vaillancourt-Morel et al., 2019; Wright et al., 2017). Using *power, control, and rough sex* pornography might be associated with lower sexual function in men by inducing specific sexual scripts that are less acceptable and achievable in real life. Not having the opportunity to enact these sexual scripts in real life might hinder men's sexual desire, their capacity to maintain erection or to reach orgasm as their sexual activities would not fit their idea of what is sexually pleasurable and exciting. While men might expect to enact their *power, control and rough sex* sexual scripts, women might differentiate more between what excites them in pornography and what desires they have for their sexual activities. In a qualitative study, approximately half of women reporting submission fantasies specified that they would not wish their fantasy to materialize in real life (Joyal et al., 2015), indicating a distinction between sexual fantasies (and potentially pornography use) and sexual wishes that would be

stronger for women than men. Alternatively, it is possible that men with a sexual dysfunction use *power, control, and rough sex* pornography to try to regulate their feelings of stress or emasculation (Sheng, 2021) by identifying with dominant characters, or to get a higher level of stimulation to attain sexual arousal or orgasm.

Finally, our findings showed that, controlling for frequency of masturbation, *passion and romance* pornography was not significantly related to sexual function for ciswomen and cismen, but it was related to higher sexual function in cisgender women in the model without masturbation frequency. Again, this result may suggest that this significant association is better explained by the frequency of masturbation that accompanies the use of *passion and romance* pornography. Cisgender women who masturbate more frequently while using this pornographic content may have higher sexual desire, or develop a better knowledge of their body, leading to easier arousal and orgasm.

Limitations and Future Studies

This study has some limitations that should be considered when interpreting these results. Causal inferences from our findings are limited by the cross-sectional nature of the data. While the ordering of our variables was based on past theoretical models suggesting that contents of pornography used may have effects on sexuality, it is also possible that sexuality has some effects on the frequency of use of different pornography contents. Thus, future studies should include multiple time points to test for the

directionality of the associations. As this study was only a first step in examining the association between the use of different pornography contents and sexuality, our pornography contents measure was not meant to be exhaustive and it ended up including a two-item factor, which is acceptable (Raubenheimer, 2004; Yong & Pearce, 2013), but could be expanded. Future studies will be needed to explore the associations between more pornography contents and to confirm the factor structure of our measure. Although our sample included a diversity of sexual orientations and gender identities, the generalizability of the results is potentially limited by our convenience sample of young adults aged 17 to 30, with a majority of cisgender women. Results related to gender/sex-diverse individuals should also be interpreted with caution considering the small subsample size. Future research should make substantial efforts to include more diversity in their samples. Some biases might also be induced by the self-report nature of our instruments and social desirability given the taboo surrounding sexuality, pornography use, and masturbation. This study also focused only on pornography contents, explaining only a modest amount of variance in sexual satisfaction and function. Evidently, other distal and proximal factors, not assessed in this study, may have an important contribution to sexuality that may increase the explained variance (e.g., relationship quality, body image, frequency of sexual activities, communication; Blunt-Vinti et al., 2019; Roels & Janssen, 2020; van den Brink et al., 2018). Future research should also further nuance these results by considering other contextual factors, to which associations between pornography use and sexual outcomes appear especially sensitive (Vaillancourt-Morel et al., 2019). For instance, if pornography is used alone or

with a partner could clarify the associations between pornography contents used and sexuality as some contents might be more frequently used with a partner. It is also possible that some contents evoke specific feelings (e.g., shame, betrayal of one's partner), which could explain the related sexual outcomes. Moreover, although our models were invariant across relationship status, other relational factors including relationship quality may play a role in the associations between pornography use and sexuality. Finally, given that sexual function includes items related to overall sexual satisfaction, there is some degree of overlap between the two sexuality outcomes. Future studies could examine more specifically how the use of different pornography contents might be related to different components of sexual function. Despite the limitations described above, this study was the first to include multiple pornography contents in relation to sexual satisfaction and function, which extends our understanding of the complex links between pornography use and sexuality.

Implications

As suggested in the Antecedents-Context-Effects theoretical model, our findings highlight the need to consider the context surrounding pornography use, such as pornographic contents used, to better understand the potential effects of pornography use (Campbell & Kohut, 2017). Future research in the field should include different types of pornography contents instead of lumping them all together by studying only overall pornography use frequency to grasp the complexity of the associations between pornography use and sexuality. This study was the first to examine whether the content

of pornography is an important context to consider when studying the associations between pornography use and sexuality, as it has been suggested by scholars (e.g., Campbell & Kohut, 2017). Our results showed the need to consider the pornographic contents used in future research and clinical work instead of only focusing on overall pornography use frequency. However, given the small effect sizes, we should remain modest on the practical implications of these results. The different associations with sexual satisfaction and function depending on pornography content suggest the need for clinicians to consider the contents of pornography used when assessing pornography use frequency. As educating adolescents and young adults about pornography has showed to countervail harmful sexual scripts (Vandenbosch & van Oosten, 2017), our findings could be used to support education on pornography use and its potential harms and benefits. Researchers have suggested that pornography literacy needs to be nuanced, including negative, neutral, and positive dimensions of pornography use (Dawson et al., 2020), which is supported by the complexity of our results.

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Supplemental Material

Appendix S1

When you have used pornography in the last THREE months, how frequently did you use the following types of pornography?

Answer options:
0 = Never
1 = Rarely
2 = Occasionnaly
3 = Most of the time
4 = Almost always
5 = Always

1. Sadomasochism
2. Bondage and domination
3. Spanking
4. Rape/Sexual assault
5. Romantic sex or couple having sex
6. Romantic place [e.g., beach]
7. Mutual masturbation
8. Massage
9. Teen
10. Milf / "Mother I'd like to fuck"
11. Fake incest (e.g., step mom, step dad, step brother, mom)
12. Teen Women or man transvestites
13. Transgender/*Shemale*
14. Orgy (more than three people)
15. *Gangbang* (multiple partners for one person who is the center of the sexual activity
16. *Threesome*

Supplemental Material

Table S1

Results of the Exploratory Factor Analysis With Principal Axis Factoring Extraction and Promax Rotation

	Power, Control and Rough Sex	Passion and Romance	Taboo and forbidden sex	Gender-bending	Multipartner Sex
Sadomasochism	.912				
Bondage and domination	.847				
Spanking	.639				
Rape/Sexual assault	.475				
Romantic sex or couple having sex		.836			
Romantic place [e.g., beach]		.783			
Mutual masturbation		.512			
Massage		.484			
Milf / "Mother I'd like to fuck"			.601		
Fake incest (e.g., step mom, step dad, step brother, mom)			.851		
Teen			.620		
Women or man transvestites				.783	
Transgender/*Shemale*				.852	
Orgy (more than three people)					.953
Gangbang (multiple partners for one person who is the center of the sexual activity)					.801
Threesome					.563

Note. All factor loadings are standardized

Article scientifique 2
Associations Between Pornography Use Through Different Media and Sexual and Relationship Satisfaction Among Cohabiting Couples

Associations Between Pornography Use Through Different Media and Sexual and Relationship Satisfaction Among Cohabiting Couples

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Abstract

Pornography can be used through multiple media and its associations with couples' relationship and sexual satisfaction are mixed. The aims of this study were to examine the proportion of use of different pornographic media (i.e., videos, pictures, audio material, and written material), including different contents (i.e., sexual activities and nudity), gender-based differences in the frequency of use of these media, and the associations between an individual's frequency of use of different pornographic media and their own and their partner's sexual and relationship satisfaction, considering potential gender differences. A sample of 706 adult couples (1368 participants; $M_{age} = 32.19$) completed online self-report questionnaires. Results of actor-partner interdependence models indicated that video use was associated with lower relationship and sexual satisfaction, and partners' lower sexual satisfaction. Picture use was associated with lower relationship satisfaction and partners' lower sexual satisfaction. Written material use was associated with lower sexual satisfaction. Cisgender women's audio use was associated with their own higher sexual satisfaction, whereas cisgender men's audio use was associated with their partner's lower sexual satisfaction. These findings suggest different associations with sexual and relationship satisfaction depending on the pornographic media.

Keywords: pornography, media, sexual satisfaction, relationship satisfaction, couples

Introduction

Pornography use, which encompasses intentionally looking at, reading, or listening to videos, pictures, audio material (e.g., audio erotic stories, sexual activity sounds), or written material depicting nude individuals or people having sex (Kohut et al., 2020), is now considered a normative sexual activity, including for partnered individuals (Herbenick et al., 2020; Willoughby & Leonhardt, 2018a). Estimates of pornography use among individuals in mixed-sex couples range from 71 to 92% for men and from 34 to 83% in women (Vaillancourt-Morel et al., 2019; Willoughby et al., 2016). This use is mostly solitary, with 80% of men and 68% of women reporting that more than 50% of their pornography use occurred without their partner (Willoughby & Leonhardt, 2018b). Although theoretical models and frameworks contend that pornography use may impact romantic relationships, mostly negatively (Campbell & Kohut, 2017; Willoughby et al., 2020), studies have attempted to clarify the associations between pornography use and a wide range of relational processes and well-being indicators, including relationship and sexual satisfaction, with mixed findings (Wright et al., 2017). Some studies have reported negative or non-significant associations between pornography use frequency and sexual and relationship satisfaction, while others have reported positive associations (Dwulit & Rzymski, 2019; Grubbs et al., 2019; Vaillancourt-Morel et al., 2019).

These mixed results have led scholars to stress the importance to examine the context in which pornography use may affect romantic relationships (Campbell & Kohut, 2017; Willoughby et al., 2020). This context includes the types of media used to

look at, listen, or read pornography, which may be at play for the contradictory results (Campbell & Kohut, 2017). However, the current literature has focused primarily on overall pornography use frequency without examining if the associations with relationship and sexual satisfaction differ according to the media used. Moreover, the media included in the definitions of pornography may vary (e.g., videos and pictures only vs also including audio and written material), which might explain the discrepancy in findings. The present study sought to address this limitation by examining the associations between the use of pornography through different media and relationship and sexual satisfaction among couples.

Pornography Use Frequency and Sexual and Relationship Satisfaction

Burgeoning, mostly cross-sectional, intra-individual literature has examined the associations between pornography use frequency and romantic relationship wellbeing. Relationship satisfaction, the subjective evaluation of one's relationship (Keizer, 2014), and sexual satisfaction, the subjective evaluation of the positive and negative aspects related to one's sexual relationship (Lawrance & Byers, 1995), are key components of couples' overall wellbeing and happiness (Dyrdal et al., 2011; Joel et al., 2020). While most popular media contend that pornography use is a threat to romantic relationships (Montgomery-Graham et al., 2015), qualitative studies have shown that most individuals perceived no negative impacts of pornography use on their romantic relationship, and some even reported positive effects, such as increased satisfaction with a partner, and increased erotic climate in a relationship (Kohut et al., 2017; Shuler et al., 2021).

Quantitative studies on the associations between pornography use frequency and relationship and sexual satisfaction have reported mixed findings. In a review of 30 nationally representative cross-sectional studies, pornography use was either weakly related to lower relationship satisfaction for men and women or unrelated to relationship satisfaction (Perry, 2020). A meta-analysis of 50 studies combining both relationship and sexual satisfaction showed that men's pornography use was related to lower satisfaction, whereas women's use was unrelated to satisfaction (Wright et al., 2017). In a sample of 1234 unmarried heterosexual individuals followed five times over 20 months, using more pornography alone over time was associated with lower relationship satisfaction for men, but higher relationship satisfaction for women (Huntington et al., 2021). In a sample of 617 mixed-sex couples, men's pornography use was related to their own lower sexual satisfaction, while women's use was related to their own higher sexual satisfaction (Poulsen et al., 2013).

As pornography use may evoke specific feelings in couples (e.g., partner's feelings of inadequacy, unrealistic expectations, betrayal; Shuler et al., 2021), it appears relevant to not only examine how one's pornography use is associated with their own sexual and relationship satisfaction (i.e., actor effects), but also how one's pornography use is related to their partner's sexual and relationship satisfaction (i.e., partner effects). Some cross-sectional, longitudinal, and daily diaries studies found no significant partner effects between a person's pornography use and their partner's relationship and sexual satisfaction (Bőthe, Vaillancourt-Morel, & Bergeron, 2022; Muusses et al., 2015;

Vaillancourt-Morel et al., 2020; Willoughby & Leonhardt, 2018b; Yucel & Gassanov, 2010). Other studies have reported gender differences, with men's pornography use being either unrelated to their partners' satisfaction or associated with their partners' lower relationship and sexual satisfaction (Bridges & Morokoff, 2011; Poulsen et al., 2013), and women's use being related to their partners' higher relationship satisfaction (Bridges & Morokoff, 2011; Poulsen et al., 2013). Thus, there seem to be gender differences for both actor and partner effects, with men's use being more often associated with negative outcomes than women's use. These differences could be explained by the way men and women use pornography, such as the media used.

Pornography Use Through Different Media

Studies showed that pornography is used via multiple media. In a sample of 221 single and dating Spanish adults, 77.1% reported pornography use via the Internet; 12.7% via literature; 3.2% via magazines, drawings or images; and 3.2% via offline videos or movies (Sánchez-Lamadrid et al., 2022). Among 821 non-monogamous men who have sex with men, 96.4% used pornography via the Internet, 57.3% via digital video discs (DVDs), 18.1% via magazines, and 1.7% via other media (Stein et al., 2012). Few studies have examined gender differences in the use of pornography use through different media. In a sample of 1001 undergraduate men and women, women reported greater literary pornography use than men, whereas men reported more visual (i.e., pictures and videos) pornography use than women (Goldsmith et al., 2017). Among 1392 single and dating adults in the United States , men's pornography use included a

larger proportion of video use than women's (men $M = 74.89\%$, $SD = 27.97$; women $M = 56.13\%$, $SD = 39.05$), while women reported a larger proportion of written pornography use (men $M = 5.89\%$, $SD = 13.26$; women $M = 28.17\%$, $SD = 34.82$) and other pornography modalities than men (men $M = 1.75\%$, $SD = 12.43$; women $M = 5.40\%$, $SD = 21.67$); however, no gender differences were found for picture use (men $M = 17.11\%$, $SD = 21.82$; women $M = 9.91\%$, $SD = 18.40$; Solano et al., 2018). In a sample of 430 individuals in romantic relationships, among those who used pornography alone since the beginning of the relationship (85.6%, $n = 368$), men were more likely to report using videos (98.5%) and pictures (48.0%), than women (respectively 92.0% and 28.7%), whereas women were significantly more likely to report using written material (48.9%) than men (24.5%; Kohut et al., 2017). A total of 2% of pornography users used audio material, with no gender differences (Kohut et al., 2017). These limited results suggest significant gender differences in the media used.

In parallel, most current pornography studies do not include a definition of pornography (Marshall & Miller, 2019; Short et al., 2012). Available definitions vary widely in the media included, with some encompassing only videos and pictures (Szymanski & Stewart-Richardson, 2014; Willoughby & Leonhardt, 2018a; Wright & Herbenick, 2022; Yucel & Gassanov, 2010), others including written material (Poulsen et al., 2013) and others including pictures, videos, written material, and audio material (Vaillancourt-Morel et al., 2020). This disparity in the media included in the definitions could explain some of the differing results. A similar disparity can be found around the

type of contents included, as some include nudity (e.g., Kohut et al., 2017; Short et al., 2012), others specify that pornography excludes nudity unless it is accompanied by sexual behavior (e.g., Hald & Malamuth, 2008), and some do not specify any type of content (e.g., Huntington et al., 2021; Poulsen et al., 2013).

Pornography Use Though Different Media and Relationship and Sexual Satisfaction

According to the sexual script theory, how sexuality unfolds is socially constructed through personal experiences, media, and values (Frith & Kitzinger, 2001; Simon & Gagnon, 1986). Sexual scripts are messages that define how to act during sexual activities and what is considered "good" sex (Frith & Kitzinger, 2001). The acquisition, activation, application (3AM; Wright, 2011) theory drew from the sexual scripts theory and applied it specifically to pornography use. The 3AM theory suggests that sexual scripts may be acquired through pornography use, activated in certain situations, and applied in sexual activities, and that multiple factors could influence the acquisition, activation, and application of pornography sexual scripts (Wright, 2011). One of the factors that could be associated with the acquisition of sexual scripts from pornography is the media used. As different media present different levels of explicitness, they might have different effects on users' sexual scripts, and on expectations surrounding performance and appearance. Less explicit pornographic media (e.g., audio material, written material) may leave more space for the imagination and impose less restrictive sexual scripts. Pornography use via pictures and videos might bring more precise sexual expectations or sexual scripts, leaving less space for sexual fantasies and be associated

with dissatisfaction with the relationship and the couple's sexual life when specific expectations are not met.

In a sample of 1001 undergraduate men and women, visual pornography use (i.e., pictures and videos) was associated with sexual insecurities and expectations for partner performance, whereas literary pornography use was not (Goldsmith et al., 2017). These results support the 3AM theory as more explicit media have more negative effects on sexuality, including sexual expectations. Among 221 single and dating Spanish adults, Sánchez-Lamadrid et al. (2022) observed statistical differences in sexual and relationship satisfaction depending on pornography used format (i.e., Internet, literature, magazines, drawings or images, offline videos or movies). Although this study highlights that the media used are related to relationship and sexual satisfaction, it does not consider that participants can use pornography via multiple media and at different frequencies. Moreover, the authors did not report specific data regarding the observed differences. Therefore, studying how pornography use frequency via different media may be associated with sexual and relationship satisfaction could help understanding the mixed findings regarding the link between frequency of pornography use and intimate relationships.

Study Aims

This study aim was to describe the proportion of use of different pornography media (i.e., videos, pictures, audio material, written material), including different contents (i.e.,

sexual activities and nudity), and to examine gender-based differences in the frequency of use of these media. It is expected that cisgender men will present a higher frequency of video and picture use than cisgender women, and that cisgender women will present a higher frequency of written material use than cisgender men. No differences are expected for audio material use. Moreover, this study examined the associations between an individual's frequency of use of different pornographic media and their own and their partner's sexual and relationship satisfaction, while considering potential gender differences. The following hypothesis was proposed: the frequency of use of videos and pictures will be related to actor and partner's lower sexual and relationship satisfaction, while the frequency of use of pornography via audio and written material will be related to actor and partner's higher sexual and relationship satisfaction. No gender-based differences are excepted as past results suggesting gender-based differences in the association between pornography use and sexual and relationship satisfaction would be better explained by the types of media used. This study included data from two different research projects which were conducted during the COVID-19 pandemic. Therefore, sample in which the participant was recruited (i.e., Zephyr Project or Calypso Project) and COVID-19-related stress were included as control variables in all models. Moreover, relationship duration was included as a control variable in all models to rule out the role of this potentially confounding variable, as it has been associated with variations in sexual satisfaction (Bühler et al., 2021; Schmiedeberg & Schröder, 2016).

Methods

Participants

A convenience sample of 706 adult couples (1368 participants) was recruited through online advertisements and email lists between January 2021 and August 2022. Out of the couples, 93.2% ($n = 617$) were mixed-gender couples and 6.8% ($n = 45$) were same-gender couples. A total of 94.3% ($n = 666$) were cisgender couples and 5.6% ($n = 40$) were sexual and gender diverse couples. They were together between six months and 49 years ($M = 6.92$ years, $SD = 6.54$). In addition, all couples were cohabiting and 16.9% ($n = 119$) were married. Participants were aged 18-71 years ($M_{age} = 32.19$, $SD = 8.75$). Regarding biological sex, 53.3% ($n = 736$) of participants were female, and 46.2% ($n = 632$) were male. In terms of gender identity, 51.8% ($n = 707$) of participants identified as women, 45.6% ($n = 622$) as men, and 2.6% ($n = 36$) reported having a native or cultural gender identity or gender experience, being non-binary, gender fluid, or agender, or questioning their gender identity. Participants were predominantly Caucasian (92.0%, $n = 1258$). A total of 69.3% ($n = 948$) of the participants reported being employed, 19.0% ($n = 260$) being students, 4.5% being on maternity leave ($n = 62$), 3.8% ($n = 52$) being unemployed or on sick leave, 2.3% ($n = 31$) being a homemaker, and 1.1% ($n = 15$) being retired. As for their highest completed education degree, 2.9% ($n = 40$) reported having a primary school degree, 7.4% ($n = 101$) a secondary school degree, 10.5% ($n = 143$) a vocational degree, 26.8% ($n = 366$) a college degree, 32.2% ($n = 441$) a bachelor's degree, 15.4% ($n = 210$) a master's degree, 3.1% ($n = 43$) a doctorate degree, and 0.3% ($n = 4$) a post-doctoral degree.

Procedure

The data used in the present study were collected as part of two different research projects conducted in 2021 and 2022; the Zephyr project and the Calypso project. These projects were advertised as self-report surveys on couples' sexual and relational wellbeing. For both projects, to be eligible, both partners had to be at least 18 years old and living together for at least six months. Interested participants who entered their contact information online were contacted by a research assistant for a brief telephone screening interview. Eligible couples were then independently directed to an anonymous survey hosted on the Qualtrics Research Suite, which included the study description and informed consent form. Three attention-testing questions were included in the questionnaires. Participants who failed at least two of these questions were excluded from the study, and their data were deleted. This study was approved by the Université du Québec à Trois-Rivières' Institutional Review Board.

In the Zephyr project, of the 1249 interested couples, 401 completed the screening. Of these, 372 (744 participants) were eligible and provided informed consent; thus, they were directed to the online survey. Of the 696 participants who started the survey, two failed the attention-testing questions, and their data were deleted. In the Calypso project, of the 1072 interested couples, 398 completed the screening and 382 were eligible to participate. A total of 704 participants started the survey, of which, nine failed the attention-testing questions. Eleven duplicates were removed because some couples participated in both studies. Thus, the final sample used in the present study

included 706 couples (1368 individuals). Each partner received CAN$10 after completing the survey.

Measures

Sex and Gender Identity

Participants were asked about their biological sex ("What sex were you assigned at birth on your original birth certificate?''; "male/man", "female/woman") and their gender identity ("What gender or gender identity do you identify with?''; "man", "woman" , "non-binary, genderfluid, multi-gender, or genderqueer", "Indigenous or other cultural gender minority identity (e.g., two-spirit)", "agender or no gender", "prefer not to say", "some gender not listed here, if you wish, tell us how you personally describe your gender:"). For the analyses, participants were divided into three groups to increase the statistical power and simplify the analysis. Participants reporting a female biological sex and woman gender identity formed the cisgender women group (51.5%, $n = 703$), those reporting a male biological sex and a man gender identity formed the cisgender men group (45.1%, $n = 616$), and those who had other combinations of biological sex and gender formed the sex/gender-diverse individuals group (3.4%, $n = 46$). Three participants reported that they preferred not to say their gender identity; thus, they were not included in any of the three gender categories and were coded as missing.

Frequency of Pornographic Media Use

Before answering any pornography-related questions, we provided the following definition to participants: Using pornography means to intentionally look at, read, or listen to: (a) pictures, videos, or films that depict nude individuals or people having sex; or (b) written or audio material that describes nude individuals or people having sex. Using pornography does not involve viewing or interacting with actual, live, nude individuals, or participating in interactive sexual experiences with other human beings in person or online. For example, participating in live sex chat or a camshow or getting a "lapdance" in a strip club are not considered pornography use (Kohut et al., 2020).

First, participants were asked about their lifetime pornography use (*"Have you ever used pornography in your life?"*; $0 = no$, $1 = yes$). A total of 93.0% of participants ($n = 1270$) reported lifetime pornography use. If they had viewed pornography in their lifetime, they were asked about their overall frequency of use in the past three months ("In the last THREE months, how often did you use pornography while alone (i.e., without your partner)?"; $0 = $ *never in the last three months*, $1 = $ *less than 1 time per month*, $2 = $ *1 time per month*, $3 = $ *2-3 times per month*, $4 = $ *1 time per week*, $5 = $ *many times per week*, $6 = $ *1 time per day*, $7 = $ *many times per day*). Participants' naturally "missing" answers who had not used pornography in their life ($n = 96$, 7.0%) were recoded as 0 (*never*) for further analyses (Bőthe, Vaillancourt-Morel, Dion et al., 2022).

Participants were then asked about their frequency of use of pornographic videos, pictures, written material and audio material using eight items ("In the last THREE months, how often did you use the following types of pornography while alone [i.e., without your partner]?"; "Videos of films that depict nude individuals [not having sex]", "Videos or films that depict people having sex", "Pictures that only depict nude individuals [not having sex]", "Pictures that depict people having sex", "Audio material that only depict nude individuals [not having sex]", "Audio material that depict people having sex", "Written material that only depict nude individuals [not having sex]" and "Written material that depict people having sex"). Each item was rated on an eight-point Likert scale (0 = *never in the last three months*, 1 = *less than 1 time per month*, 2 = *1 time per month*, 3 = *2-3 times per month*, 4 = *1 time per week*, 5 = *many times per week*, 6 = *1 time per day*, and 7 = *many times per day*). As pornography was defined as the use of each media depicting either nude individuals or people having sex, and to avoid underestimating a media use frequency for people using only one content, the highest score between the nudity and the sexual activity item was picked for each media score. Considering the skewed distribution of the audio and written material variables, they were coded as dichotomous variables (0 = *no use in the past three months*, 1 = *use in the past three months*).

Sexual Satisfaction

Satisfaction with one's sexual relationship with their partner was measured using the *Global Measure of Sexual Satisfaction* (Lawrance & Byers, 1995). The five items

were rated on seven-point bipolar scales (*good-bad*, *pleasant-unpleasant*, *positive-negative*, *satisfying-unsatisfying*, *valuable-worthless*). The sum scores ranged from five to 35, with higher scores indicating higher sexual satisfaction. This measure showed excellent internal consistency in the present sample ($\alpha = 0.93$).

Relationship Satisfaction

Satisfaction with one's relationship with their partner was measured using a four-item version of the *Dyadic Adjustment scale* (Sabourin et al., 2005; Spanier, 1976). The four items were rated on six or seven-point Likert scales ($0 = $ *all the time*, $5 = $ *never*; $0 = $ *extremely unhappy*, $6 = $ *perfectly happy*). Sum scores ranged from zero to 21, with higher scores indicating higher relationship satisfaction. This measure showed excellent internal consistency in the present sample ($\alpha = 0.76$).

Control Variables

A variable was created to differentiate the participants belonging to the two samples ($0 = $ Zephyr Project, $1 = $ Calypso Project). COVID-19-related stress was assessed using the following question: "In the last THREE months, how would you rate the amount of stress in your life related to the COVID-19 pandemic?". Participants indicated their level of stress on a seven-point Likert scale ($1 = $ *no stress*, $7 = $ *extreme stress*). Relationship duration was measured using the following question: "How long have you been in your current romantic relationship?". The mean score of both partners' responses was used to determine relationship duration.

Statistical Analyses

SPSS 28 and M*plus* 8.6 (Muthén & Muthén, 2017) were used for statistical analyses. Descriptive statistics on the frequency of use of each pornographic medium (i.e., videos, pictures, audio material, and written material) and content (i.e., nudity and sexual activities) were calculated for the total sample and for each gender. Cisgender women, cisgender men, and gender/sex diverse individuals were compared in terms of frequency of use of different pornography media using linear regression, in which media use frequency and dummy-coded gender variables' means and intercepts were constrained to be equal between each partner to account for data nonindependence.

To examine the associations between each partner's frequency of use of different pornographic media (i.e., videos, pictures, written material and audio material) and sexual and relationship satisfaction, controlling for sample in which the participant was recruited, relationship duration, and COVID-19-related stress, four actor-partner interdependence models (APIM; Kenny et al., 2020) were used. The APIM allows to examine the associations between one's individual scores and their own outcomes (actor effects), controlling for partner effects, as well as the associations between one's scores and their partner's scores (partner effects), controlling for actor effects. As the sample included both mixed-gender and sexually or sex/gender-diverse couples (i.e., gender or sex could not distinguish all partners within all dyads), the dyads were considered indistinguishable. Thus, we randomly assigned each partner to "partner 1" and "partner 2", and all parameters were constrained to be equal between partners (i.e., means,

variances, actor effects, and partner effects). Then, we examined the potential moderating role of gender (with dummy coded gender variables) in the associations between frequency of a media use and relationship and sexual satisfaction in four subsequent models (i.e., gender*video use, gender*picture use, gender*audio material use, and gender*written material use). Simple slope tests were used to report the association for each gender when the association between the interaction and outcome was significant. All models were tested using the robust maximum-likelihood (MLR) estimator. Using Little's test for MCAR, no discernible pattern of missing data was found in the data, $\chi 2(65) = 40.40$, $p = 0.993$. Thus, missing data were handled using full information maximum likelihood (FIML; Newman, 2014). Commonly used goodness-of-fit indices were examined to evaluate models (Brown, 2015): Comparative Fit Index (CFI $\geq$ .95 for good, $\geq$ .90 for acceptable); Tucker-Lewis Index (TLI; $\geq$ .95 for good, $\geq$ .90 for acceptable), and Root-Mean-Square Error of Approximation (RMSEA; $\leq$ .06 for good, $\leq$. 08 for adequate).

Results

Proportion of Use of Pornography Through Different Media and Gender Differences in the Frequency of Use

Descriptive statistics related to the proportion of overall and pornographic media use in the last three months are shown in Table 1. In total, 73.70% of participants reported pornography use in the past three months. Among all genders, the most popular pornographic medium was videos (86.99% of cisgender men, 57.33% of cisgender women, and 82.22% of gender-diverse individuals).

Table 1

Proportion of Pornography Use via Different Media Among Cisgender Men, Cisgender Women, Gender/Sex-Diverse Individuals and the Total Sample

	A. Cisgender men (n = 615)		B. Cisgender women (n = 703)		C. Gender/sex-diverse individuals (n = 45)		Total (N = 1366)	
	Mean (SD)	% (n)	Mean (SD)	% (n)	Mean (SD)	% (n)	Mean (SD)	% (n)
Overall pornography use frequency	3.64 (2.00)	87.80 (540)	1.56 (1.70)	60.31 (424)	3.09 (1.95)	88.88 (40)	2.55 (2.11)	73.72 (1007)
Overall video use	3.48 (1.97)	86.99 (535)	1.44 (1.63)	57.33 (403)	2.73 (1.98)	82.22 (37)	5.00 (2.00)	71.60 (978)
Sexual activities videos	3.43 (1.99)	85.85 (528)	1.43 (1.63)	56.47 (397)	2.69 (2.00)	82.22 (37)	2.39 (2.06)	70.64 (965)
Nudity videos	1.32 (1.96)	40.81 (251)	0.19 (0.70)	9.96 (70)	0.51 (1.14)	22.22 (10)	0.71 (1.53)	24.38 (333)
Videos only		31.38 (193)		26.17 (184)		17.78 (8)		28.18 (385)
Overall picture use	1.95 (2.22)	54.15 (333)	0.33 (0.90)	16.93 (119)	1.11 (1.72)	44.44 (20)	2.67 (2.52)	34.70 (474)
Pictures only		0.65 (4)		0.57 (4)		6.52 (3)		0.81 (11)
Sexual activities pictures	1.55 (2.12)	43.90 (270)	0.23 (0.76)	11.66 (82)	1.07 (1.74)	40.00 (18)	0.86 (1.69)	27.23 (372)
Nudity pictures	1.65 (2.13)	48.62 (299)	0.20 (0.73)	10.95 (77)	0.58 (1.12)	31.11 (14)	0.87 (1.70)	28.70 (392)
Overall audio use	0.07 (0.26)	7.32 (45)	0.07 (0.26)	7.25 (51)	0.16 (0.37)	15.56 (7)	0.33 (0.58)	7.61 (104)
Audio only		0.00 (0)		0.00 (0)		0.00 (0)		0.00 (0)
Sexual activities audio	0.07 (0.25)	6.67 (41)	0.07 (0.26)	7.11 (50)	0.13 (0.34)	13.33 (6)	0.07 (0.04)	7.17 (98)
Nudity audio	0.05 (0.23)	5.37 (33)	0.03 (0.16)	2.70 (19)	0.04 (0.21)	4.44 (2)	0.04 (0.20)	4.03 (55)
Overall written material use	0.22 (0.42)	22.11 (136)	0.29 (0.45)	28.59 (201)	0.44 (0.50)	44.44 (20)	1.00 (0.00)	26.35 (360)
Written only		0.16 (1)		4.27 (30)		0.00 (0)		2.27 (31)
Sexual activities written	0.21 (0.41)	21.30 (131)	0.28 (0.45)	27.60 (194)	0.44 (0.50)	44.44 (20)	0.25 (0.44)	25.48 (348)
Nudity written	0.12 (0.32)	11.71 (72)	0.09 (0.29)	9.25 (65)	0.11 (0.32)	11.11 (5)	0.11 (0.31)	10.54 (144)

Note. Possible values on all variables range from 0 to 7. Videos only, pictures only, audio only and written only refer to the proportion of participants in each group who reported using pornography only via this media. Nudity videos, nudity pictures, nudity audio and nudity written refer to the frequency of use of pornography via the media, depicting nudity only. Sexual activities videos, sexual activities pictures, sexual activities audio and sexual activities written refer to the frequency of use of pornography via the media, depicting people having sexual activities. Overall video use, overall picture use, overall audio use, and overall written material use refer to the highest value between the frequency of use of a media depicting nudity and the same media depicting people having sexual activities. Total sample size here is smaller than the whole sample (n = 1368) as two participants did not answer any of the pornography use questions, but they were included as members of the dyads in other analyses.

The second most popular medium was pictures for cisgender men (54.15%), and written material for cisgender women (28.59%). Written material was as popular as pictures for gender-diverse individuals (44.44%). The third most popular medium was written material for cisgender men (22.11%), and pictures for cisgender women (16.93%). The least popular medium was audio material for all genders (7.32% of cisgender men, 7.25% of cisgender women, 15.56% of gender-diverse individuals). A total of 26.28% of the participants reported no pornography use in the past three months, 31.26% reported only one medium use, and the remaining 42.5% used at least two types of pornographic media. Regarding the content of use, for each medium, depictions of sexual activities were systematically used more frequently than depictions of nudity. Frequency of use of videos across all groups was similar to overall pornography use frequency (e.g., 73.72% of the total sample used pornography, and 71.60% used it through videos).

Using linear regression, potential gender differences in the frequency of use of pornographic videos, pictures, audio, and written materials were examined. No significant gender differences were found in the frequency of audio material use. Significant differences were observed across genders in pornographic videos, pictures, and written material use frequency. Cisgender men used videos and pictures most frequently, followed by gender/sex-diverse individuals (videos: $B = -0.82$, $SE = 0.28$, $p = 0.003$; pictures: $B = 0.85$, $SE = 0.26$, $p = 0.100$), and cisgender women (videos: $B = -2.04$, $SE = 0.09$, $p < 0.001$; pictures: $B = -1.62$, $SE = 0.09$, $p < 0.001$). Gender/sex

diverse individuals showed the most frequent use of pornographic written material (B = 0.21, SE = 0.07, *p* = 0.002), followed by cisgender women (B = 0.07, SE = 0.02, *p* = 0.002) and cisgender men.

Associations Between the Frequency of Pornographic Media Use and Sexual and Relationship Satisfaction

Descriptive statistics and correlations between frequency of use of different pornographic media, sexual and relationship satisfaction, relationship duration, COVID-19-related stress, and sample in which the participant was recruited are shown in Table 2. Significant moderate to strong positive associations were observed between one's frequency of use of a pornographic medium and the frequency of use of other media, and weak to strong positive associations between one's frequency of use of a pornographic medium and their partner's frequency of use the same medium. Video use had weak negative associations with participants' relationship satisfaction and partner's sexual satisfaction. Picture use had a weak negative association with participants' own sexual satisfaction and moderate negative associations with own relationship satisfaction and partner's sexual satisfaction. Audio material use had no significant association with their own sexual and relationship satisfaction, while their written material use had a weak negative association with their own sexual satisfaction. COVID-19-related stress had a moderate, negative association with video use and weak negative associations with picture use and sexual satisfaction.

Table 2

Correlations and Descriptive Statistics on Pornographic Media Use, COVID-19-Related Stress, Relationship Duration and Sample for the Total Sample (N = 1368)

	Range	Mean (SD)	1	2	3	4	5	6	7	8
1. Pornographic video	0-7	2.41 (2.06)	**-.05**	.54***	.13***	.23***	-.05	-.10***	-.11***	
2. Pornographic pictures	0-7	1.09 (1.84)	-.13***	**-.06***	.19***	.27***	-.06*	-.12***	-.06*	
3. Pornographic audio material	0, 1	0.08 (0.27)	.03	.11***	**.13***	.30***	-.01	-.03	.01	
4. Pornographic written material	0, 1	0.26 (0.44)	.15***	.17***	.10***	**.19***	-.06*	-.05	.04	
5. Sexual satisfaction	5-35	28.76 (6.23)	-.08**	-.11***	-.04	-.01	**.52***	.49***	-.06*	
6. Relationship satisfaction	0-21	16.47 (3.07)	.00	-.04	-.01	.00	.32***	**.53***	-.10***	
7. COVID-19-related stress	1-7	3.31 (1.51)	.11***	.14***	.06*	.05	-.08**	-.11***	**.27***	
8. Relationship duration	0.5-49	6.93 (6.58)	-.10***	-.00	.02	-.01	-.10***	-.08**	-.08**	
9. Sample[a]	0, 1[a]	0.51 (0.50)	-.06*	-.05	.05	-.01	.10***	.04	-.17***	.10**

Note. Correlations above de diagonal in bold are actor associations while correlations on the diagonal and under refer to partner associations.

SD = Standard deviation

*p < 0.05. **p < 0.01. ***p < 0.001

[a] = 0 refers to the Zephyr project and 1 refer to the Calypso project

COVID-19 related stress had weak to moderate positive associations with partner's video use, picture use, and audio material use, weak negative association with partner's sexual satisfaction, and moderate negative association with partner's relationship satisfaction. Relationship duration had weak negative associations with video use, sexual satisfaction, relationship satisfaction, and COVID-19-related stress. Belonging to the Calypso project had a weak negative association with video use, moderate positive association with sexual satisfaction, and moderate negative association with COVID-19-related stress.

Four models (i.e., video, picture, audio material, written material) were estimated using the APIM, including the frequency of use of a pornographic medium as a predictor, sexual and relationship satisfaction as the outcomes, and COVID-19-related stress, relationship duration, and sample in which the participant was recruited as control variables. The results are presented in Table 3. For the video use model, a person's frequency of video use was associated with their own lower sexual satisfaction (β = -0.06, p = 0.019), their partner's lower sexual satisfaction (β = -0.10, p = 0.001), and their own lower relationship satisfaction (β = -0.11, p < 0.001). Gender did not moderate any of the associations (all ps > 0.052). This model explained 3.7% of the variance in sexual satisfaction and 3.9% of the variance in relationship satisfaction, and demonstrated excellent fit to the data ($\chi 2$[27, N = 706] = 23.02, p = 0.722; CFI = 1.00; TLI = 1.00; RMSEA = 0.00; 90% CI = [0.00, 0.02]).

Table 3

Associations Between Actor and Partner Pornography Media Use and Relationship and Sexual Satisfaction

	β	B	SE	95% CI	*p*
Video use model					
Sexual satisfaction - actor	**-.06**	**-0.19**	**.08**	**-0.36, -0.03**	**.019**
Sexual satisfaction - partner	**-.10**	**-0.29**	**.08**	**-0.45, -0.13**	**.001**
Relationship satisfaction - actor	**-.11**	**-0.17**	**.04**	**-0.25, -0.08**	**< .001**
Relationship satisfaction - partner	-.01	-0.02	.04	-0.10, 0.07	.704
Picture use model					
Sexual satisfaction - actor	-.06	-0.19	.10	-0.39, -0.00	.054
Sexual satisfaction - partner	**-.11**	**-0.38**	**.11**	**-0.59, -0.17**	**< .001**
Relationship satisfaction - actor	**-.12**	**-0.20**	**.05**	**-0.30, -0.11**	**< .001**
Relationship satisfaction - partner	-.04	-0.06	.05	-0.16, 0.03	.205
Audio material use model					
Sexual satisfaction - actor	-.00	-0.01	.72	-1.41, 1.39	.990
Sexual satisfaction - partner	-.04	-0.85	.76	-2.34, 0.63	.261
Relationship satisfaction - actor	-.02	-0.27	.35	-0.96, 0.42	.445
Relationship satisfaction - partner	.00	0.05	.35	-0.65, 0.74	.894
Written material use model					
Sexual satisfaction - actor	**-.06**	**-0.84**	**.39**	**-1.61, -0.07**	**.033**
Sexual satisfaction - partner	-.01	-0.11	.40	-0.89, 0.68	.791
Relationship satisfaction - actor	-.04	-0.30	.19	-0.68, 0.08	.126
Relationship satisfaction - partner	.01	0.07	.20	-0.32, 0.45	.735

Note. β = standardized coefficient; B = unstandardized coefficient; SE = standard error; Coefficients in bold are significant at *p* < 0.05.

For the picture use model, a **person's** frequency of picture use was associated with their partner's lower sexual satisfaction ($\beta = -0.11$, $p < 0.001$) and their own lower relationship satisfaction ($\beta = -0.12$, $p < 0.001$). Gender did not moderate any of the associations (all $ps > 0.053$). This model explained 4.0% of the variance in sexual satisfaction and 4.2% of the variance in relationship satisfaction, and demonstrated excellent fit to the data ($\chi2[27$, N $= 706] = 18.08$, $p = 0.901$; CFI $= 1.00$; TLI $= 1.00$; RMSEA $= 0.00$; 90% CI $= [0.00, 0.01]$).

For the audio material use model, audio use was not significantly associated with their own and their partner's sexual and relationship satisfaction when examining these associations in the entire sample. This model demonstrated excellent fit to the data ($\chi2[27$, N $= 706] = 19.03$, $p = 0.869$; CFI $= 1.00$; TLI $= 1.00$; RMSEA $= 0.00$; 90% CI $= [0.00, 0.02]$). However, the association between one's audio use and their own sexual satisfaction was moderated by gender, as the dummy coded women interaction term (B $= 3.26$, SE $= 1.52$, $p = 0.032$) was significant. The simple slope test indicated that cisgender women's audio use was associated with their own higher sexual satisfaction (B $= 1.93$, SE $= 0.82$, $p = 0.019$), whereas this association was not significant for cisgender men's audio use (B $= -1.33$, SE $= 1.19$, $p = 0.263$) or gender/sex diverse individuals' audio use (B $= -1.59$, SE $= 2.70$, $p = 0.557$). Moreover, the association between a person's audio use and their partner's sexual satisfaction was moderated by gender, as the dummy coded women interaction term (B $= 4.03$, SE $= 1.59$, $p = 0.011$) was significant. The simple slopes test indicated that cisgender

men's audio use was associated with their partner's lower sexual satisfaction (B = -2.79, SE = 1.27, p = 0.028), whereas this association was not significant for cisgender women's use (B = 1.24, SE = 0.87, p = 0.154) and gender/sex diverse individuals' use (B = -0.35, SE = 2.35, p = 0.880). This model explained 6.00% of the variance in sexual satisfaction and 4.7 to 5.0% of the variance in relationship satisfaction.

For the written material use model, a person's written material use was associated with their own lower sexual satisfaction (β = -0.06, p = 0.032). Gender did not moderate any of the associations (all ps > 0.080). This model explained 2.9% of the variance in sexual satisfaction and 2.9% of the variance in relationship satisfaction, and demonstrated excellent fit to the data (χ2[27, N = 706] = 33.70, p = 0.175; CFI = 0.99; TLI = 0.99; RMSEA = 0.02; 90% CI = [0.00, 0.04]).

Discussion

This study examined the proportion of use of different pornographic media (i.e., videos, pictures, audio material, and written material), including different contents (i.e., sexual activities and nudity), gender-based differences in the frequency of use of these media, and the associations between an individual's frequency of use of different pornographic media and their own and their partner's sexual and relationship satisfaction, considering potential gender differences. The results indicated multiple gender-based differences, as well as different associations with relationship and sexual satisfaction depending on the pornographic media used.

Gender Differences in the Proportion of Use of Pornography Through Different Media

In line with previous studies (Kohut et al., 2017), our results demonstrated that videos were the most used pornographic medium in our sample. Videos stand out from other media; they were used twice as much as pictures and were used by almost everyone who reported pornography use. This result supports definitions of pornography focusing on videos (e.g., Wright et al., 2014). Moreover, the results indicated that cis men used pornography via videos and pictures more often than cis women, and that cis women reported higher written material use than cis men. These results perfectly replicate Kohut and his colleagues' (2017) results on the differences between men and women and other studies showing that women report greater literary pornography use than men, whereas men report more visual (i.e., pictures and videos) pornography use than women (Goldsmith et al., 2017). Cis women may use pornographic videos less frequently than cis men as many women find it risky as they fear of being involuntarily exposed to contents they consider problematic (e.g., inconsiderate of the actors' well-being, violence or abuse toward women, creating unrealistic expectations for their body image and sexual behaviors; Chadwick et al., 2018). Women may find written material safer, as it does not imply the work of actors or direct social comparisons to bodies or performance, while being distracting and relaxing (Kraxenberger et al., 2021). Alternatively, the higher popularity of written material among cis women could be explained by women's higher book-reading frequency compared to men (Pew Research Center, 2016). Furthermore, the results showed that gender/sex-diverse individuals had the highest proportion of written material use. As gender/sex-diverse individuals may

find mainstream pornographic videos harmful to their community (i.e., reinforcing negative stereotypes, and contributing to transgender-based violence; Dawson et al., 2020), they may use written material to find a more positive representation of themselves or because it leaves more space for imagination and identification with characters. Indeed, some past findings on erotic fanfictions suggested that these contents, produced by and for women and LGBTIQ+ individuals, could provide users sexual confidence and identity validation (Döring, 2021). The absence of significant differences between genders in audio material use replicates past results (Kohut et al., 2017). However, it could be explained by the small number of participants reporting using audio material.

Pornography Use Through Different Media and Relationship and Sexual Satisfaction

Our results indicated that a person's pornographic video use was negatively associated with their own sexual and relationship satisfaction, whereas a person's pornographic pictures use was negatively associated with their own relationship satisfaction. These associations did not differ between genders. These findings expand on past results suggesting that overall pornography use is usually associated with lower sexual and relationship satisfaction in men and either unrelated to women's satisfaction or related to women's higher sexual and relationship satisfaction (Huntington et al., 2021; Perry, 2020; Poulsen et al., 2013; Wright et al., 2017). Indeed, in line with our hypothesis, our results showed that it is specifically when pornography is used via explicit media (i.e., videos and photos), that it is related to lower sexual and relationship

satisfaction. As suggested by the 3AM theory (Wright, 2011), sexual scripts may be acquired through pornography. The sexual scripts depicted in pornographic videos and photos are more visually explicit which may limit the reliance on one's own fantasies and imagination, while also failing to accurately represent reality. This could interfere with sexual and relationship satisfaction as idealized sexual scripts expectations are impossible to meet in partnered sexual activities. In addition, the use of these media could be associated with lower sexual and relationship satisfaction because of the higher exposure to explicit unrealistic standards, as previous findings have shown that individuals who use more visual pornography have more body- and performance-related insecurities during sex (Goldsmith et al., 2017), and a lower body image (Paslakis et al., 2022). Alternatively, these results could suggest that less-satisfied individuals use these media to cope with their dissatisfaction.

Moreover, the results also showed that a person's use of pornography via videos and pictures use was associated with their partner's lower sexual satisfaction, regardless of their gender which is consistent with our hypothesis. These results help contextualise the mixed findings on the associations between a person's pornography use and their partner's sexual satisfaction (Muusses et al., 2015; Poulsen et al., 2013; Vaillancourt-Morel et al., 2020; Willoughby & Leonhardt, 2018b; Yucel & Gassanov, 2010) by highlighting that it is more specifically the use of more explicit media (i.e., pictures and videos) that are associated with partner lower sexual satisfaction. With prior findings showing that visual pornography use is associated with higher expectations of partner

performance and attractiveness (Goldsmith et al., 2017), these results could be explained by the unrealistic partner expectations that these media potentially bring given their explicitness, which could affect the partners themselves. In line with the 3AM theory, these more explicit media may more strongly influence the acquisition of pornographic sexual scripts that are not necessarily in line with the expected scripts of the partner, thus being less satisfying for the partner.

Contrary to our expectations that using written material would be related to positive outcomes, results showed that a person's written material use was associated with their own lower sexual satisfaction regardless of their gender. This finding contradicted previous studies suggesting that the use of written material was not significantly related to sexual expectations and insecurities (Goldsmith et al., 2017). The descriptions of emotional affect in written material could create an idealized vision of how one should feel during sexual activities, which could explain lower sexual satisfaction when confronted with reality. It is also possible that written material is used to cope with sexual dissatisfaction. However, it is still noteworthy that written material use, in contrast to video and picture use, was not significantly related to partner outcomes and was only related to users' sexual satisfaction.

As for audio material use, women's use was related to their own higher sexual satisfaction. These findings highlight a more complex relationship than the expected positive relationship between audio pornography use and sexual and relationship

satisfaction, as these associations depend on gender. These results support previous findings suggesting that pornography use is associated with more positive outcomes in women and that men's pornography use is related to more negative outcomes for their partner (Bridges & Morokoff, 2011; Poulsen et al., 2013; Wright et al., 2017). A possible reason for these differences is that audio pornography might serve a different purpose for different genders. For cis women, using audio pornography might be a way to find sexual excitement without being exposed to risky sexual contents as it might imply less objectification, questions surrounding the work conditions of female actors, etc. Moreover, the absence of visual stimuli eliminates any potential comparisons to beauty standards. It might also reduce the odds of acquiring specific sexual scripts that are unrealistic of partnered sexual activity. Surprisingly, we also found that cis men's use of audio pornography was associated with their partners' lower sexual satisfaction, which was contrary to our hypothesis. As audio pornography use has never been studied previously, this result should be corroborated and clarified by future research examining the contexts in which cis men's audio pornography use is related to their partners' lower sexual satisfaction. Results related to audio pornography use should be interpreted with caution and will need to be replicated, as the proportion of audio material use was low.

Limitations and Future Studies

Although this study has strengths such as the use of a dyadic design that allowed the examination of both actor and partner effects, our results should be considered alongside some limitations. The cross-sectional nature of the data limits the causal inferences

drawn from our findings. Longitudinal studies are required to clarify the directionality of these associations. Some biases might also be induced by the self-reported nature of our instruments (e.g., social desirability and memory bias) and self-selection (i.e., our convenience sample), which may limit the validity of our findings. The use of daily diaries and representative samples could reduce these biases. Although we included sex/gender-diverse individuals in our sample, their number was small, which led us to group them into one gender category for the analysis. As previous studies have reported gender-based differences in the associations between pornography use and sexual and relationship satisfaction (Vaillancourt-Morel et al., 2019; Wright et al., 2017), it is possible that people with different gender identities (e.g., transgender women, transgender men, non-binary individuals) have different experiences in relation to their pornography use. Future studies should oversample sex/gender-diverse individuals to deepen our findings. Future research should also consider other contextual factors that could help nuance these associations (Campbell & Kohut, 2017). For instance, we only considered frequency of use via each medium and did not assess the actual duration of each use. Media use motivations might also help clarify the associations between a media use and sexual and relationship satisfaction, as some motivations might be more related to specific media, and previous findings suggested that pornography use motivations were related to effects of pornography use (Bőthe, Vaillancourt-Morel, & Bergeron, 2022). Moreover, given the limited number of participants, our study examined the different media in separate models, making it impossible to determine which media was more strongly related to relational outcomes over and above the

others. Future studies should include more couples to include simultaneously all media in one model and identify which one drives the associations. Finally, our findings should be interpreted considering the modest amount of variance in relationship and sexual satisfaction explained by our models. Unsurprisingly, other variables than frequency of media use, COVID-19-related stress, sample membership, and relationship duration may explain sexual and relationship satisfaction.

Conclusions and Implications

This study highlights the importance of considering contextual aspects of pornography use when examining its associations with romantic relationships (Campbell & Kohut, 2017). Our results suggest that pornography use through different media is variably associated with sexual and relationship satisfaction, indicating that the media used should be included in theoretical models on the potential effects of pornography use. Our findings bring support to the 3AM theory as it suggests that how sexual scripts are acquired may be related to couples' relationship and sexual satisfaction (Wright, 2011). Moreover, similar associations found for video and picture use support the definitions of pornorgaphy including videos and pictures only (Szymanski & Stewart-Richardson, 2014; Willoughby & Leonhardt, 2018a; Wright & Herbenick, 2022; Yucel & Gassanov, 2010). Although including all media that could be considered pornography in one definition might be more inclusive, lumping all media into one concept does not consider the differential associations that media can have with romantic relationships. Furthermore, the small number of gender differences found in our data suggests that it is

more specifically the media used that is associated with pornography outcomes than overall pornography use frequency itself. These findings highlight the need for clinicians to consider that pornography can be used through different media, and to assess for the types of media used when asking about the frequency of pornography use to individuals and couples consulting for relationship or sexual issues. Although past studies have highlighted that pornography has different connotations when used in a relationship (Shuler et al., 2021; Willoughby & Leonhardt, 2018b), reactions and attitudes toward pornography may differ depending on the media used.

Declarations

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Availability of data, material, and code: The data, material, and coded related to this study are available upon request to the last author.

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Discussion générale

La présente thèse avait pour objectif général d'examiner les liens entre l'utilisation de pornographie et le bien-être sexuel et conjugal en portant une attention particulière au contenant et au contenu de la pornographie utilisée. Plus précisément, les deux études de la thèse ont examiné (1) les associations entre l'utilisation des différents contenus pornographiques et le bien-être sexuel (c.-à-d., la satisfaction sexuelle et la fonction sexuelle) au sein d'un échantillon de jeunes adultes de la communauté; et (2) les associations entre l'utilisation de différents types de médias pornographiques (c.-à-d., vidéos, photos, matériel écrit et matériel audio) et la satisfaction conjugale et sexuelle au sein d'un échantillon de couples. Globalement, les résultats montrent l'importance de tenir compte des contenus et du type de médias utilisé pour mieux comprendre les associations entre l'utilisation de pornographie et le bien-être sexuel et conjugal des individus et des couples. Afin de souligner les apports clés de la thèse et éviter de reprendre les résultats un à un tel que présentés dans les discussions de chaque article, cette discussion générale porte sur cinq thèmes généraux : (1) la description des proportions d'utilisation des différents types de pornographie, l'appui au modèle; (2) Antécédents-Contexte-Effets et à (3) la théorie des scripts sexuels par les associations trouvées entre la fréquence d'utilisation des différents contenus et médias pornographiques et le bien-être conjugal et sexuel; (4) l'examen systématique des différences de genre dans les associations examinées et (5) les définitions et catégorisations de l'utilisation de

pornographie dans les études. Enfin, les limites de la thèse, les recommandations pour les recherches futures et les implications cliniques seront abordées. Ces résultats mettent en lumière l'importance de s'informer des différents contenus et médias utilisés lors de l'évaluation de l'utilisation de pornographie auprès des individus et des couples consultant pour des difficultés sexuelles ou relationnelles.

Discussion des résultats

La première avancée de cette thèse concerne la description des proportions d'utilisation des différents contenus et médias pornographiques et l'examen des différences de genre dans les fréquences d'utilisation des différents contenus et médias pornographiques. Les études antérieures permettaient uniquement de comparer les hommes et les femmes en fonction de leurs préférences pour certains contenus pornographiques (Hald & Štulhofer, 2016a, 2016b) et seulement quelques études récentes décrivaient des proportions d'utilisation de différents médias (Goldsmith et al., 2017; Kohut et al., 2017; Sánchez-Lamadrid et al., 2022), en incluant seulement les hommes et les femmes. Les études de la thèse ont permis de décrire les fréquences d'utilisation des différents médias et contenus pornographiques et de comparer ces fréquences selon le genre, en incluant les individus de la diversité de genre en plus des hommes et des femmes cisgenres. Bien que davantage de contenus que ceux mesurés dans l'étude sont disponibles et utilisés, les données de l'article 1 montrent que les contenus mesurés sont utilisés par 6 à 57 % des femmes cisgenres, 13 à 84 % des hommes cisgenres et 54 à 83 % des personnes de la diversité de genre. Ainsi, la présente

thèse permet d'abord de mettre en lumière la variété de contenus utilisés par tous. L'article 2 montre quant à lui que la majorité des participants ont utilisé de la pornographie via vidéos (72 %) dans les trois derniers mois. Alors que 28 % des participants rapportent une utilisation exclusive de vidéos, des proportions non négligeables sont retrouvées pour l'utilisation des autres médias, soient les photos (35 % des participants), le matériel écrit (26 % des participants) et le matériel audio (8 % des participants). Concernant les différences de genre, en concordance avec les résultats d'études montrant que les hommes utilisent de la pornographie plus fréquemment que les femmes (p. ex., Carroll et al., 2017; Poulsen et al., 2013), les résultats montrent que la plupart des contenus pornographiques (c'est-à-dire, *passion et romance, sexe en groupe*, *fluidité de genre*, *sexe tabou et interdit*) sont utilisés davantage par les hommes cisgenres que par les femmes cisgenres. Toutefois, aucune différence de genre significative n'a été trouvée dans les proportions d'utilisation pour la pornographie de *pouvoir, contrôle et sexe brutal*. Quant aux médias utilisés, alors que les vidéos et les photos – les médias les plus populaires – étaient davantage utilisés par les hommes cisgenres, l'utilisation de matériel écrit était davantage rapportée par les femmes cisgenres et aucune différence significative n'a été observée pour le matériel audio, qui est moins fréquemment utilisé en général. Ces derniers résultats répliquent ceux obtenus par Kohut et al. (2017) au sein d'un échantillon d'adultes en couple ayant utilisé de la pornographie de manière solitaire depuis le début de leur relation. Ces résultats montrent que, bien que les hommes utilisent plus fréquemment la plupart des types de pornographie, en concordance avec les résultats précédents sur la fréquence générale

d'utilisation de pornographie (Carroll et al., 2017; Peterson et al., 2017; Poulsen et al., 2013), les femmes en utilisent également et touchent aussi à une diversité de contenus et de médias. Elles apparaissent même surreprésentées parmi les utilisateur(trice)s de matériel écrit, ce qui pourrait notamment être expliqué par le fait que plusieurs femmes trouvent l'utilisation de vidéos pornographiques risquée (p. ex., créant des attentes irréalistes pour la performance ou l'apparence des corps, inconsidérée du bien-être des acteurs.trices; Chadwick et al., 2018), alors que le matériel écrit n'implique pas le rôle d'acteurs ou de comparaisons à des idéaux de beauté ou de performance. Les données récoltées quant aux personnes de la diversité de genre montrent qu'elles ont des fréquences d'utilisation de contenus et médias généralement plus élevées que celles des femmes cisgenres et égales, supérieures ou inférieures à celles des hommes cisgenres. Ceci semble répliquer les résultats de précédentes études suggérant que l'utilisation de pornographie des personnes de la diversité sexuelle et de genre est généralement plus fréquente que celle des personnes cisgenres et hétérosexuelles (Bőthe, Vaillancourt-Morel et al., 2020; Lim et al., 2017; Træen & Daneback, 2013). L'utilisation fréquente de multiples contenus et médias chez les personnes de la diversité de genre pourrait en partie être expliquée par un désir de développer et valider leur identité et par le manque d'informations sur leur réalité dans des sources d'éducation formelle (Arrington-Sanders et al., 2015; Bradford et al., 2019). Toutefois, ces résultats sont préliminaires compte tenu de la taille limitée de ce sous-échantillon.

La deuxième contribution scientifique significative de cette thèse est qu'elle soutient l'importance de s'intéresser au contexte de l'utilisation de pornographie dans l'examen de ses associations avec le bien-être sexuel et conjugal, puisque les résultats montrent des associations différentielles entre la pornographie et le bien-être sexuel et conjugal des individus et des couples selon les contenus et médias pornographiques. Les résultats obtenus viennent ainsi en appui au modèle Antécédents-Contexte-Effets (ACE; Campbell & Kohut, 2017), qui propose que l'utilisation de pornographie devrait être considérée en fonction de son contexte (p. ex., la fréquence, les contenus utilisés, les médias utilisés). Les études de la thèse sont les premières à porter spécifiquement sur les facteurs contextuels des contenus et des médias utilisés dans les associations avec le bien être conjugal et sexuel, tout en incluant plusieurs types de contenus et médias.

Un troisième apport scientifique réside dans l'appui scientifique à la théorie d'acquisition, activation et application des scripts sexuels (3AM; Wright, 2011). En effet, les résultats de l'article 1 montrent notamment que, en contrôlant pour la fréquence de la masturbation, l'utilisation de pornographie de *passion et romance* est associée à une satisfaction sexuelle plus élevée, alors que l'utilisation de pornographie de *pouvoir, contrôle et sexe brutal* est associée à une plus faible satisfaction sexuelle et une plus faible fonction sexuelle chez les hommes cisgenres seulement, alors que les autres contenus pornographiques évalués ne sont pas associés significativement à la sexualité. Ces résultats étaient invariants entre les personnes avec ou sans partenaire sexuel ou amoureux. L'acquisition de scripts sexuels présentés dans la pornographie de *passion et*

romance (c.-à-d., sexe romantique, endroit romantique, masturbation mutuelle, massage), pourrait être associée à une satisfaction sexuelle plus élevée, puisque leur reproduction est plus accessible dans la réalité, par exemple, avec leur partenaire amoureux, et donc potentiellement plus satisfaisante. En effet, les comportements d'affection (p. ex., baisers, massages, câlins), possiblement plus prévalents dans ce type de contenu pornographique, sont reliés à une sexualité plus intime, agréable et satisfaisante (Herbenick et al., 2019; Muise et al., 2014). L'acquisition de scripts sexuels présentés dans la pornographie de *pouvoir, contrôle et sexe brutal* (c.-à-d., sadomasochisme, bondage et domination, fessées, viol) pourrait quant à elle être associée à une plus faible fonction sexuelle chez les hommes, puisqu'ils sont moins socialement acceptés, voire illégaux (c.-à-d., le viol), et ainsi moins reproductibles avec un(e) partenaire. Il est toutefois également possible que les liens entre les contenus pornographiques utilisés et la sexualité ne s'expliquent pas par l'acquisition de scripts sexuels concomitants, mais davantage par un choix de contenus pornographiques spécifiques en fonction du niveau de satisfaction ou de fonction sexuelle. Par exemple, il est possible que certains hommes cisgenres ayant des dysfonctions érectiles se retournent vers la pornographie de *pouvoir, contrôle et sexe brutal* dans une tentative de réguler leurs sentiments de stress ou d'être émasculés (Sheng, 2021) en s'identifiant à des personnages dominants. Les résultats de l'article 2 supportent également la théorie d'acquisition, activation et application des scripts sexuels (3AM; Wright, 2011), puisqu'ils montrent que, en contrôlant pour la durée de la relation, l'échantillon dans lequel les participants ont été recrutés et le stress relié à la pandémie de COVID-19,

l'utilisation de vidéos est associée à une plus faible satisfaction conjugale et sexuelle et à une plus faible satisfaction sexuelle chez le ou la partenaire. L'utilisation de photos est associée à une plus faible satisfaction conjugale et à une plus faible satisfaction sexuelle chez le ou la partenaire. L'utilisation de matériel écrit est associée à une plus faible satisfaction sexuelle, alors que l'utilisation de matériel audio est associée à une satisfaction sexuelle plus élevée chez les femmes cisgenres et une satisfaction sexuelle plus faible chez les hommes cisgenres. En lien avec la théorie d'acquisition, activation et application des scripts sexuels (3AM; Wright, 2011), ces résultats montrent que les médias visuellement explicites (photos et vidéos) présentent davantage d'associations négatives avec le bien-être sexuel et conjugal que les médias moins explicites (matériel écrit et matériel audio). Ceci pourrait être expliqué par une plus grande acquisition de scripts sexuels reliés à la pornographie dans les médias explicites, qui pourraient amener des attentes irréalistes pour la sexualité et le couple. Toutefois, le processus explicatif sous-jacent à ces associations reste à être confirmé dans les études futures.

Une quatrième avancée de la thèse porte sur l'examen du rôle modérateur du genre dans les associations entre l'utilisation de pornographie et le bien-être sexuel et conjugal. La plupart des associations obtenues sont invariables entre les genres (c.-à-d., hommes cisgenres, femmes cisgenres et personnes de la diversité de genre pour l'article 2). Ainsi, les différences de genre observées précédemment dans les associations entre l'utilisation de pornographie et le bien-être sexuel et conjugal pourraient être en partie expliquées par les contenus et les médias pornographiques utilisés. Par exemple, l'utilisation de

pornographie de *passion et romance* est associée à une satisfaction sexuelle plus élevée. Il s'agit également du type de pornographie le plus fréquemment utilisé par les femmes, ce qui pourrait expliquer les résultats suggérant que l'utilisation chez les femmes est plus souvent associée à une satisfaction sexuelle plus élevée ou pas associée significativement à leur satisfaction sexuelle en fonction des études (Poulsen et al., 2013; Wright et al., 2017). De plus, l'utilisation de photos et de vidéos pornographiques, plus fréquente chez les hommes, présente davantage d'associations négatives avec le bien-être sexuel et conjugal des utilisateur(trice)s et de leurs partenaires que l'utilisation de matériel écrit, qui sont davantage utilisés par des femmes.

Les résultats de la thèse amènent finalement un cinquième apport, d'ordre conceptuel. En effet, ils permettent d'alimenter avec des données empiriques la discussion entourant les définitions utilisées dans les études sur l'utilisation de pornographie et les différentes catégorisations et typologies qui sont créées. Les définitions de l'utilisation de pornographie varient grandement d'une étude à l'autre en termes des médias et des contenus utilisés. En ce qui concerne les médias utilisés, certains auteurs incluent le matériel écrit et audio (p. ex., Kohut et al., 2018; Willoughby et al., 2016), alors que d'autres incluent seulement les vidéos (p. ex., Wright et al., 2014). Les résultats de l'étude 2 montrent que presque la totalité des participants qui rapportaient avoir utilisé de la pornographie dans les trois derniers mois en ont utilisé via des vidéos. Les vidéos sont également utilisées deux fois plus que les photos, près de trois fois plus que le matériel écrit et près de dix fois plus que le matériel audio,

suggérant ainsi qu'il s'agit du média pornographique de référence. Ces résultats vont donc dans le même sens que les études précédentes incluant seulement les vidéos dans leur définition de la pornographie (p. ex., Wright et al., 2014). Les associations différentielles avec le bien-être sexuel et conjugal suggèrent quant à elles des associations similaires pour les vidéos et les photos, et des associations différentes pour le matériel écrit et le matériel audio, ce qui soutient le regroupement des vidéos et des photos (pornographie visuelle) proposé par Goldsmith et al. (2017) pour l'examen d'associations avec la sexualité.

Les résultats de l'étude 2 montrent que, pour chaque média, la fréquence d'utilisation de représentations d'actes sexuels était plus fréquente que l'utilisation de représentations de nudité, ce qui semble supporter les distinctions faites par de précédents auteurs quant à la présence ou non d'actes sexuels (p. ex., Reid et al., 2011). Toutefois, d'autres études seront nécessaires pour déterminer si la présence ou non de représentation d'actes sexuels dans la pornographie utilisée est associée au bien-être conjugal et sexuel. Par ailleurs, les résultats de l'article 2 mettent en lumière des associations plus robustes pour la pornographie de *contrôle, pouvoir et sexe brutal* et la pornographie de *passion et romance* que pour les autres types de contenus, rejoignant ainsi partiellement les précédentes tentatives de catégorisations en pornographie violente et pornographie non-violente (p. ex., Seto et al., 2010; Wright et al., 2016). Toutefois, notre typologie étant basée sur les données plutôt qu'exclusivement sur une compréhension théorique, les résultats montrent que les types de pornographie se

regroupent de manière plus complexe, en lien direct avec les habitudes d'utilisation des participants plutôt qu'à un jugement moral. De plus, la présente catégorisation de contenus ne constitue pas une typologie exhaustive et d'autres contenus semblent également associés à la sexualité (p. ex., la pornographie de *sexe tabou et interdit* dans le modèle sans la variable contrôle de la fréquence de masturbation). Il apparait donc tout de même pertinent de continuer de s'intéresser à plus de contenus pornographiques. En somme, alors qu'utiliser une définition exhaustive telle que celle de Kohut et al. (2020) permet de couvrir tout ce qui pourrait constituer de la pornographie pour les participants, utiliser des définitions plus spécifiques (p. ex., se restreignant aux photos et aux vidéos) ou s'intéresser à différents types de pornographies (p. ex., en différenciant selon l'utilisation de différents médias ou contenus spécifiques) pourrait permettre de saisir davantage la complexité des associations entre l'utilisation de pornographie et les bien-être conjugal et sexuel et d'obtenir des résultats plus précis.

Limites de la thèse et recherches futures

Malgré les importantes percées que la thèse apporte, nos résultats doivent être interprétés en considérant les limites découlant des protocoles de recherche adoptés. Ces limites sont communes aux deux études.

Premièrement, l'utilisation de mesures autorapportées pour évaluer l'utilisation de pornographie, le bien-être sexuel et conjugal, de même que les variables confondantes peut avoir induit un biais de rappel des informations. En effet, il peut être difficile pour

les participants d'estimer avec exactitude la fréquence d'un comportement au cours des trois derniers mois. Les études futures pourraient recourir à l'utilisation de méthodes journalières de cueillette de l'information pour diminuer ce biais. Les questionnaires peuvent également amener un biais de désirabilité sociale, et ce, de manière plus importante, puisque la sexualité et l'utilisation de pornographie sont des thématiques sensibles, voire tabou, dans notre société. Ce biais devrait toutefois avoir été amoindri grâce à l'utilisation de questionnaires confidentiels.

Deuxièmement, même si nos échantillons incluent une diversité d'orientations sexuelles et d'identités de genre, la généralisation des résultats est limitée par l'utilisation d'échantillons de convenance, majoritairement caucasiens, cisgenres et hétérosexuels. De plus, malgré l'inclusion d'individus de la diversité de genre dans nos échantillons, comme ils restaient peu nombreux, ils ont dû être regroupés en une seule catégorie pour les analyses. Ainsi, les résultats en lien avec les membres de la diversité de genre devraient être interprétés avec prudence. Les études futures devraient fournir des efforts substantiels pour inclure davantage d'individus de la diversité dans leurs échantillons, voire suréchantillonner pour des catégories spécifiques afin de pouvoir approfondir notre compréhension.

Troisièmement, l'utilisation de devis corrélationnels reposant sur des données transversales constitue une limite importante des études, réduisant la capacité à interpréter les résultats. La séquence temporelle selon laquelle une utilisation d'un type

de pornographie (un contenu ou un média) est liée à une baisse ou une hausse du bien-être conjugal et sexuel de l'individu et/ou de son ou sa partenaire ne peut être validée que par une étude expérimentale où l'utilisation d'un type précis ou un média spécifique de pornographie pourrait être manipulée. Une étude longitudinale pourrait tout de même permettre de clarifier la direction des associations entre l'utilisation de certains médias et contenus et le bien-être sexuel et conjugal. Alors que les hypothèses reposent principalement sur le modèle Antécédent-Contexte-Effets (ACE; Campbell & Kohut, 2017) et sur la théorie la théorie d'acquisition, activation et application des scripts sexuels (Wright, 2011), justifiant l'établissement d'un modèle dans lequel la pornographie est considérée comme précédente à des effets sur la sexualité ou la vie conjugale, il est également possible que le niveau de bien-être sexuel et conjugal détermine les médias et les contenus pornographiques qui utilisés.

En quatrième lieu, les études expliquent de faibles proportions de variance du bien-être sexuel et conjugal ce qui peut s'expliquer par l'examen unique de la fréquence d'utilisation des contenus et de la fréquence de masturbation pour l'étude 1 et de la fréquence d'utilisation des médias pornographiques, de la durée de la relation, de l'échantillon dans lequel les participants étaient recrutés et du stress relié à la pandémie de COVID-19 pour l'étude 2. Toutefois, ces tailles d'effets sont comparables à celles obtenues dans d'autres études sur les effets de l'utilisation de la pornographie (p. ex., Wright et al., 2017), puisque le bien-être sexuel et le bien-être conjugal sont des concepts très larges pouvant être affectés par de nombreuses variables en dehors de

l'utilisation de pornographie (p. ex., l'image corporelle, la fréquence des activités sexuelles, l'attachement, la communication; Blunt-Vinti et al., 2019; Butzer & Campbell, 2008; Roels & Janssen, 2020; van den Brink et al., 2018). D'autres variables du contexte de l'utilisation de pornographie pourraient également être inclues dans les études futures pour nuancer davantage les résultats et possiblement expliquer davantage de variance du bien-être sexuel et conjugal (p. ex., les motivations à utiliser de la pornographie, l'utilisation problématique, l'utilisation en solo ou avec un ou une partenaire; Bőthe, Tóth-Király, Bella et al., 2021; Bőthe, Vaillancourt-Morel, & Bergeron, 2022; Vaillancourt-Morel et al., 2019).

Finalement, les études de la thèse se sont intéressées en parallèle aux associations avec le bien-être conjugal et sexuel de différents médias et contenus pornographiques, mais sans imbriquer les deux au sein d'une même étude. Or, l'examen des rôles des différents médias, dans le second article, nous ramène à la question initiale du premier article, qui est celle des contenus. En effet, de futures études seront nécessaires pour clarifier si certains contenus semblent être utilisés davantage via certains médias et si l'utilisation d'un même contenu est associée de la même manière au bien-être conjugal et sexuel selon le média via lequel il est utilisé.

Implications cliniques

Les résultats de la thèse ont des implications potentielles sur le plan clinique. De manière générale, les différentes associations entre les types de pornographie et le

bien-être conjugal et sexuel soutiennent l'importance de récolter davantage d'éléments du contexte de l'utilisation de pornographie, incluant les contenus et les médias utilisés, lors de l'évaluation de l'utilisation de pornographie chez des individus ou des couples qui consultent pour des difficultés relationnelles ou sexuelles. Ainsi, les intervenants gagneraient à effectuer une évaluation complète du contexte de l'utilisation de pornographie plutôt qu'une évaluation exclusive de la fréquence de l'utilisation de pornographie en général. Toutefois, étant donné les petites tailles d'effet mesurées, il importe de rester modeste concernant les implications pratiques des résultats. D'autres facteurs contextuels de l'utilisation de pornographie apparaissent également importants à évaluer étant donné leurs associations avec le bien-être sexuel et conjugal, incluant les motivations à l'utilisation de pornographie, l'utilisation problématique et l'utilisation seul ou en couple (Bőthe, Vaillancourt-Morel, & Bergeron, 2022; Bőthe, Vaillancourt-Morel, Dion et al., 2022; Vaillancourt-Morel et al., 2019). Les variables de la thèse devraient donc être inclues dans une évaluation multidimensionnelle du contexte de l'utilisation de pornographie.

Comme les devis corrélationnels de la thèse ne permettent pas d'établir de relations causales entre les types de pornographie utilisés et le bien-être conjugal et sexuel, une prudence importante est de mise quant aux interventions possibles à faire en lien avec nos conclusions. Chez les individus et les couples rencontrés, un travail d'exploration pourrait être fait sur les effets ressentis de l'utilisation des différents types de pornographie sur la relation amoureuse et la sexualité, autant chez les individus qui

utilisent de la pornographie que chez leurs partenaires. Par exemple, les intervenants pourraient inviter les individus et les couples à se questionner sur comment les contenus et les médias qu'ils utilisent ou que leurs partenaires utilisent influencent leurs attentes vis-à-vis le déroulement de leur sexualité, si ceux-ci induisent des pressions reliées à la performance ou, au contraire, stimulent leur désir et leurs fantasmes. À l'inverse, il pourrait également être pertinent d'explorer les motivations derrière le choix de certains contenus ou médias pornographiques. Par exemple, dans quels moments sont-ils tentés de se retourner vers des contenus ou médias spécifiques? Certains contenus ou médias sont-ils davantage utilisés lorsque leur sexualité est plus insatisfaisante?

Finalement, les résultats de la thèse pourraient également être utilisés pour supporter l'éducation à la sexualité. Plusieurs études montrent que les utilisateur(trice)s de pornographie, spécialement les jeunes, utilisent la pornographie en partie comme source d'information sur la sexualité (Rothman et al., 2015, 2021). Ainsi, l'ensemble de nos résultats pourraient s'ajouter à la transmission des connaissances sur les potentiels risques et bénéfices d'utiliser de la pornographie. Des chercheurs suggèrent que l'éducation en lien avec la pornographie se doit d'être nuancée, en incluant des dimensions positives, négatives et neutres de l'utilisation de pornographie (Dawson et al., 2020). La variabilité des associations entre la pornographie et le bien-être conjugal et sexuel obtenues dans la thèse constitue d'ailleurs une importante source de nuances, permettant d'aller plus loin que les associations simples avec la fréquence générale d'utilisation de pornographie. En combinaison avec des études récentes sur les écarts

entre les comportements présentés dans la pornographie en comparaison avec la sexualité réelle de couples (Fritz et al., 2022), les résultats de la thèse pourraient aussi être utiles pour alimenter des discussions entourant les scripts sexuels représentés dans les différents contenus et médias pornographiques.

Conclusion générale

Cette thèse de doctorat a permis d'approfondir la compréhension des liens entre l'utilisation de pornographie et le bien-être sexuel et conjugal en incorporant deux composantes clé du contexte de l'utilisation de pornographie, soient les médias et les contenus utilisés. D'une part, elle a permis de décrire les fréquences d'utilisation de différents contenus et médias pornographiques selon le genre. D'autre part, elle a permis de préciser les associations transversales entre la fréquence d'utilisation de ces contenus et médias et le bien-être sexuel et conjugal. Sur le plan empirique, les résultats de la thèse permettre d'identifier l'utilisation de contenus reliés au pouvoir, au contrôle et au sexe brutal comme contenus pornographiques plus susceptibles d'être associés à des difficultés sexuelles, par opposition à des contenus reliés à la passion et la romance. Les résultats permettent aussi de tracer une distinction importante entre les médias plus explicites (photos et vidéos) et le matériel écrit ou audio, qui, au-delà des différents types de stimulations qu'ils offrent, semblent jouer un rôle différent sur la sexualité et les couples. Sur le plan théorique, les résultats permettent aussi d'appuyer le modèle Antécédents-Contexte-Effets et la théorie d'Acquisition, activation et application des scripts sexuels par les associations trouvées entre la fréquence d'utilisation des différents types de pornographie et le bien-être conjugal et sexuel. Sur le plan conceptuel, ces résultats permettent d'alimenter la discussion sur la définition de la pornographie telle que proposée par Kohut et al. (2017) et les différentes catégorisations utilisées dans les

études. Sur le plan clinique, cette thèse souligne l'importance d'évaluer, parmi plusieurs composantes du contexte de l'utilisation de pornographie, les contenus et les médias utilisés. Pour mieux comprendre les implications pratiques des résultats, il apparait toutefois primordial de poursuivre l'étude de ces composantes à l'aide de devis rigoureux au sein d'échantillons diversifiés.

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