Dziedzina nauk: nauki medyczne i nauki o zdrowiu

Dyscyplina: nauki o zdrowiu

mgr Alicja Kozakiewicz

Relacje romantyczne mierzone skalami SLS-12 i ECR-RS i ich znaczenie dla zdrowia oraz funkcjonowania psychospołecznego w populacji pacjentów i pracowników ochrony zdrowia w okresie pandemii COVID-19.

Romantic relationships measured by the SLS-12 and ECR-RS scales and their relevance to health and psychosocial functioning in a population of patients and health care workers during the COVID-19 pandemic.

Opieka naukowa nad przygotowaniem rozprawy doktorskiej:
Promotor: prof. dr hab. n. hum. Zbigniew Izdebski

Rozprawę akceptuję:

Zielona Góra, 2023

Podziękowania

Chciałabym podziękować wszystkim, bez pomocy i wsparcia których praca ta nie mogłaby powstać.

Przede wszystkim pragnę podziękować mojemu promotorowi – prof. dr hab. Zbigniewowi Izdebskiemu za nieocenioną pomoc udzieloną na każdym etapie przygotowywania rozprawy doktorskiej, za wyrozumiałość, wsparcie oraz motywację do działania. Profesora niezwykła wiedza, doświadczenie oraz pasja do prowadzenia badań stały się dla mnie źródłem niezmiernie cennych i inspirujących naukowych przemyśleń.

Pragnę także wyrazić moją wdzięczność dr hab. Joannie Mazur, prof. ucz. za motywację do krytycznego spojrzenia na tematykę badawczą i za pomoc w jasnym sformułowaniu myśli naukowej. Dziękuje również za cenne wskazówki w zakresie statystyki i metodologii. Jestem zaszczyconą możliwością pracy z Panią Profesor.

Serdecznie dziękuję także Zespołowi badawczemu, z którym miałam przyjemność pracować: prof. dr hab. Zbigniewowi Izdebskiemu, dr hab. Joannie Mazur, prof. ucz., dr Joannie Dec-Pietrowskiej, mgr Katarzynie Furman oraz mgr Maciejowi Białorudzkiemu. Jesteście Państwo niezaprzeczalnie niesamowitym Zespołem, którego wsparcie znacząco przyczyniło się do sukcesu tej pracy.

Bardzo dziękuję Dyrektorowi Instytutu Nauk o Zdrowiu – dr hab. Mariuszowi Naczkowi, prof. ucz. za wsparcie w całym procesie doktoryzowania oraz Pani mgr inż. Barbarze Belicy i Pani Agnieszce Hajnold za ogromne pokłady cierpliwości, gotowość do pomocy i profesjonalizm.

Dziękuję również mojej Rodzinie i Przyjaciołom za nieustające wsparcie i wiarę w moje możliwości. Niniejszą pracę pragnę zadedykować mojej córce – Lilianie. Niezależnie od tego, gdzie Cię życie zaprowadzi, chcę, abyś wiedziała, że Twoja determinacja i entuzjazm są moją codzienną inspiracją.

SPIS TREŚCI

Wykaz stosowanych skrótów

CAWI – wywiad internetowy przeprowadzany przy pomocy komputera (ang. Computer-Assisted Web Interview)

CFA – konfirmacyjna analiza czynnikowa (ang. confirmatory factor analysis)

ECR-RS – Doświadczenia w Bliskich Związkach - Skala Zrewidowana (ang. Experiences in Close Relationships - Revised Scale)

EFA – eksploracyjna analiza czynnikowa (ang. exploratory factor analysis)

HCW – pracownicy ochrony zdrowia (ang. health care workers)

HPCSS-12 – Skala Komunikowania się z Pracownikami Ochrony Zdrowia (ang. Health Professionals Communication Skills Scale)

Pandemic-ED Scale – Skala Trudności Emocjonalnych w Pandemii (ang. Pandemic Emotional Difficulties Scale)

PSS-4 – Skala Odczuwanego Stresu (ang. Percived Stress Scale)

PTG – Wzrost Potraumatyczny (ang. Post-Traumatic Growth)

RMSEA – błąd średniokwadratowy aproksymacji (ang. root mean square error of approximation)

SEM – modelowanie równań strukturalnych (ang. structural equation *modeling)*

SLS-12 – Krótka Skala Miłości (ang. Short Love Scale 12)

1.Wykaz publikacji stanowiących podstawę postępowania w sprawie o nadanie stopnia naukowego doktora

1. **Kozakiewicz A.**, Izdebski Z., Mazur J. *The Measurement of Love: Psychometric Properties and Preliminary Findings of the Short Love Scale (SLS-12) in a Polish Sample*, International Journal of Environmental Research and Public Health 2022; 19(20):13269, 10.3390/ijerph192013269, 140 pkt MEiN, IF 4,614[1]

2. **Kozakiewicz A.**, Izdebski Z., Białorudzki M., Mazur J. *Pandemic-Related Stress and Other Emotional Difficulties in a Sample of Men and Women Living in Romantic Relationships during the COVID-19 Pandemic.* International Journal of Environmental Research and Public Health, 2023; 20(4):2988, 10.3390/ijerph20042988, 20 pkt MEiN[2]

3. Izdebski Z., **Kozakiewicz A.**, Michniewicz S., Białorudzki M., Mazur J. *Quality of communication with patients and difficulties in close relationships among health care workers during the COVID-19 pandemic*, Journal of Health Inequalities, 2023; Vol. 9, Iss. 1, 1--5, ISSN: 2450-5927, eISSN: 2450-5722, DOI: 10.5114/jhi.2023.127535, 100 pkt MEiN[3]

4. **Kozakiewicz A.**, Izdebski Z. *Relacje romantyczne a trudności emocjonalne i wzrost potraumatyczny w czasie pandemii COVID-19*, Rozprawy Społeczne, 2023, Vol. 17, nr 1, 165--183, ISSN: 2081-6081, DOI: 10.29316/rs/172118, 40 pkt MEiN[4]

Suma Impact Factor: 4,614

Suma punktów MEiN: **300**

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[1] swój udział w powstawaniu pracy oceniam na 40%; szczegółowe informacje dotyczące udziału własnego oraz współautorów zawarte są w załączniku 3.7. b.

[2] swój udział w powstawaniu pracy oceniam na 40%; szczegółowe informacje dotyczące udziału własnego oraz współautorów zawarte są w załączniku 3.7. b.

[3] swój udział w powstawaniu pracy oceniam na 30%; szczegółowe informacje dotyczące udziału własnego oraz współautorów zawarte są w załączniku 3.7. b.

[4] swój udział w powstawaniu pracy oceniam na 70%; szczegółowe informacje dotyczące udziału własnego oraz współautorów zawarte są w załączniku 3.7. b.

2. Życiorys zawodowy doktorantki

2.1. Wykształcenie

- 2015 – 2021 – Uniwersytet Zielonogórski, Wydział Nauk Społecznych – kierunek: psychologia; stopień: magister psychologii;
- 2019 – 2021 – Uniwersytet Zielonogórski, Wydział Nauk Społecznych; Pedagogiczne kwalifikacyjne studia;
- 2019 – 2022 – Uniwersytet im. Adama Mickiewicza w Poznaniu, Wydział Psychologii i Kognitywistyki; studia podyplomowe; kierunek: Seksuologia kliniczna - opiniowanie, edukacja, terapia.

2.2. Kursy i szkolenia

- 22-24.11.2023r. – Krajowe Szkolenie Instruktorskie (ToT) w celu wzmocnienia zdolności sektora ochrony zdrowia do reagowania w przypadkach przemocy wobec kobiet w Polsce, WHO, Warszawa;
- 06.2023r. – Szkolenie „Wywiad i konceptualizacja seksuologiczna w ujęciu poznawczo-behawioralnym", 7 godzin, Centrum Psychologiczne Psychotesto;
- 04.2023r. – zrealizowanie stażu dydaktycznego na University of West Bohemia (Pilzen, Czechy) w ramach programu Erasmus+;
- 09.2022r. – Webinarium „Komunikacja dwukierunkowa. Techniki aktywnego słuchania pacjenta", IronTeam;
- 01.2022r. – Szkolenie „Wspieranie i praca ze studentami w kryzysie psychicznym" 8 godzin, Optima Centrum Rozwoju i Kształcenia Kadr;
- 11.2021r. – Szkolenie z zakresu przeciwdziałania wypaleniu zawodowemu i radzeniu sobie ze stresem. 8 godzin, Publico Anna Kornacka;
- 11.2021r. – Szkolenie z zakresu wystąpień publicznych, 8 godzin, Publico Anna Kornacka;
- 15-17.09.2021r. – Kurs „Badania ankietowe. Opis i przygotowanie danych, sprawdzanie poprawności oraz podstawowe analizy" 24 godziny, Predictive Solutions sp. z o.o.;
- 05.2021r. – „Model PLISSIT/IC w pracy pomocowej z seksualnością" 6 godzin, Instytut Pozytywnej Seksualności, Warszawa;
- 04.2020r. – "Dziecko wykorzystywane seksualnie - diagnoza i pomoc psychologiczna." 7 godzin, Dolnośląskie Centrum Psychoterapii, Wrocław;

- 09.2020r. – "Niezbędnik psychologa-seksuologa" 20 godzin, Uniwersytet SWPS, Poznań;

- 04.2020r. – "Jak być terapeutą LGBT+ friendly?", Synergia;

- 02.2020r. – Uzależnienia behawioralne - uzależnienia od seksu, Internetu, hazardu, objadania się - diagnoza i terapia" 10 godzin, Dolnośląskie Centrum Psychoterapii, Wrocław;

- 12.2019r. – "Profilaktyka przemocy" 8 godzin, Towarzystwo Rozwoju Rodziny, Zielona Góra;

- 16.09-20.09.2019r. – Ukończenie letniej szkoły psychologii pracy, organizacji i zarządzania „Jestem w pracy", Polskie Stowarzyszenie Psychologii Organizacji;

- 09.2019r. – "Trudne sytuacje relacyjne" 15 godzin, Polskie Stowarzyszenie Psychologii Organizacji;

- 09.2019r. – „Warsztat pracy zespołowej" 15 godzin, Polskie Stowarzyszenie Psychologii Organizacji.

2.3. Doświadczenie zawodowe

- 10.2021r. – obecnie – asystentka, Uniwersytet Zielonogórski, Collegium Medicum, Instytut Nauk o Zdrowiu, Katedra Humanizacji Medycyny i Seksuologii;

- 02.2022r. – obecnie – psycholog w Uniwersyteckim Szpitalu Klinicznym im. Karola Marcinkowskiego w Zielonej Górze;

- 12.2022r. – obecnie – członkini zespołu akademickiego World Health Organization (WHO) – Verification, dissemination, and acceptance of WHO Guidelines on the health response to GBV Survivors in the Ukrainian refugee response in Poland; GBV Technical workshop on the adaptation of international guidelines for the health response to survivors of sexual violence to the Polish context;

- 05.2021 – 06.2023r. – asystentka zespołu badawczego w projekcie „Humanizacja procesu leczenia i komunikacja kliniczna pomiędzy pacjentem a personelem medycznym przed i w czasie pandemii COVID-19", Uniwersytet Warszawski;

- 04.2022r. – 05.2022r. – przeprowadzenie warsztatów z zakresu zagadnień psychologicznych i seksuologicznych dla Zielonogórskiego Stowarzyszenia Amazonek w Zielonej Górze;

- 11.2020r. – 06.2022r. – streetworkerka, działania środowiskowe w Lubuskim Ośrodku Profilaktyki i Terapii Uzależnień i Współuzależnień, ul. Jelenia 1a, 65-090 Zielona Góra;

- 05.2021r. – 12.2021r. – rejestratorka medyczna w Lubuskim Ośrodku Profilaktyki i Terapii Uzależnień i Współuzależnień, ul. Jelenia 1a, 65-090 Zielona Góra;

- 03.2021r. – 05.2021r. – opracowanie bibliografii dotyczącej zagadnienia humanizacji medyny z uwzględnieniem literatury obcojęzycznej w zakresie artykułów naukowo-badawczych i publikacji popularno-naukowych w Instytucie Praw Pacjenta i Edukacji Zdrowotnej, Warszawa, ul. Piękna 64a lok.8.

2.4. Dorobek naukowy

Artykuły w czasopismach

Rok	Tytuł/wydawnictwo	Autorzy	Punkty MEiN	Impact factor
2022	*What One Gets Is Not Always What One Wants - Young Adults' Perception of Sexuality Education in Poland*, International Journal of Environmental Research and Public Health, 19(3), 1--17, DOI: 10.3390/ijerph19031366	Zbigniew Izdebski, Joanna Dec-Pietrowska, **Alicja Kozakiewicz**, Joanna Mazur	140	4.614
2022	*The manic and hypomanic phases in bipolar disorder and female sexuality in early adulthood,* Journal of Psychiatry and Clinical Psychology, 22 (1), 3—9	**Alicja Kozakiewicz***	40	0.400
2022	*The Measurement of Love: Psychometric Properties and Preliminary Findings of the Short Love Scale (SLS-12) in a Polish Sample* International Journal of Environmental Research and Public Health, 19, 1—18 DOI: 10.3390/ijerph192013269	**Alicja Kozakiewicz***, Zbigniew Izdebski, Joanna Mazur	140	4.614
2023	*Occupational Burnout in Healthcare Workers, Stress and Other Symptoms of Work Overload*	Zbigniew Izdebski, **Alicja Kozakiewicz***,	20	-

2023	*during the COVID-19 Pandemic in Poland* International Journal of Environmental Research and Public Health, Vol. 20, Iss. 3, 1—19 10.3390/ijerph20032428	Maciej Białorudzki, Joanna Dec-Pietrowska, Joanna Mazur		
2023	*Pandemic-Related Stress and Other Emotional Difficulties in a Sample of Men and Women Living in Romantic Relationships during the COVID-19 Pandemic* International Journal of Environmental Research and Public Health, Vol. 20, Iss. 4, 1—21 DOI: 10.3390/ijerph20042988	**Alicja Kozakiewicz***, Zbigniew Izdebski, Maciej Białorudzki, Joanna Mazur	20	-
2023	*Humanization of medicine from the perspective of physicians in Poland* Medycyna Ogólna i Nauki o Zdrowiu 2023;29(1):29–35; DOI: https://doi.org/10.26444/monz/161042	Zbigniew Izdebski, **Alicja Kozakiewicz***, Joanna Mazur, Maciej Białorudzki	40	-
2023	*Doświadczenia pandemii COVID-19 a zmiana podejścia do życia*, 2023, Neuropsychiatria i Neuropsychologia, Vol. 18, nr 1-2, 99--108, ISSN: 1896-6764, eISSN: 2084-9885 DOI: 10.5114/nan.2023.129079	Zbigniew Izdebski, Joanna Mazur, Maciej Białorudzki, **Alicja Kozakiewicz***	40	0.500
2023	*Quality of communication with patients and difficulties in close relationships among health care workers during the COVID-19 pandemic*, 2023, Journal of Health Inequalities, Vol. 9, Iss. 1, 1--5, ISSN: 2450-5927, eISSN: 2450-5722, DOI: 10.5114/jhi.2023.127535	Zbigniew Izdebski, **Alicja Kozakiewicz**, Szymon Michniewicz, Maciej Białorudzki, Joanna Mazur	100	-
2023	*Selected aspects of patient communication and occupational burnout among nurses working*	Joanna Mazur, **Alicja Kozakiewicz***,	40	0.200

	during the COVID-19 pandemic, 2023, Pielęgniarstwo XXI Wieku, 1--8, ISSN: 1730-1912, DOI: https://doi.org/10.2478/pielxxiw-2023-0022	Maciej Białorudzki, Zbigniew Izdebski		
2023	*Patient Perceptions of Treatment and Diagnostic Process During the COVID-19 Pandemic Within the Context of Limitations that Impeded Communication with Healthcare Professional*, 2023, Medical Science Monitor, Vol. 29, 1--14, ISSN: 1643-3750, DOI: 10.12659/MSM.940227	Zbigniew Izdebski, Joanna Mazur, **Alicja Kozakiewicz***, Agnieszka Żeromska-Michniewicz, Jakub Berezowski	140	3.386
2023	*The impact of workplace characteristics on the quality of communication between medical personnel and patients during the COVID-19 pandemic from the perspective of doctors and nurses*, 2023, Journal of Health Policy & Outcomes Research, 2, -, ISSN: 2299-1247, eISSN: 2299-1247	Joanna Mazur, **Alicja Kozakiewicz**, Maciej Białorudzki, Zbigniew Izdebski	40	-
2023	*Body weight and assessment of sexual life - a cross-sectional study*, Annals of Agricultural and Environmental Medicine, 1--7, ISSN: 1232-1966 DOI: 10.26444/aaem/173221	Maciej Białorudzki, Joanna Mazur, Józef Haczyński, **Alicja Kozakiewicz**, Zbigniew Izdebski	140	1.700
2023	*Romantic relationships and emotional difficulties and post-traumatic growth during the COVID-19 pandemic,* Rozprawy Społeczne, Vol. 17, nr 1, 165--183, ISSN: 2081-6081 DOI: 10.29316/rs/172118	**Alicja Kozakiewicz***, Zbigniew Izdebski	40	-
SUMA	*w tym 9 prac poza cyklem*		940	15,414

Rozdziały w monografiach / materiały pokonferencyjne

2022	*Kobieca ejakulacja - rozważanie na temat emocjonalnego wyzwolenia i wstydu*, 2022, w: Od seksualności do humanizacji medycyny. Benefis Zbigniewa Izdebskiego słowem pisany, 2022 / red. nauk. Anna Kowalewska, Krzysztof Wąż, Maciej Białorudzki, Warszawa: Wydawnictwa Uniwersytetu Warszawskiego, s. 176--183, ISBN: 9788323556404	**Alicja Kozakiewicz**	20	-
2023	*Aktualne problemy ucznia w szkole w perspektywie zdrowia psychicznego i seksualnego*, 2023, w: Szkoła i nauczyciel: Rozwój nauczyciela i rozwój szkoły, 2023 / red. nauk. Inetta Nowosad, Mirosław J. Szymański, Kraków: Oficyna Wydawnicza "Impuls" (#), s. 111--129, ISBN: 9788382942347	Zbigniew Izdebski, Joanna Dec-Pietrowska, **Alicja Kozakiewicz**	20	-

Książki

2023	*Humanizacja procesu leczenia i komunikacja kliniczna pomiędzy pacjentem a personelem medycznym w czasie pandemii COVID-19*, 2023, Warszawa: Wydawnictwa Uniwersytetu Warszawskiego, (#), s. 240, , ISBN: 9788323560425	Zbigniew Izdebski, Joanna Mazur, Katarzyna Furman-Kwiatkowska, **Alicja Kozakiewicz**, Maciej Białorudzki	120	-
2023	*Humanization of the treatment process and clinical communication between patients and medical staff during the COVID-19 pandemic*, 2023, Warszawa: Wydawnictwa Uniwersytetu Warszawskiego (#), s. 240, ISBN: 9788323560104	Zbigniew Izdebski, Joanna Mazur, Katarzyna Furman-Kwiatkowska, **Alicja Kozakiewicz**, Maciej Białorudzki	-	-

*corresponding author

2.5. Udział w projektach i grantach

- 10.2023r. – obecnie – „Zdrowie, jakość życia związana ze zdrowiem i zachowania zdrowotne młodzieży województwa lubuskiego w kontekście posiadanych kompetencji zdrowotnych i doświadczeń pandemii COVID-19 – 1 etap" – członkini zespołu badawczego – kierownik projektu dr hab. Joanna Mazur, prof. ucz., Uniwersytet Zielonogórski;

- 09.2023r. – złożenie wniosku o grant w Agencji Badań Medycznych w ramach konkursu otwartego na realizację badań epidemiologicznych dotyczących wielochorobowości – tytuł wniosku „Ogólnopolskie badanie epidemiologiczne zdrowia seksualnego i prokreacyjnego w sytuacji obciążenia wielochorobowością - STI/HIV, zaburzeniami psychicznymi i uzależnieniami";

- 05.2021r. – 02.2023r. „Humanizacja procesu leczenia i komunikacji klinicznej pomiędzy pacjentem a personelem medycznym przed i w czasie pandemii COVID-19" – asystentka zespołu badawczego - kierownik projektu prof. dr hab. Zbigniew Izdebski, Uniwersytet Warszawski;

- 05.2021r. – 06.2021r. – „Badanie zdrowia i życia seksualnego Polek i Polaków w wieku 18+ w czasie COVID-19" asystentka zespołu badawczego - kierownik Projektu prof. dr hab. Zbigniew Izdebski, Uniwersytet Warszawski (II edycja);

- 05.2020r. – 06.2020r. – „Badanie zdrowia i życia seksualnego Polek i Polaków w wieku 18+ w czasie COVID-19" - asystentka zespołu projektowego - kierownik projektu prof. dr hab. Zbigniew Izdebski, Uniwersytet Warszawski;

- 11.2018r. – 12.2018r. – Funkcja ankieterki w ramach grantu Narodowego Centrum Nauki (NCN) dotyczącego roli marek w budowaniu koncepcji siebie wśród adolescentów.

2.6. Udział w konferencjach

- 7.11.2023r. – udział czynny, przeprowadzenie warsztatów, XVI Konferencja naukowo-szkoleniowa nt. transplantacji i krwiodawstwa *„Bezcenny Dar-Trudne Decyzje"*, Zielona Góra, Polska;

- 2-5.11.2023r. – udział czynny, *26th Congress of the World Association for Sexual Health, "BMI and assessment of sex life"*, Antalya, Turcja;

- 2-5.11.2023r. – udział czynny, *26th Congress of the World Association for Sexual Health, "Sexual Double Standards in the Polish Female and Male Population"*, Antalya, Turcja;

- 29.10.2023r. – udział czynny, *Seksuologia współczesna wobec różnorodności - Konferencja Naukowo-Szkoleniowa Polskiego Towarzystwa Seksuologicznego; „Relacje romantyczne, a stres i trudności emocjonalne podczas pandemii COVID-19 wśród kobiet i mężczyzn"*; Warszawa, Polska;

- 29.10.2023r. – udział czynny, *Seksuologia współczesna wobec różnorodności – Konferencja Naukowo-Szkoleniowa Polskiego Towarzystwa Seksuologicznego; „Rozbieżności między oczekiwaniami a realiami – postrzeganie edukacji seksualnej przez młodych dorosłych w Polsce"*; Warszawa, Polska;

- 7.10.2023r. – udział czynny, *XIV Kongres Brazylijskiego Towarzystwa Chorób Przenoszonych Drogą Płciową (XIV Congresso da Sociedade Brasileira de DST); "Willingness to test for HIV among the population of adult Poles in relations to their sexual activity and opinions"*; Florianopolis, Brazylia;

- 7.10.2023r. – udział czynny, *XIV Kongres Brazylijskiego Towarzystwa Chorób Przenoszonych Drogą Płciową (XIV Congresso da Sociedade Brasileira de DST); "Perception of the risk of HIV infection by people aged 18-49 in Poland and selected opinions on the internet-related norms"*; Florianopolis, Brazylia;

- 05.2023r. – udział bierny, *III Ogólnopolska Konferencja Naukowa „Osoby LGBTQ+ a prawo, psychologia i nauki o społeczeństwie*, Center for American Studies;

- 02.2023r. – udział czynny, *XVII. International Conference on Emotional Regulation, Drug Use, Exercise and Sleep; "Sleep Quality and Burnout, Mental and Physical Health of Polish Healthcare Workers"* Tokyo, Japan;

- 01.2023r. – udział czynny, *XVII. International Conference on Job Stress, Health and Worker Health; "Burnout among Healthcare Workers in Poland during the COVID-19 Pandemic"* Sydney, Australia;

- 12.2022r. – udział czynny, III Ogólnopolska Konferencja Naukowa *"Wieloaspektowa Rzeczywistość Pandemii COVID-19 – Wyzwania społeczne, gospodarcze i prawne"; „Znaczenie humanizacji medycyny i procesu komunikowania się wśród pacjentów i personelu instytucji ochrony zdrowia"* Lublin, Fundacja Tygiel;

- 12.2022r. – udział czynny, III Ogólnopolska Konferencja Naukowa *"Wieloaspektowa Rzeczywistość Pandemii COVID-19 – Wyzwania społeczne, gospodarcze i prawne"; „Masa ciała, zdrowie fizyczne, psychiczne i seksualne pracowników ochrony zdrowia w trakcie trwania pandemii COVID-19"* Lublin, Fundacja Tygiel;

- 12.2022r. – udział czynny, XVI International Conference on Sexual Health; *"The Measurement of Love: Psychometric Properties of the Short Love Scale (SLS-12) in a Polish Sample"* Amsterdam, International Research Conference;

- 09.2022r. – udział czynny, 2nd International Conference *"Law, Medicine and Psychology"; "The manic and hypomanic phases in bipolar disorder and female sexuality in early adulthood"*, Uniwersytet im. Adama Mickiewicza w Poznaniu, Center for American Studies;

- 06.2022r. – członkini komitetu organizacyjnego I Kongres Humanizacji Medycyny, Warszawa;

- 12.2020r. – udział czynny, II Ogólnopolska Konferencja Naukowa *„Interdyscyplinarne ujęcie seksualności"; Ujęcie seksualności w filozofii M. Foucault, czyli o nadproduktywności dyskursów",* Fundacja Tygiel, Lublin;

- 07.2020r. – udział czynny, Ogólnopolska Konferencja Naukowa *"Interdyscyplinarne ujęcie seksualności"; "Feederism-nowy trend w seksualności."* Fundacja Tygiel, Lublin;

- 12.2019r. – udział czynny, Konferencja Naukowa *„Niepełnosprawność bez tabu", „Seksualność osób z niepełnosprawnością"*, Instytut Psychologii, Uniwersytet Zielonogórski, Zielona Góra;

- 14.05.2019r. – członkini komitetu organizacyjnego *„Projekt Mistrz IV"* (Budując siebie, budujesz innych), Instytut Psychologii, Uniwersytet Zielonogórski, Zielona Góra.

2.7. Działalność ekspercka

- 2023r. – redakcja terminologiczna podręczników Światowej Organizacji Zdrowia (WHO);

- 2023r. – przygotowanie recenzji manuskryptu – International Journal of Occupational Medicine and Environmental Health;

- 2022r - przygotowanie recenzji manuskryptu – Journal of Mother and Child;

- 02.2022r. – obecnie – opiekunka Koła Naukowego Seksuologii wpisanego do ewidencji Kół Naukowych Uniwersytetu Zielonogórskiego.

2.8. Nagrody i wyróżnienia

- 01.2023r. – „Grant rektorski” – uzyskanie za dany rok wysokiej wartości punktowej w slocie publikacyjnym w rozumieniu przepisów o ewaluacji jakości działalności naukowej w danym roku (140 pkt);
- 01.2023r. – Certificate of Best Presentation Award; International Research Conference, Sydney, Australia.

3. Założenia rozprawy doktorskiej pt. „Relacje romantyczne mierzone skalami SLS-12 i ECR-RS i ich znaczenie dla zdrowia oraz funkcjonowania psychospołecznego w populacji pacjentów i pracowników medycznych w okresie pandemii COVID-19."

3.1. Wstęp

Miłość powszechnie uznawana jest za uczucie uniwersalne, którym ludzie fascynowali się od zawsze, na co wskazują dowody historyczne pochodzące z różnych epok i kultur. Uwarunkowania kulturowe wpływają na sposób, w jaki poszczególne jednostki czują, myślą i zachowują się, pozostając w romantycznym związku, zatem miłość jest nie tylko uniwersalna, ale też kulturowo specyficzna [1]. Ponadto pojęcie miłości może wiązać się z różnorodną percepcją w zależności od typu relacji (np. między przyjaciółmi, z dziećmi czy w związkach romantycznych), a badacze podejmowali i podejmują prace nad stworzeniem modeli, które pozwalałby na rozróżnienie doświadczania miłości [2]. Związek romantyczny definiuje się jako wzajemną, trwałą i zgodną interakcję pomiędzy dwiema osobami, charakteryzującą się specyficznymi przejawami przywiązania i intymności [3]. Ponadto potrzeba przynależności i pielęgnowania znaczących pozytywnych relacji interpersonalnych jest jedną z podstawowych motywacji człowieka, a satysfakcja uzyskiwana z relacji romantycznych nie może być osiągnięta przez związki nieromantyczne [4].

Należy podkreślić, że bliskie relacje są integralną częścią codziennego życia i mają kluczowe znaczenie dla całościowego dobrostanu, jednakże procesy stojące za tym powiązaniem są tylko częściowo rozumiane. Istnieje długa historia badań nad związkami zachodzącymi między relacjami społecznymi a zdrowiem, a obszar tych badań otrzymał pozytywny oddźwięk dzięki artykułowi J.S. House'a, K. R. Landisa i D. Umbersona *Social Relationships and Health*, który ukazał się w „Science" w 1988 roku [5]. W artykule tym, aby zilustrować spójny związek między silniejszymi więziami społecznymi a długowiecznością, wykorzystano badania epidemiologiczne. Autorzy doszli do wniosku, że „oddziaływanie relacji społecznych na ryzyko zgonu jest porównywalne z dobrze poznanymi czynnikami ryzyka śmiertelności, takimi jak palenie tytoniu i spożywanie alkoholu, a przewyższa wpływ innych czynników ryzyka, takich jak brak aktywności fizycznej i otyłość" (tłum. wł.; s. 541). Twierdzenie to zostało poparte w metaanalizie obejmującej ponad 300 000 uczestników w 148 badaniach, wskazując o 50% większe [OR = 1.50 (95% CI 1.42 to 1.59)] prawdopodobieństwo przeżycia osób o silniejszych więziach społecznych [6]. Większość istniejących prac teoretycznych opiera się przede wszystkim na rozległych sieciach społecznych, obejmujących rodzinę,

przyjaciół i znajomych. Jednak badania z zakresu psychologii społecznej sugerują, że najbliższe relacje – z małżonkiem lub długoterminowym partnerem romantycznym – mają szczególnie silny wpływ na zdrowie. Co więcej, rozwijająca się literatura na temat kształtowania się bliskich związków dostarcza schematu, w jaki sposób można rozpatrywać procesy psychologiczne, dzięki którym związki są powiązane ze zdrowiem fizycznym [7]. Udowodniono także znaczenie wzorców przywiązania dla zdrowia. Na przykład w jednym z badań wstępnie potwierdzono tezę, że styl przywiązania jest czynnikiem determinującym przejawy dysregulacji osi HPA i determinuje odczuwanie stresu. [8]. Jakość opieki wczesnodziecięcej kształtuje bowiem nie tylko późniejszy stan zdrowia, ale także późniejsze doświadczenia romantycznego przywiązania [9]. Interwencje mające na celu poprawę bezpieczeństwa przywiązania okazały się skuteczne w łagodzeniu dystresu małżeńskiego w perspektywie czasu [10], a interwencje ukierunkowane na obciążenia i mocne strony małżeństwa mogą prowadzić do korzystnych zmian psychologicznych i fizjologicznych sprzyjających zdrowszemu i dłuższemu życiu.

Należy także podkreślić, iż wszelkiego rodzaju związki romantyczne są ważnym źródłem poczucia sensu w życiu wielu ludzi, które może korzystnie wpływać na ich zdrowie, samopoczucie i szczęście. Zaś niepokój związany z relacjami może w konsekwencji prowadzić do problemów zdrowia publicznego, takich jak nadużywanie alkoholu, otyłość i gorsze zdrowie psychiczne, podczas gdy bezpieczne i stabilne relacje są potencjalnymi czynnikami ochronnymi [11].

Przywiązanie, rozumiane jako więź emocjonalna, stwarza poczucie bezpieczeństwa psychologicznego [12]. Trzy główne style przywiązania obejmują styl bezpieczny, unikający oraz lękowy/lękowo-unikający [13]. W psychologii rozwojowej i społecznej jedną z kluczowych teorii dotyczących budowania efektywnych relacji społecznych jest teoria przywiązania. Chociaż przywiązanie w badaniach było wykorzystywane do wyjaśniania indywidualnych różnic w emocjonalnych i fizycznych reakcjach na stres i stylach radzenia sobie z nim, uczuciach oraz zachowaniach w sytuacjach interpersonalnych [14–15], to stosunkowo niedawno posłużono się nim w celu zrozumienia relacji interpersonalnych w pracy. C. Hazan i P.R. Shaver [16] byli jednymi z pierwszych, którzy zastosowali teorię przywiązania bezpośrednio do badań nad pracą zawodową. Ich wyniki sugerują, że w porównaniu z pracownikami charakteryzującymi się pozabezpiecznymi stylami przywiązania pracownicy

o bezpiecznych stylach przywiązania wykazywali wyższy poziom ogólnego dobrostanu i większą satysfakcję z pracy.

Badacze stoją przed wyzwaniami związanymi zarówno z pomiarem miłości, jak i jej oddziaływaniem na zdrowie psychiczne i funkcjonowanie psychospołeczne, ponieważ potrzeba badań dotyczących znaczenia bliskich relacji z punktu widzenia zdrowia publicznego pozostaje niezwykle istotnym aspektem. Rozważając bowiem kwestię badania czynników wpływających na zdrowie i jakość życia nie sposób pominąć holistycznego spojrzenia na jednostki, które w większości przypadków są zaangażowane w relacje społeczne.

W związku z powyższym celem ogólnym niniejszej pracy było znalezienie odpowiedzi na pytanie dotyczące związku relacji romantycznych z trudnościami w obszarze szeroko pojętego zdrowia.

3.2. Cel pracy

Celem ogólnym pracy było zbadanie jakości relacji romantycznych mierzonych skalami SLS-12 i ECR-RS i określenie ich znaczenia dla zdrowia oraz funkcjonowania psychospołecznego w populacji pacjentów i pracowników ochrony zdrowia w okresie pandemii COVID-19.

W celu doprecyzowania głównego założenia pracy ocenie poddano następujące szczegółowe problemy badawcze:

- właściwości psychometryczne i charakterystykę skali SLS-12 do pomiaru jakości relacji romantycznych wśród osób pozostających w monogamicznych związkach *(publikacja 1)*;
- zależności zachodzące pomiędzy stopniem jakości związku romantycznego a jego wpływem na zmienność postrzeganego stresu i innych trudności emocjonalnych związanych z pandemią wśród mężczyzn i kobiet w czasie pandemii COVID-19 *(publikacja 2);*
- poziom komunikacji z pacjentami w zależności od statusu bycia w związku oraz jakości tych relacji w zróżnicowanej zawodowo grupie pracowników ochrony zdrowia (HCW), z uwzględnieniem ich płci i wieku *(publikacja 3)*.
- ocena poziomu trudności emocjonalnych związanych z pandemią COVID-19 oraz wzrostu potraumatycznego w zależności od jakości relacji i stylu przywiązania w związku romantycznym w świetle wybranych zmiennych socjodemograficznych. Oceniono, w jakim stopniu osoby żyjące w lepszych

i gorszych związkach odczuwały brak bliskości z drugą osobą i czy uznawały, że okres pandemii stworzył okazję do lepszego zrozumienia własnej seksualności (*publikacja 4*).

3.3 Omówienie cyklu prac

W celu realizacji założeń rozprawy wykorzystano dane uzyskane w ramach projektu pt. *Humanizacja procesu leczenia i komunikacji klinicznej pomiędzy pacjentem a personelem medycznym przed i w czasie pandemii COVID-19*, finansowanego przez Agencję Badań Medycznych, realizowanego na Uniwersytecie Warszawskim. Projekt składał się z dwóch etapów: przeprowadzonego od czerwca do grudnia 2021 roku pilotażu oraz badania głównego zrealizowanego w I kwartale 2022 roku. Ostatecznie zbadano cztery różniące się liczebnością grupy pracowników medycznych ze 114 jednostek ochrony zdrowia zlokalizowanych w całym kraju (498 lekarzy; 1216 pielęgniarek, 166 ratowników medycznych; 423 innych przedstawicieli zawodów medycznych i niemedycznych) oraz 2050 pacjentów z próby populacyjnej (jako osoby leczące się w ostatnich 24 miesiącach). W jednej pracy wykorzystano próbę pracowników medycznych a w pozostałych trzech próbę populacyjną osób korzystających z opieki medycznej w czasie pandemii. Ograniczono ją do osób pozostających w związkach, za każdym razem definiując dodatkowe kryterium włączenia. Wyniki zestawiono w cyklu 4 prac oryginalnych o łącznej wartości IF = 4,614 raz wartości punktowej = 300.

3.3.1. Praca 1 pt. *The Measurement of Love: Psychometric Properties and Preliminary Findings of the Short Love Scale (SLS-12) in a Polish Sample*

Romantyczne związki są ważnym źródłem emocjonalnych doświadczeń i przyczyniają się zarówno do rozwoju pozytywnego obrazu siebie, jak również większej integracji społecznej [17–18]. Osoby będące w szczęśliwych związkach zgłaszają wyższy poziom subiektywnego dobrostanu niż osoby będące w niezadowalających relacjach, niezależnie od statusu związku [19]. Stwierdzono również, że osoby będące w związku małżeńskim lub żyjące w związkach partnerskich są szczęśliwsze i cieszą się lepszym zdrowiem psychicznym i fizycznym niż osoby samotne [20–24]. Ponadto w jednym z badań stwierdzono, że w porównaniu z osobami, które były „bardzo szczęśliwe" w swoim małżeństwie, te, które były „niezbyt szczęśliwe", ponad dwukrotnie częściej zgłaszały gorszy stan zdrowia.

Starania badaczy zmierzające do zrozumienia związków romantycznych i miłości znacznie wzrosły w ostatnich dekadach, a różne teorie i modele miłości są nadal

rozważane [25]. Chociaż miłość była historycznie uważana za pojęcie jednowymiarowe, we współczesnej literaturze dominuje rozumienie, że wykazuje ona strukturę wielowymiarową. Ze względu na złożony charakter miłości może się okazać, że poziom precyzji pożądany w tej dziedzinie nigdy nie zostanie osiągnięty, a badaczom i praktykom zaleca się zbadanie definicji konstruktu miłości oraz właściwości psychometrycznych narzędzi przy wyborze miar miłości odpowiednich do ich celów [26]. Ocena jakości związków romantycznych za pomocą SLS-12 stanowi istotny wkład w odniesieniu do lepszego pomiaru relacji intymnych, w których jednostka aktualnie się znajduje, bowiem związki intymne stają się coraz ważniejsze, gdy jednostki przechodzą od randek w okresie dorastania, poprzez wspólne zamieszkiwanie w okresie wchodzenia w dorosłość, aż do małżeństwa w wieku dojrzałym [27].

Należy zauważyć, że w literaturze, zarówno polskiej, jak i zagranicznej, nie ma skal o mniejszej liczbie pozycji, które mogłyby być wykorzystane w badaniu wieloczynnikowym, gdzie istotne jest ograniczenie długości kwestionariusza. Skala stworzona w Polsce i prezentowana w niniejszej pracy składa się z 12 pozycji. Wykazanie właściwości psychometrycznych prezentowanej skali przyczynia się do zróżnicowania badań dotyczących miłości i relacji romantycznych.

Celem pracy było opisanie właściwości psychometrycznych Short Love Scale-12 (SLS-12) oraz porównanie różnych modeli pomiarowych. Dane zostały zebrane za pomocą kwestionariusza CAWI (Computer-Assisted Web Interview) w Polsce na początku 2022 roku (18–60 lat; n = 941) wśród osób żyjących w formalnych lub nieformalnych związkach monogamicznych. Zarówno eksploracyjne (EFA), jak i konfirmacyjne analizy czynnikowe (CFA) przeprowadzono na dwóch różnych podpróbach uzyskanych w wyniku losowego podziału pełnego zbioru danych. Uwzględniono 12 pozycji, które zgodnie z podstawą teoretyczną tworzą trzy wymiary. Analiza CFA potwierdziła dobre właściwości psychometryczne trzyczynnikowego modelu SLS-12 opartego na rozwiązaniu EFA: $\chi2(47) = 146,802$ (p < 0,001); $\chi2/df$ = 3,123; CFI = 0,981, TLI = 0,973, RMSEA = 0,067 (90%CI 0,055–0,080), GFI = 0,952, AGFI = 0,921. Subindeksy SLS-12 różniły się w zależności od płci i statusu związku. Na podstawie metody krzywej ROC można przyjąć, że wyniki SLS-12 w zakresie od 12 do 44 oznaczają słaby związek, wyniki od 45 do 52 – umiarkowanie dobry, a od 53 do 60 – bardzo dobry związek.

Udoskonalenie i zwiększenie zakresu dostępnych badaczom miar miłości pozostaje ważnym zadaniem wspierającym postęp w tym obszarze badań. Wyniki te

wnoszą wkład do badań empirycznych nad pomiarem miłości w związkach romantycznych poprzez wprowadzenie krótkiej i psychometrycznie zwalidowanej skali. Co ważne, SLS-12 zawiera wyłącznie pozycje o wysokiej trafności treściowej, wykazuje dobre właściwości psychometryczne, a jej zwięzłość zaspokaja potrzebę adekwatnych miar miłości nadających się do badań ograniczonych czasowo, w tym do badań na dużą skalę. Skala ta może być implementowana w kolejnych projektach badawczych prowadzonych w różnych grupach populacyjnych i krajach.

3.3.2. Praca 2 pt. Pandemic-Related Stress and Other Emotional Difficulties in a Sample of Men and Women Living in Romantic Relationships during the COVID-19 Pandemic

W czasie pandemii COVID-19 osoby żyjące w szczęśliwych związkach zgłaszały lepsze zdrowie psychiczne niż osoby o niskiej satysfakcji ze związków i pozostające w związkach o niskim zaangażowaniu [28]. Ponadto wybuch pandemii COVID-19 i związana z nią niepewność oraz ograniczenia spowodowały zwiększony stres emocjonalny w populacji [29]. Przegląd literatury wyraźnie wskazuje, że osoby na całym świecie zgłaszały gorsze samopoczucie psychiczne oraz wyższe wskaźniki depresji i lęku niż przed pandemią [30]. Jednak osoby będące w szczęśliwych związkach wykazywały większy subiektywny dobrostan niż osoby będące w nieszczęśliwych związkach, niezależnie od statusu związku [31], a badania wykazały, że związki romantyczne są w szczególny sposób związane z subiektywnym dobrostanem. Małżeństwo było wymieniane jako jedno z głównych źródeł zarówno wsparcia, jak i stresu. U obu płci wsparcie ze strony partnera romantycznego i rodziny było predyktorem dobrostanu, podczas gdy obciążenie partnera było predyktorem problemów zdrowotnych [32]. Małżeństwo jest szczególnie związane z niższym poziomem cierpienia psychologicznego i większym dobrostanem [33–34]. Chociaż szeroki zakres czynników wymienianych w badaniach utrudnia ustalenie, jaki bezpośredni wpływ na dobrostan mają związki romantyczne, w literaturze panuje ogólna zgoda, że miłość jest jednym z aspektów najsilniej związanych ze szczęściem osobistym [35–36].

Chociaż ciężki przebieg i śmiertelność związane z zakażeniem COVID-19 była dwukrotnie wyższa u mężczyzn niż u kobiet [37], kobiety w porównaniu z mężczyznami zgłaszały większy stres i niepokój na początku lockdownu [38–39]. Obciążenie obowiązkami domowymi wzrosło dla wielu osób w czasie pandemii, a nierówności między płciami były najbardziej widoczne wśród osób posiadających dzieci [40].

Oczekiwano, że kobiety, zwłaszcza te żyjące w związkach z mężczyznami, ograniczą swój czas pracy, aby podjąć obowiązki opiekuńcze, natomiast od mężczyzn oczekiwano, że będą to robić w mniejszym stopniu. Nie dziwi więc fakt, że kobiety zgłaszały wyższy poziom stresu i niepokoju, ponieważ pandemia spowodowała zarówno zwiększenie ciężaru ról i oczekiwań wobec kobiet, jak i zmniejszenie, w tym samym czasie, wsparcia zewnętrznego [41].

W badaniu sprawdzano, w jakim stopniu jakość relacji wpływa na zmienność odczuwanego stresu i innych trudności emocjonalnych związanych z pandemią. Badanie przeprowadzono w dniach 2–17 marca 2022 roku za pomocą ankiety internetowej. Wielkość próby obejmowała 1405 osób będących w romantycznych związkach. W badaniu użyto skal PSS-4, ECR-RS, SLS-12 oraz wystandaryzowaną skalę Pandemic Emotional Difficulties (Pandemic-ED) (RMSEA = 0,032). Zwiększony poziom stresu (U = -5,741), trudności emocjonalne związane z pandemią (U = -8,720), gorsza jakość związku romantycznego (U = -2,564) oraz przywiązanie pozabezpieczne (U = -3,371) były charakterystyczne dla kobiet. Hierarchiczny model regresji dla stresu wykazał, że wiek (b = -0,143), sytuacja finansowa (b = 0,024), wyniki ECR-RS (b = 0,219) oraz trudności emocjonalne związane z pandemią (b = 0,358) okazały się istotnymi statystycznie predyktorami stresu. Model regresji hierarchicznej dla trudności emocjonalnych związanych z pandemią wskazał na pięć predyktorów: płeć (b = 0,166), wykształcenie (b = 0,071), sytuację finansową (b = 0,203), punktację w skali ECR-RS (b = 0,048) oraz stres (b = 0,367). Zastosowany model SEM miał zadowalające wskaźniki dopasowania (RMSEA = 0,051), a jakość związku romantycznego i style przywiązania oddziałują na zmienność postrzeganego stresu i obciążeń związanych z pandemią.

W czasach przedłużającego się stresu i wyzwań coraz większego znaczenia nabierają relacje interpersonalne [42], a w sytuacjach kryzysowych ludzie zwykle zwracają się do swoich bliskich i polegają na nich, w wieku dorosłym są to najczęściej ich romantyczni partnerzy [43]. Wyznaczony model oferuje wnioski istotne dla klinicystów pracujących z osobami i parami w okresach intensywnego stresu. Praca niesie za sobą także wniosek, iż konieczne jest podjęcie działań sprzyjających przetrwaniu globalnych kryzysów oraz wzmocnienie zasobów zdrowia psychicznego, tak aby możliwe było wypracowanie strategii radzenia sobie z kolejnymi trudnościami.

3.3.3. Praca 3 pt. *Quality of communication with patients and difficulties in close relationships among health care workers during the COVID-19 pandemic*

Badania przeprowadzane na świecie wykazały, że podczas pandemii pracownicy ochrony zdrowia (HCWs) byli narażeni na zwiększony poziom stresu, niepokoju, lęku, depresji, bezsenności i inne problemy związane ze zdrowiem psychicznym [44]. Lekarze, pielęgniarki i pracownicy innych sektorów opieki zdrowotnej wskazywali, że jedną z głównych metod redukcji stresu było czerpanie wsparcia od rodziny [45], a osoby pozostające w związku małżeńskim zgłaszały wyższy poziom wsparcia niż osoby samotne [46]. Społeczne skutki pandemii niewątpliwie objęły relacje wewnątrzrodzinne, bowiem wiele osób znalazło się w nagłej, wymuszonej bliskości z najbliższą rodziną [47]. Warto zauważyć, że pracownicy medyczni i ich rodziny byli poddawani ostracyzmowi społecznemu ze względu na obawę, że są źródłem zakażenia, co przyczyniało się do ich stresu i niepokoju [48] i mogło utrudniać podtrzymywanie relacji interpersonalnych.

Ponadto w okresie pandemii pracownicy medyczni byli narażeni na wzrost trudności związanych z konfliktem praca–rodzina, co, jak wykazano, wiąże się z niezadowoleniem z pracy, stresem i absencją [49]. W związku z tym istotne pozostaje znaczenie jakości relacji romantycznych w odniesieniu do poziomu komunikacji, która bezpośrednio wiąże się z wydajnością w pracy. Prowadzenie skutecznego procesu terapeutycznego i uzyskiwanie informacji klinicznych w dużej mierze zależą od komunikacji zachodzącej pomiędzy pracownikami medycznymi a pacjentami. Poprawa komunikacji prowadzi do lepszych wyników zdrowotnych, wpływając jednocześnie na satysfakcję pacjenta i lepsze przestrzeganie zaleceń. Ponadto komunikacja skoncentrowana na pacjencie, wykorzystująca empatię i jasny język, może buforować negatywny wpływ strachu przed COVID-19 [50].

W literaturze wskazuje się, że szansą na opanowanie lęku HCWs podczas nagłych sytuacji zdrowotnych – takich jak COVID-19 – może być przywrócenie interakcji interpersonalnych [51]. Umiejętności społeczne są szczególnie ważne w ochronie zdrowia, ponieważ HCWs są w stałym kontakcie z innymi pracownikami oraz z pacjentami i ich rodzinami. Co więcej, istnieją dowody na to, że lekarze z niepewnym stylem przywiązania wykazują zmniejszoną zdolność do empatii i przyjmowania perspektywy innych osób w porównaniu z osobami o bezpiecznym stylu przywiązania [52].

W niniejszym badaniu za pomocą ankiety internetowej przeanalizowano 2303 HCW, w tym 1791 osób żyjących w bliskich związkach (zdefiniowanych jako bycie

w związku przez co najmniej sześć miesięcy). W badaniu zbadano ten związek wśród czterech grup HCW: lekarzy (n = 498), pielęgniarek (n = 1216), ratowników medycznych (n = 166), innych (n = 423). Kompetencje komunikacyjne oceniano za pomocą 12 itemowej skali Health Professionals Communication Skills Scale (HPCSS-12) (zakres 12–72) mierzącej empatię, komunikację informacyjną, szacunek i umiejętności społeczne. Jakość relacji HCWs badano za pomocą Experiences in Close Relationships – Revised Scale (ECR-RS), która mierzy style przywiązania.

Ogólny średni wskaźnik HPCSS-12 wynosił 59,58 ±7,36, z istotną różnicą pomiędzy lekarzami w zależności od statusu związku. Pracownicy ochrony zdrowia zgłaszający mniej bezpieczny styl przywiązania uzyskali o 2,73 punktu niższy wynik w skali HPCSS-12 w porównaniu z osobami bez takich problemów (p < 0,001). U mężczyzn posiadanie dobrych i bezpiecznych relacji wiązało się z lepszą komunikacją, szczególnie w grupie innych HCW (64,55 ±7,05) oraz u ratowników medycznych (61,83 ±3,94). Również wysokie wartości HPCSS-12 osiągnęły lekarki i inne przedstawicielki zawodów medycznych żyjące w związkach charakteryzujących się bezpiecznym stylem przywiązania (odpowiednio 61,61 ±7,13 i 61,04 ±6,30).

Głębsze zrozumienie roli przywiązania w relacji lekarz–pacjent w opiece zdrowotnej może prowadzić do poprawy opieki nad pacjentem i zwiększenia doświadczenia klinicznego pracowników opieki zdrowotnej. Pracownicy opieki zdrowotnej o pozabezpiecznych stylach przywiązania mogą być edukowani w celu wykorzystania bardziej opiekuńczych strategii i wzmocnienia regulacji emocji. Ponadto edukacja studentów na temat możliwego wpływu ich stylów przywiązania na skuteczną komunikację z pacjentami może stanowić cenny wkład podczas konstruowania programów kształcenia medycznego na poziomie licencjackim i podyplomowym.

3.3.4. Praca 4 pt. Relacje romantyczne a trudności emocjonalne i wzrost potraumatyczny w czasie pandemii COVID-19

Liczne badania wskazują, że bycie w bliskich związkach romantycznych zmniejsza częstość występowania depresji [53] i trudności w obszarze zdrowia psychicznego [54], a wsparcie społeczne, które jednostki mogą otrzymywać od partnera, oddziałowują na ich dobrostan [55].

Celem czwartej pracy była ocena poziomu trudności emocjonalnych związanych z pandemią COVID-19 oraz wzrostu potraumatycznego w zależności od jakości relacji i stylu przywiązania w związku romantycznym w świetle wybranych zmiennych

socjodemograficznych. Oceniono także, w jakim stopniu osoby żyjące w lepszych i gorszych związkach odczuwały brak bliskości z drugą osobą i czy uznawały, że okres pandemii stworzył okazję do lepszego zrozumienia własnej seksualności.

Pierwszą zmienną zależną wykorzystaną w badaniu była skala mierząca trudności emocjonalne doświadczane w czasie pandemii COVID-19 – Pandemic Emotional Difficulties Scale (Pandemic-ED), której rzetelność została sprawdzona w poprzednich badaniach własnych, α Cronbacha = 0,884 [56]. Drugą zmienną zależną była sumaryczna skala Post-Traumatic Growth (PTG), również opisana we wcześniejszych badaniach [57]. Jako zmienne potencjalnie objaśniające zmiany odnoszące się do trudności emocjonalnych oraz pozytywnego przewartościowania wybrano skale opisujące jakość relacji romantycznej. Pierwszą z nią była skala Short Love Scale 12 (SLS-12) [58]. Drugą skalą była The Experiences in Close Relationships-Relationship Structures (ECR-RS), dla której wykorzystano polskie tłumaczenie autorstwa M. Marszal.

W pracy przedstawiono dane dotyczące 1332 dorosłych mieszkańców Polski żyjących w związkach, ankietowanych w 2022 roku. Wyniki badań własnych wskazały, że wskaźniki trudności emocjonalnych związanych z pandemią były wyższe wśród osób pozostających w relacjach o wysokiej jakości w porównaniu z tymi, których jakość relacji pozostawała niska. Także wskaźniki wzrostu potraumatycznego rosły wraz ze wzrostem jakości relacji. Osoby deklarujące wysoką jakość związku (mierzoną skalą SLS-12) częściej zgadzały się ze stwierdzeniem, że lepiej zrozumiały swoje oczekiwania i upodobania seksualne w porównaniu do osób o niskiej jakości związku. Zaś w zakresie różnic w odniesieniu do ECR-RS to osoby o bezpiecznych stylach przywiązania rzadziej deklarowały brak bliskości z drugą osobą w porównaniu do osób przywiązanych pozabezpieczne.

Wyniki te pozwalają zrozumieć oddziaływanie relacji romantycznych na funkcjonowanie jednostek w sytuacjach kryzysowych, dostarczając tym samym wskazówek dla osób pracujących pomocowo w obszarze poradnictwa partnerskiego. Konieczne są dalsze badania nad rolą romantycznych związków w zakresie zdrowia psychicznego jednostek i wzrostu potraumatycznego, aby uzyskać wgląd w potencjalne czynniki ryzyka i czynniki ochronne.

3.4 Wnioski

Na przedstawiony jako praca doktorska cykl publikacji składają się cztery spójne tematycznie artykuły. Elementem je wiążącym jest prezentacja budowy dwóch skal oceny jakości związków romantycznych i wdrożenie tych skal do analiz własnych. Pierwsza z nich (SLS-12) jest nowym narzędziem powstałym w trakcie realizacji grantu dotyczącego humanizacji medycyny, druga zaś (ECR-RS) była wcześniej adaptowana na język polski, ale w świetle dostępnej mi wiedzy nie testowano jej w Polsce w tak dużej próbie i w kontekście pandemii COVID-19. W cyklu tych czterech artykułów wykorzystano dwa źródła danych (pacjentów z próby populacyjnej i pracowników ochrony zdrowia) zebranych w okresie od stycznia do kwietnia 2022 r. w ramach tego samego projektu badawczego, do którego badania zrealizowała firma Interactive Research Center sp. z o.o. Artykuły charakteryzują się koncepcją własną, w trzech z nich jestem pierwszą autorką korespondującą, a raz drugą autorką.

Pierwsze źródło danych to badanie pacjentów z populacji ogólnej, czyli dorosłych Polaków, którzy leczyli się w czasie pandemii w okresie dwóch lat poprzedzających ankietyzację (praca 1, praca 2 i praca 4), z założeniem ograniczenia próby do osób pozostających w związkach. Badanie to miało charakter ilościowy i przeprowadzono je techniką ankiety wypełnianej samodzielnie przez Internet (ang. Computer Asissted Web Interview, CAWI) wśród osób zrzeszonych w panelu badawczym ReaktorOpinii.pl. Próba ta miała charakter ogólnopolski, którą warstwowano ze względu na płeć, wiek, wykształcenie, regiony, klasę miejscowości oraz charakter i miejsce uzyskania świadczenia.

Drugie źródło danych to badanie pracowników ochrony zdrowia, które zostało przeprowadzone w dniach 02.03-28.04.2022 roku. W ramach badania do udziału w projekcie pozyskano w sumie 114 jednostek ochrony zdrowia, które zadeklarowały chęć przystąpienia do realizowanego projektu. Badanie odbyło się przy wykorzystaniu techniki CAWI (ankiety prowadzonej za pośrednictwem Internetu, z wykorzystaniem formularza ankiety elektronicznej umieszczonego na stronie internetowej *www.humanizacja.pl*). W badaniu zastosowano również technikę ankiet papierowych. W efekcie uzyskano 2340 ankiet od personelu medycznego, w tym 249 ankiet papierowych, w tym 502 ankiet w grupie lekarzy/ lekarek, 1233 ankiety w grupie pielęgniarek/ pielęgniarzy/ położnych, 169 ankiet w grupie ratowników/ ratowniczek medycznych, 436 ankiet od pozostałych pracowników medycznych i niemedycznych.

W pracy 1 zastosowana została metoda podziału próby na dwie części – pierwszą testową służącą do oceny struktury skali SLS-12 metodą konfirmacyjnej analizy czynnikowej, drugą służącą do sprawdzenia tej struktury metodą eksploracyjną. W pracy 1 skala SLS-12 jest tematem wiodącym, ale porównanie z ECR-RS to element jej walidacji. W pracy przedstawiono:

a) dwie krzywe ROC ułatwiające klasyfikację całkowitego wskaźnika SLS-12, co pozwoliło na ustalenie punktów odcięcia i tym samym identyfikację jakości związków. Dowiedziono, że SLS-12 jest 12-itemową skalą, która może być stosowana zarówno w badaniach indywidualnych, jak i grupowych osób pozostających w związkach formalnych lub nieformalnych;

b) narzędzie, które jest szczególnie użyteczne w projektach z wykorzystaniem kwestionariuszy wielowątkowych, wymagających krótkiego czasu wypełnienia, a w dotychczasowych zaadaptowanych skalach brak było takich narzędzi.

W pracy 2 głównym celem badawczym było uzyskanie odpowiedzi na pytanie, czy i w jakim stopniu jakość związku romantycznego wpływa na zmienność postrzeganego stresu i innych trudności emocjonalnych związanych z pandemią wśród mężczyzn i kobiet w czasie pandemii COVID-19. W badaniu przeprowadzono zagregowane analizy zmiennych dotyczących związków romantycznych i określono najistotniejsze ścieżki asocjacyjne pomiędzy badanymi zmiennymi w kompleksowym modelu stresu. Wyniki badań dowodzą, że:

a) kobiety charakteryzowały się wyższym poziomem stresu i trudności pandemicznych oraz mniej korzystnymi ocenami swoich związków,

b) ocena jakości związku, style przywiązania i inne zmienne socjodemograficzne wpływały na zmienność postrzeganego stresu i innych trudności pandemicznych; w przypadku kobiet posiadanie dzieci i sytuacja finansowa były istotnymi predyktorami odczuwanego stresu, co pozwoliło zrozumieć różnice między kobietami i mężczyznami, co z kolei pomoże przyjąć zalecenia kliniczne dotyczące radzenia sobie z głównymi stresorami w obliczu pandemii,

c) style przywiązania w relacji były bezpośrednio i pośrednio związane ze stresem poprzez emocjonalną reakcję na pandemię,

d) badany model uwypukla kluczowe predyktory stresu, pozwalając nie tylko lepiej zrozumieć wpływ pandemii COVID-19 na funkcjonowanie kobiet i mężczyzn, ale także przedstawiając wnioski istotne dla klinicystów i terapeutów pracujących zarówno z jednostkami, jak i parami w okresie silnego stresu.

Praca 3 cyklu opierała się na próbie pracowników jednostek medycznych obejmującej cztery grupy zawodowe. Podjęta została tematyka komunikacji między personelem medycznym a pacjentem, co obecnie nie tylko stanowi rozwijający się nurt zdrowia publicznego, ale też mieści się w obszarze równowagi między życiem zawodowych a prywatnym. Ustalono, że:

a) osoby zgłaszające mniej bezpieczny styl przywiązania w swoich związkach uzyskały o 2,73 punktu niższy wynik w zakresie umiejętności komunikowania się z pacjentem w porównaniu z osobami, które nie miały takich problemów w swoich związkach,

b) po stratyfikacji analiz ze względu na płeć istotna statystycznie różnica w zależności od stylu przywiązania do związku utrzymywała się dla mężczyzn ratowników medycznych i kobiet pielęgniarek,

c) przedstawione analizy są zgodne z teorią przywiązania, która zakłada, że doświadczenia z dzieciństwa związane z doświadczaną opieką są ważnym predyktorem późniejszego funkcjonowania społecznego i emocjonalnego, a także zgodne ze wskazywanymi w literaturze związkami między zadowoleniem z relacji a funkcjonowaniem psychospołecznym.

Praca 4 cyklu opierała się na próbie pacjentów w populacji ogólnej, a do analiz włączono osoby pozostające w związku romantycznym. Uzyskano następujące wnioski:

a) w zakresie wszystkich wskaźników odnotowano istotne różnice, gdzie dla korzystnej oceny związku mierzonej skalą SLS-12 odnotowano spadek średnich w zakresie skali Pandemic-ED; jedynie w grupie mieszkańców dużych miast różnice okazały się być nieistotne,

b) dla korzystnej oceny związku mierzonej skalą ECR-RS odnotowano spadek średnich w zakresie skali Pandemic-ED; jedynie w grupie mieszkańców dużych miast oraz osób w wieku 18-29 różnice okazały się być nieistotne,

c) we wszystkich przedstawionych grupach średnia PTG była najwyższa dla korzystnej oceny związku (mierzonej skalą SLS-12), w grupie mieszkańców dużych miast oraz osób w wieku 18-29 różnice okazały się być nieistotne.

d) osoby deklarujące wysoką jakość związku (mierzoną skalą SLS-12) częściej zgadzały się ze stwierdzeniem, że lepiej zrozumiały swoje oczekiwania i upodobania seksualne w porównaniu do osób o niskiej jakości związku.

e) osoby o bezpiecznych stylach przywiązania rzadziej deklarowały brak bliskości z drugą osobą w porównaniu do osób przywiązanych pozabezpieczne, co jest zgodnie z założeniami teorii przywiązania.

Należy jednak zaznaczyć, że przekrojowy charakter badania i brak podłużnej obserwacji nie pozwalają na wnioskowanie o związkach przyczynowych między zmiennymi i długoterminowych konsekwencjach stwierdzonych efektów psychologicznych. Istotny pozostaje także fakt, iż głównie internetowy charakter ankiety nie pozwala na uogólnienie wyników badania na populację o wyższych kompetencjach cyfrowych. Potrzebne są dalsze badania nad różnicami między kobietami i mężczyznami oraz nad tym, jak związki romantyczne kształtują postrzeganie stresu i trudności emocjonalnych w życiu osobistym i zawodowym. Przyszłe badania powinny także skupić się na przyjrzeniu się związkom innym niż heteroseksualne. Biorąc pod uwagę dostępną wiedzę, można stwierdzić, że niniejszy cykl prac jest pierwszym, który analizuje znaczenie jakości relacji romantycznych i stylów przywiązania w odniesieniu do trudności osobistych i zawodowych w okresie pandemii COVID-19. Implikuje to także wniosek, iż zarówno SLS-12, jak i ECR-RS są dobrymi skalami, które umożliwiają analizy dotyczące różnych aspektów zdrowia.

Chociaż związek między relacjami małżeńskimi a samopoczuciem był przedmiotem znacznej uwagi w literaturze przedmiotu, mniej uwagi poświęcono potencjalnym korzyściom płynącym z innych bliskich związków romantycznych. Należy zaznaczyć, że badania w obszarze relacji romantycznych i zdrowia znajdują się we wczesnej fazie rozwoju, a obiektywne miary zdrowia w tym kontekście są wciąż ograniczone. Jednocześnie cykl tych prac dostarcza dowodów na znaczenie bliskich związków romantycznych zarówno w kontekście reakcji emocjonalnych, jak i relacji zawodowych.

3.5. Piśmiennictwo

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3.6. Streszczenie w języku polskim i angielskim

Wybuch pandemii COVID-19 i związana z tym niepewność oraz ograniczenia, spowodowały zwiększony stres emocjonalny i trudności związane ze zdrowiem psychicznym wśród społeczności. Relacje społeczne pełnią niezwykle istotne znaczenie w obliczu sytuacji kryzysowych, a także mogą pomagać w radzeniu sobie ze stresem.

Celem ogólnym pracy było zbadanie jakości relacji romantycznych mierzonych skalami SLS-12 i ECR-RS i określenie ich znaczenia dla zdrowia oraz funkcjonowania psychospołecznego w populacji pacjentów i pracowników medycznych w okresie pandemii COVID-19. Wytyczony cel zrealizowano w ramach projektu badawczego, a wyniki zostały omówione w czterech artykułach stanowiących rozprawę doktorską.

Na początku stworzono rzetelne i trafne narzędzie do pomiaru jakości relacji romantycznych wśród osób pozostających w monogamicznych związkach. Następnie stwierdzono, że jakość związku i style przywiązania w związkach romantycznych oddziaływały, w sposób pośredni i bezpośredni, na poziom stresu zarówno u kobiet, jak i mężczyzn. Kolejnym krokiem było zbadanie umiejętności komunikacyjnych personelu medycznego w zależności od prezentowanego stylu przywiązania. Wykazano, że pracownicy ochrony zdrowia zgłaszający mniej bezpieczny styl przywiązania uzyskali o 2,73 punktu niższy wynik w skali HPCSS-12 w porównaniu z osobami bez takich problemów. W ostatnim etapie oceniono poziom trudności emocjonalnych związanych z pandemią COVID-19 oraz wzrostu potraumatycznego w zależności od jakości relacji i stylu przywiązania w związku romantycznym w świetle wybranych zmiennych socjodemograficznych.

W okresie nadmiernego stresu i nowych wyzwań relacje interpersonalne nabierają większego znaczenia, a w sytuacjach kryzysowych znaczenie zarówno aktualnej relacji romantycznej, jak i zinternalizowanych wcześniej stylów przywiązania pełnią rolę predykcyjną dla aktualnego funkcjonowania niosąc za sobą istotne implikacje dla zdrowia publicznego.

Słowa kluczowe: relacje romantyczne, miłość, stres, zdrowie, obciążenia emocjonalne, pandemia COVID-19

The COVID-19 pandemic, together with the attendant uncertainty and restrictions on social life, undoubtedly brought increased emotional stress and a deterioration in people's mental health. Close romantic relationships are crucial to an individual's overall well-being, and can play a buffering role in stressful situations.

The main objective of this study was to investigate to what extent the quality of romantic relationships, as measured by the Short Love Scale 12 (SLS-12) and Experiences in Close Relationships – Revised Scale (ECR-RS), was significant for people's health and psychosocial function in a population of patients and health care workers during the COVID-19 pandemic. Pursuing this objective fell under the framework of the research project "Humanizing the treatment process and clinical communication between patients and health care personnel before and during the COVID-19 pandemic," and the results were reported in the four articles making up the doctoral dissertation.

First, exploratory factor analysis (EFA) as well as confirmatory factor analyses (CFA) performed on two different subsamples showed that the SLS-12 scale is a reliable and valid tool for measuring the quality of romantic relationships. Next, using structural equation modeling (SEM), relationship quality and attachment styles in romantic relationships were found to correlate, directly and indirectly, with stress levels in both men and women. The next step, it was shown that health professionals reporting non-secure attachment styles scored 2.73 points lower on the Health Professionals Communication Skills Scale (HPCSS-12) than those reporting secure attachment styles. As a final step, the level of COVID-19 pandemic-related emotional distress and post-traumatic growth was assessed in relation to the quality of the relationship and attachment style in a romantic relationship in accordance with selected sociodemographic variables.

In crisis situations, the importance of both an individual's current romantic relationship and his or her previously internalized attachment styles plays a predictive role for current function – a finding that carries important public health implications.

Key words: romantic relationships, love, stress, health, emotional difficulties, COVID-19 pandemic

3.7. Załączniki

3.7.a *Prace stanowiące podstawę postępowania w sprawie o nadanie stopnia naukowego doktora*

3.7.b *Oświadczenia współautorów publikacji*

Article

The Measurement of Love: Psychometric Properties and Preliminary Findings of the Short Love Scale (SLS-12) in a Polish Sample

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Abstract: There has been a perceived need for the development of instruments to assess relationship quality and love. The aim of this study was to describe the psychometric properties of the Short Love Scale (SLS-12) and to compare different measurement models. Data were collected using the CAWI (Computer-Assisted Web Interview) in Poland in early 2022 (18–60 years old; n = 941) among individuals living in formal or informal monogamous relationships. Both exploratory (EFA) and confirmatory factor (CFA) analyses were performed on two different subsamples obtained through random splitting of the full datafile. There were 12 items considered, which form three dimensions in accordance with the theoretical basis. CFA analysis confirmed good psychometric properties of the three-factor SLS-12 model based on EFA solution: $\chi^2(47) = 146.802$ ($p < 0.001$); χ^2/df = 3.123; CFI = 0.981, TLI = 0.973, RMSEA = 0.067 (90%CI 0.055–0.080), GFI = 0.952, AGFI = 0.921. SLS-12 subindices varied according to gender and relationship status. Based on ROC curve method, it may be assumed that scores on the SLS-12 ranging from 12 to 44 indicate a poor relationship, scores ranging from 45 to 52 a moderately good relationship, and scores of 53 to 60 a very good relationship. Improving and increasing the range of measures of love available to researchers remains an important task in supporting the progress of this area of research. Further research should be conducted among people of all ages living in both formal and informal relationships using the Short Love Scale-12 outlined in this paper.

Keywords: love; romantic relationships; validation; psychometric properties; COVID-19

1. Introduction

Love, one of the motivations to engage in romantic relationships, can have many different meanings for each person. In an effort to discover how intense or diverse love is, researchers are confronted with difficulties in measuring this phenomenon. Similar challenges are posed when evaluating intelligence, personality, anxiety, and other abstract constructs traditionally assessed by psychometrics.

Romantic relationships and experiences are an important source of emotional connection and contribute to the development of a positive self-image as well as greater social integration [1,2]. Individuals in happy relationships report higher levels of subjective well-being than those in unhappy relationships, regardless of relationship status [3]. It has also been found that people who are married or live in a marriage-like relationship are happier and enjoy better mental and physical health than those who are single [4–6]. One study has found that compared to those who were "very happy" in their marriage, those who were "not very happy" were more than twice as likely to report poorer health and almost 40% more likely to die over the follow-up period. Those who were not very

happy in their marriage also had equal or worse health and mortality risk compared to those who were never married, divorced, separated, or widowed [7].

Efforts by psychologists to understand romantic relationships and love have increased considerably in recent decades and various theories and models of love continue to be considered [8]. Although love has historically been considered a one-dimensional concept, the dominant understanding in today's literature is that it exhibits a multidimensional structure. Due to the complex nature of love, it may be that the level of precision desired in the field may never be achieved, and researchers and practitioners are advised to examine the definition of the construct of love and the psychometric properties of tools in selecting measures of love appropriate for their purposes [9]. Furthermore, some of the authors identify ways in which theories and models offer conflicting predictions about the origins of romantic passion, while proposing a more comprehensive model that integrates complex perspectives [10].

The diversity of theories in literature is significant, and romantic love appears to be an nearly universal phenomenon, occurring in every era. The authors will mention only some of the theories, while realizing their multiplicity. One theory that has been proposed is the "Love Color Theory" by Lee [11]. In his theory, Lee focused on the true shape of love and proposed an original and unique typology of love. Lee identified six love styles, which he placed within a closed circle and triangles: three primary types of love styles (Eros, Ludus, and Storge) and three secondary ones (Mania, Pragma, and Agape).

In the original triangular theory of love, Sternberg [12,13] defined love as consisting of three elements: intimacy, passion, and commitment. Passion is associated with the experience of desire, the manifestations of which include kissing, caressing, and the sexual act. Intimacy is viewed as positive feelings experienced in the presence of and because of a partner, through sharing experiences, receiving emotional support, exchanging information of an intimate nature and building closeness. The commitment component refers to maintaining the relationship, that is, taking various actions to sustain the relationship and make it satisfying.

The Sternberg Triangular Love Scale (STLS) contains 45 items, with an equal number of items measuring intimacy, passion, and decisions/commitment. Each of these items is rated on a Likert-type scale of 1–9, where 1 = "not at all," 5 = "moderately," and 9 = "extremely." There are no labels for the scores in between those indicated above. The Triangular Love Scale still has a blank space in all 45 statements to be filled with the name of the same loved one for all the questionnaire items [14].

Based on Sternberg's [12] theory, Wojciszke [15] proposed that a romantic relationship can be divided into six phases: falling in love (passion only), romantic beginning (passion and intimacy), complete love (passion, intimacy, commitment), companionate love (intimacy and commitment but no passion), empty love (commitment only), and dissolution (commitment withdrawn). He measured the intensity of each component of love in each phase, and his results were consistent with Sternberg's [12] theoretical assumptions.

With the growing amount of literature on the triangular theory of love, various studies have examined the psychometric properties of the TLS [16,17]. Sorokowski [18], meanwhile, examined the psychometric properties of this scale in 25 countries. Moreover, a closer analysis of the studies that used the Sternberg Triangular Love Scale revealed that the samples used therein consisted mainly of married individuals [19], adolescents [17,20] or college students [21–23]. These studies were conducted only with individuals who were emotionally attached to their partner.

Soloski, Pavkov, Sweeney, and Wetchler [24] modified the original form of Sternberg's Triangular Love Scale. The revised form allowed the participants to consider their general and realistic expectations of love in a marriage. The items were modified to allow for an overall assessment of expectations. Specifically, this study found that lower levels of inter-parental conflict were significantly related to the higher levels of love an individual expresses in their relationship as well as higher levels of marital expectations of love.

Furthermore, it is believed that due to the three-factor structure of the STLS and high levels of reliability, the scales can be used to determine the level of love and love expectations of young adults [25].

Lemieux and Hale [26,27] developed an alternative tool with only 19 items that captured these three dimensions. Although to date this measure has only been used in samples of college students or married individuals, its conciseness and simplicity makes it a suitable measure for assessing romantic relationships in adolescents as well, as tested by Overbeek et al. [17].

Furthermore, the Passionate Love Scale is a 30-item scale (often shrunk into a 15-item measure) designed to measure an individual's level of passionate love toward another person. Each item has a blank space and respondents are instructed to fill it in with the name of their partner. Each item is answered on a 9-point scale ranging from 1 (not at all true) to 9 (definitely true) [28]. It is worth pointing out, however, that none of the items in this scale relates directly to sex life.

It should be noted that in the literature, both Polish and foreign, there are no scales with a fewer number of items that could be used in a multi-subject study where questionnaire length limitation is relevant. The scale created in Poland and presented in this paper consists of 12 items. Demonstrating the psychometric properties of the presented scale will contribute to the diversification of research focusing on love and romantic relationships. Proposed an even smaller number of items than before, which will allow the use of scale in a more extensive context. Some of the questions presented were previously tested in Izdebski's works [29,30], but no study has attempted to treat them as a scale. After preliminary analyses of the results of previous surveys, new questions have been added and the response category has been expanded from a range of "never"–"constantly" to one of "very much fits the description of my relationship"–"does not fit the description of my relationship at all."

Linguistic and cultural adjustments often generate difficulties in translating the original questions and obtaining sufficient psychometric properties. Scales that were developed from the beginning in a given social and cultural context may be more suitable. In addition, as we pointed out, the construction of SLS-12 is a continuation of our own research, since a number of items has been derived from earlier studies.

It was decided that two items will extend to include questions directly related to sex life, which were not included in the previous love scales, while according to the tool's authors they are an important aspect of understanding love. It is also worth noting that sexuality results from the interactions taking place between the individual and the surrounding social structure, and its full development is necessary for individual, interpersonal and social well-being while representing an important, although not the only aspect of a romantic love relationships.

In addition, Sternberg's original scale can be used for a variety of attachment objects, such as siblings or parents, while the proposed scale, due to the sex life component, is narrowed down only to close romantic relationships or imagined romantic relationships. This constraint allows for the inclusion of the aforementioned area of sexual life and communication in this area.

Sternberg's scale provided an important reference point for theoretical considerations when constructing the scale, given the fact that there are not many thoroughly researched tools. None of Sternebrg's scale questions were adapted in identical wording, although the concept of multidimensional love was close to the idea of creating a scale by itself. Nevertheless, the authors' objective is not to provide a critique of it, but to propose a tool that reflects the needs of psychometric measurement.

Given the need for research into romantic relationships in Poland, the main aim of this study was to develop the Short Love Scale-12 (SLS-12), assess the psychometric properties of the scale and to compare different measurement models. The authors of this study hope to identify a reliable, valid, and feasible tool for research purposes.

2. Materials and Methods

2.1. Participants and Procedure

The survey was conducted as part of a larger project on the humanization of medicine from 2–17 March 2022. The sample size was 2050 (n = 2050) and it included both adult patients and legal caretakers of patients who received medical care in 2020 and/or 2021. This study used a self-administered online survey (CAWI) technique registered with a research panel provided by Research Collective Company. An individual link to the electronic survey form was sent with the survey invitation. Each respondent was double-checked for consistency in their answers to the questions about demographic information.

The survey questionnaire contained questions regarding patient's evaluations of various aspects of their relationships with health care professional, as well as questions about certain aspects of their own lives, and the impact of the COVID-19 pandemic on their evaluations. The respondents provided answers to close-ended questions, mainly on nominal or ordinal scales. The questionnaire consisted of 296 variables. However, only a small part was used in this study. The average time of completion was 28.8 min, and the median value reached 23.9 min. Both were calculated considering only fully completed questionnaires.

For the purpose of this study, a group of n = 941 (no missing data for key variables) participants was selected. The inclusion criteria were ≤60 years of age and in a monogamous relationship for at least two months. The group under evaluation was gender-balanced (45.6% male, 54.4% female). The age of the respondents ranged from 18–60 years. The sample was regionally diverse, covering all major administrative units in Poland (regions), and the percentage of urban and rural residents was 53.8% or 46.2%, corresponding to data from the Demographic Yearbook [31]. In the selected group, 69.4% of the respondents reported living in a formal relationship and 30.6% in an informal one. In addition, 94.4% declared being in a relationship for more than a year and the remaining 5.6% for less than a year. The median duration of the relationship was 12 years. A total of three data sets were used for the statistical analyses: the whole dataset (n = 941); and two subsets of the whole dataset obtained by a random permutation of the respondents' order, which was then split into two halves (the first used for EFA, n = 471, the second used for CFA, n = 470). The descriptive statistics of the three datasets are presented in Table 1 and show that the characteristics of the three data sets are very similar.

Table 1. Sample characteristics (all data presented as percentages). The two smaller datasets were created from the whole set of data by a random permutation of the respondents' order and then dividing the permuted dataset into two halves.

Variable	Categories	Total	EFA Sample	CFA Sample
		n= 941	n = 471	n = 470
Sex	Men	45.6	46.1	45.1
	Women	54.4	53.9	54.9
Age	18–29 yrs	16.2	17.6	14.7
	30–39 yrs	32.6	31.4	33.8
	40–49 yrs	27.1	26.3	27.9
	50–60	24.1	24.6	23.6
Education	Primary and vocational	31.0	32.5	29.6
	Secondary	32.5	30.4	34.7
	Higher	36.5	37.2	35.7
Place of living	Large cities	25,4	22.9	27.8
	Small towns	28.4	29.3	27.5
	Rural areas	46.2	47.8	44.7
Relationship type	Formal	69.4	69.0	69.8
	Informal	30.6	31.0	30.2

Relationship length	Less than a year	5.6	6.4	4.9
	Longer than a year	94.4	93.6	95.1
Having children	Yes	77.8	76.4	79.1
	No	22.2	23.6	20.1

EFA—exploratory factor analysis; CFA—confirmatory factor analysis.

2.2. Tools

The SLS-12 scale was developed by the project team based on theories of love. An earlier self-report study analyzed a set of 19 statements, six of which were categorized in the national report as a consistent scale for assessing romantic relationship quality. After analyzing past research results and reviewing the literature, it was decided to expand the measurement scale. Each item is presented on a five-point Likert scale, where 5 is very much fits the description of my relationship, while 1 is not at all fits the description of my relationship. The maximum score = 60 and the minimum score = 12. The overall index takes a range of 12–60. For both the overall index and the subscales, high scores indicate a stronger relationship.

A question about intention to reconnect with the same person was included in the analyses, which helped us to categorize the overall SLS-12 index and to distinguish the critical point on this scale, below which we can talk about a crisis in the relationship. In the analyzed group of 941 respondents, 72 people (7.7%) refused to answer this question. In the remaining group of 869 respondents, the majority would definitely like to be (54.1%) or would like to be (30.1%) in a relationship with the same person. The percentage of negative evaluations was 15.8% (11.2% rather not and 4.6% definitely not).

The Experiences in Close Relationships-Revised Scale (ECR-RS) was used as a validation tool. It is a 9-item self-report instrument designed to assess attachment patterns in various close relationships. The test–retest reliability (over 30 days) of the individual scales are approximately 0.65 for the domain of romantic relationships (including individuals who experienced breakups during the 30-day period) and 0.80 in the parental domain. The items of the ECR-RS are as follows: It helps to turn to people in times of need; I usually discuss my problems and concerns with others; I talk things over with people; I find it easy to depend on others; I don't feel comfortable opening up to others; I prefer not to show others how I feel deep down; I often worry that other people do not really care for me; I'm afraid that other people may abandon me; I worry that others won't care about me as much as I care about them [32].

For the purposes of this study, the author's consent was obtained and the Polish translation by M. Marszal was used. The Polish translation was provided by the tool's author at the request of the research team. The scale is a self-referential tool and consists of two dimensions—anxiety and avoidance. The same nine items are used to assess attachment styles in relation to four targets (i.e., mother, father, romantic partner, and best friend). However, for the purposes of our study, the assessment was measured only in relation to the romantic partner.

2.3. Ethical Consideration

The questionnaire could have been left with incomplete answers at any time, without giving any reason and without any consequences. The respondents proceeded to fill out the questionnaire voluntarily, having full information about what participating in the research meant to them. At the same time, consent to participate in the survey was given by choosing yes or no answers on the computer screen, due to the online nature of the survey. The procedure and tools used in this research project were approved by the Research Ethics Committee at the Faculty of Pedagogy, University of Warsaw No. 2021/8.

2.4. Statistical Analyses

The statistical analysis included a thorough assessment of the reliability and validity of the SLS-12 and the distribution of responses in the overall index and three sub-indexes. An attempt was also made to determine the cutoff point for identifying stronger and weaker relationships.

Frequency distributions for the items and summary measures were described using measures of average and dispersion values and the frequency of outliers. An item is considered to exhibit a floor or ceiling effect when a large percentage of respondents are at the outliers of the scale [33]. Effects of up to 15% were considered acceptable [34]. Skewness and kurtosis were estimated to confirm the normality of the data using item analysis and verified them by the multivariate normality test (n = 470) using AMOS. To estimate multivariate skewness and kurtosis Mardia's coefficient was calculated using SPSS macro [35].

The Cronbach's alpha coefficient was used to estimate the internal consistency of the data in each scale. In general, values for Cronbach's alpha above 0.70 are considered to indicate a reliable set of items. [36].

Additionally, as a measure of convergent validity correlations between subscales were counted using Spearman's rho correlation. Convergent validity is generally considered adequate if a correlation with an instrument measuring the same construct is >0.50. It is assumed that weak correlation is <0.3, moderate 0.3–0.5 and high correlation >0.5.

The main method for evaluating the structure of the SLS-12 scale was confirmatory factor analysis (CFA). The use of exploratory factor analysis (EFA) results was also planned. For the EFA and CFA analyses, the group was divided into two equal groups (n = 471 and n = 470) using random splitting of the full datafile. This allowed comparison of alternative models based on the 12 statements of the SLS-12 scale. EFA results were placed as supplementary electronic material.

An EFA was performed using the PCA (principal component analysis) as extraction method and Promax with Kaiser normalization on the 12 items with the critical factor load value below 0.4, due to theoretical basis of the original tool proving the possibility of the correlation of the factors [37]. When conducting the EFA analysis, various methods of factor extraction were adopted: eigenvalues over 1 and pre-assumed number of factors.

Then, a confirmatory factor analyses (CFA) was conducted for four models—one factor based on EFA solution, three factor theory driven and three and four factor based on exploratory factor analyses (EFA) results. To perform a CFA, the maximum likelihood estimation method together with 5000-bootstrap samples were used due to the violation of the multivariate normality assumption. Bootstrapping is a robust procedure for dealing with non-normality in multivariate data [38–40]. It was also conducted in order to generate accurate estimations of standard errors with accompanying confidence intervals (bias-corrected at the 95% confidence level) and *p*-values. Looking for the optimal solution, modification indices (MI) were used, correlating the residuals within each of the three factors if the MI was >10. The following model fit indices were reported as results: CMIN/DF, comparative fit indices (CFI), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), and root mean square error of approximation (RMSEA) were used to evaluate the model fitness. The AGFI, GFI, CFI, Tucker–Lewis's index (TLI), and normed fit index (NFI) ≥ 0.90 indicate a good and adequate fit of the model to the data [41]. In the confirmatory factor analysis, RMSEA values < 0.08 were considered significant [42,43]. For CMIN/DF, a value lower than 5 indicates a reasonable fit, although a value lower than 3 is preferable [44].

The non-parametric Mann–Whitney U test was used to examine differences in the scores of the scale and its factors analyzed by gender and the nature of the relationship.

A receiver operator characteristic (ROC) curve analysis was used to distinguish the three categories of the SLS-12 general index scale. The response to the question about the intention to reconnect with the same person was used as an external criterion for assessing the relationship with the partner. Optimal score thresholds were determined using

Youden's J-index, and calculated according to the formula sensitivity + specificity − 1. ROC curves were further evaluated with the AUC (area under curve) index. Two ROC curves assessed the ability of the SLS-12 scale to diagnose moderately good and very good relationships.

Statistical Package for the Social Sciences (SPSS) 27.0 and Amos 26.0 (IBM, Armonk, NY, USA) were used for data analysis.

3. Results

3.1. Descriptive Statistics

Table 2 shows the basic descriptive statistics for the analyzed items and the floor and ceiling effects. It can be observed that the distribution of the analyzed items is significantly different from the normal distribution. All the items show a left skewness with a maximum absolute value of 1.349. The kurtosis coefficients range from −0.230 to 1.823. The analysis of the floor and ceiling effects shows a low proportion of extremely negative responses and a very high proportion of extremely positive responses. The proportion of extremely positive responses ranged from 30.3% to 53.9% and was highest in items 5, 6, 8, and 9. The proportion of extremely negative responses ranged from 1.5% to 6.4% and was lowest in items 9, 5, and 11. Mardia's coefficient yielded a value of 293.776 for multivariate kurtosis and a value of 32.913 for multivariate skewness, both with $p < 0.01$, indicating non-normality.

Table 2. Descriptive statistics, floor and ceiling effects for individual items (N = 941).

	M	**SD**	**Skewness**	**Kurtosis**	**Floor Effect (%)**	**Ceilling Effect (%)**
Item 1	3.93	1.118	−0.879	0.003	4.0	39.7
Item 2	3.79	1.165	−0.815	−0.072	6.4	33.9
Item 3	3.70	1.157	−0.681	−0.230	6.4	30.3
Item 4	3.95	1.068	−0.828	−0.019	2.9	38.9
Item 5	4.32	0.899	−1.349	1.823	1.6	53.9
Item 6	4.20	0.934	−1.145	1.018	1.7	47.7
Item 7	4.11	0.994	−1.026	0.556	2.1	44.3
Item 8	4.20	0.958	−1.180	1.026	1.9	48.5
Item 9	4.21	0.919	−1.127	0.959	1.4	47.2
Item 10	4.11	0.911	−0.993	0.883	1.6	39.5
Item 11	4.04	0.958	−0.854	0.268	1.5	38.5
Item 12	4.11	0.930	−1.002	0.832	1.8	40.8

M—mean, SD—standard deviation.

3.2. Exploratory and Confirmatory Factor Analysis

One-factor EFA model was based on criterion eigenvalues over 1 as suggested solution (Table S1). Table S3 presented four-factor model pre-assumed in EFA. Finally, using EFA it was reached a 12-item and 3-factor version (Table S2). For this final solution, the first factor explains 70.59% of the variance, while the cumulative variance values explained, respectively, by the second and third factors are 77.20% and 80.52%

Confirmatory factor analyses were employed to investigate to what extent the four different models fit the data. The 1-factor model assumes that all items of the general version load on one single factor (Figure S1). The theory driven model assumes three correlated factors: passion, intimacy and commitment (Figure 1). The three-factor SLS-12 model was based on EFA results (Figure 2), and also the four-factor SLS-12 model was based on EFA results (Figure S2). Table 3 shows the fit indices of the four models. The 1-factor model does not fit so well, but the other models fit well to the data well. Figure 1 shows the theory driven model. After analyzing the fit quality of this model, the CMIN/DF value

was shown to be 3.142/46. The absolute fit and incremental fit parameters of the model indicated insufficient goodness of fit, as the values were all >0.90 (CFI = 0.981, TLI = 0.973, NFI = 0.973, RFI = 0.961, incremental fit index (IFI) = 0.981, GFI = 0.953, AGFI = 0.921). The RMSEA and RMR values were 0.068 (90%CI 0.055–0.080) and 0.019.

Table 3. Confirmatory factor analysis of the SLS-12 scale (N = 470).

One-Factor SLS-12 Model (Based on EFA Solution)									
CMIN/DF	RMR	GFI	AGFI	CFI	NFI	RFI	IFI	TLI	RMSEA
4.671/49	0.034	0.924	0.879	0.966	0.957	0.942	0.966	0.954	0.088
Theory driven SLS-12 model									
CMIN/DF	RMR	GFI	AGFI	CFI	NFI	RFI	IFI	TLI	RMSEA
3.142/46	0.019	0.953	0.921	0.981	0.973	0.961	0.981	0.973	0.068
Three-factor SLS-12 model (based on EFA solution)									
CMIN/DF	RMR	GFI	AGFI	CFI	NFI	RFI	IFI	TLI	RMSEA
3.123/47	0.018	0.952	0.921	0.981	0.972	0.961	0.981	0.973	0.067
Four-Factor SLS-12 model (based on EFA solution)									
CMIN/DF	RMR	GFI	AGFI	CFI	NFI	RFI	IFI	TLI	RMSEA
4.026/48	0.020	0.936	0.896	0.972	0.963	0.950	0.972	0.962	0.080

Due to the fact that factors were highly correlated with each other in theory driven SLS-12 model, the authors assumed a three and four factor model based on EFA results. In a three-factor confirmatory model CMIN/DF value was shown to be 3.123/47, indicating an acceptable result. The absolute fit and incremental fit parameters of the model indicated a good fit, as the values were all >0.90 (CFI = 0.981, TLI = 0.981, NFI = 0.972, RFI = 0.961, incremental fit index (IFI) = 0.981, GFI = 0.952, AGFI = 0.921). The RMSEA and RMR values were 0.067 (90%CI 0.055–0.080) and 0.018 (Table 3).

For the three-factor SLS-12 model, which shows the best fit, the values of the standardized regression coefficients ranged from 0.80 to 0.90. Thus, all the factor loadings were above 0.50 and significant ($p < 0.01$). (Table 4). The covariance between factor 1 and 2 was 0.87, $p < 0.01$; between factor 1 and 3 0.77, $p < 0.01$; and between factor 2 and 3 0.92, $p < 0.01$ (Figure 2). All models (except one-factor) demonstrate satisfactory fit models, nevertheless the three-factor model (Figure 2) shows the best fit indices. The theory driven model exhibited a high standardized coefficient between the commitment and intimacy factors (Figure S1). Second-order models found to be no improved due to the high standardized coefficient between factors. For theory driven SLS-12 model the results was CMIN/DF = 3.142/46, RMSEA = 0.068 and CMIN/DF = 3.123/47, RMSEA = 0.067 for three-factor SLS-12 model.

Table 4. Standardized regression weights for the three-factor SLS-12 model (95%CI).

			Estimate	Lower	Upper	*p*-Value
Item 1	←	Factor 2	0.843	0.796	0.883	0.000
Item 2	←	Factor 1	0.856	0.803	0.900	0.001
Item 3	←	Factor 1	0.870	0.825	0.906	0.001
Item 4	←	Factor 2	0.848	0.800	0.885	0.001
Item 5	←	Factor 3	0.802	0.749	0.847	0.001
Item 6	←	Factor 3	0.856	0.804	0.839	0.001
Item 7	←	Factor 3	0.909	0.883	0.930	0.001
Item 8	←	Factor 3	0.873	0.836	0.902	0.001
Item 9	←	Factor 3	0.846	0.797	0.883	0.001
Item 10	←	Factor 3	0.827	0.772	0.868	0.001
Item 11	←	Factor 3	0.847	0.806	0.880	0.001

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Item 12	←	Factor 3	0.829	0.774	0.870	0.001

The SLS-12 scale consists of 12 items (Appendix A) with three subscales: 2 items, 2 items and 8 items. Four items were taken from the scales applied in the previous quantitative studies, while the remaining ones were developed through a team discussion for the purpose of the present study. Factor 1 relates directly to sex life, factor 2 speaks of longing and affectionate gestures, while factor 3 focuses on mutual respect, support, the capacity to resolve disagreements and a sense of security in a relationship.
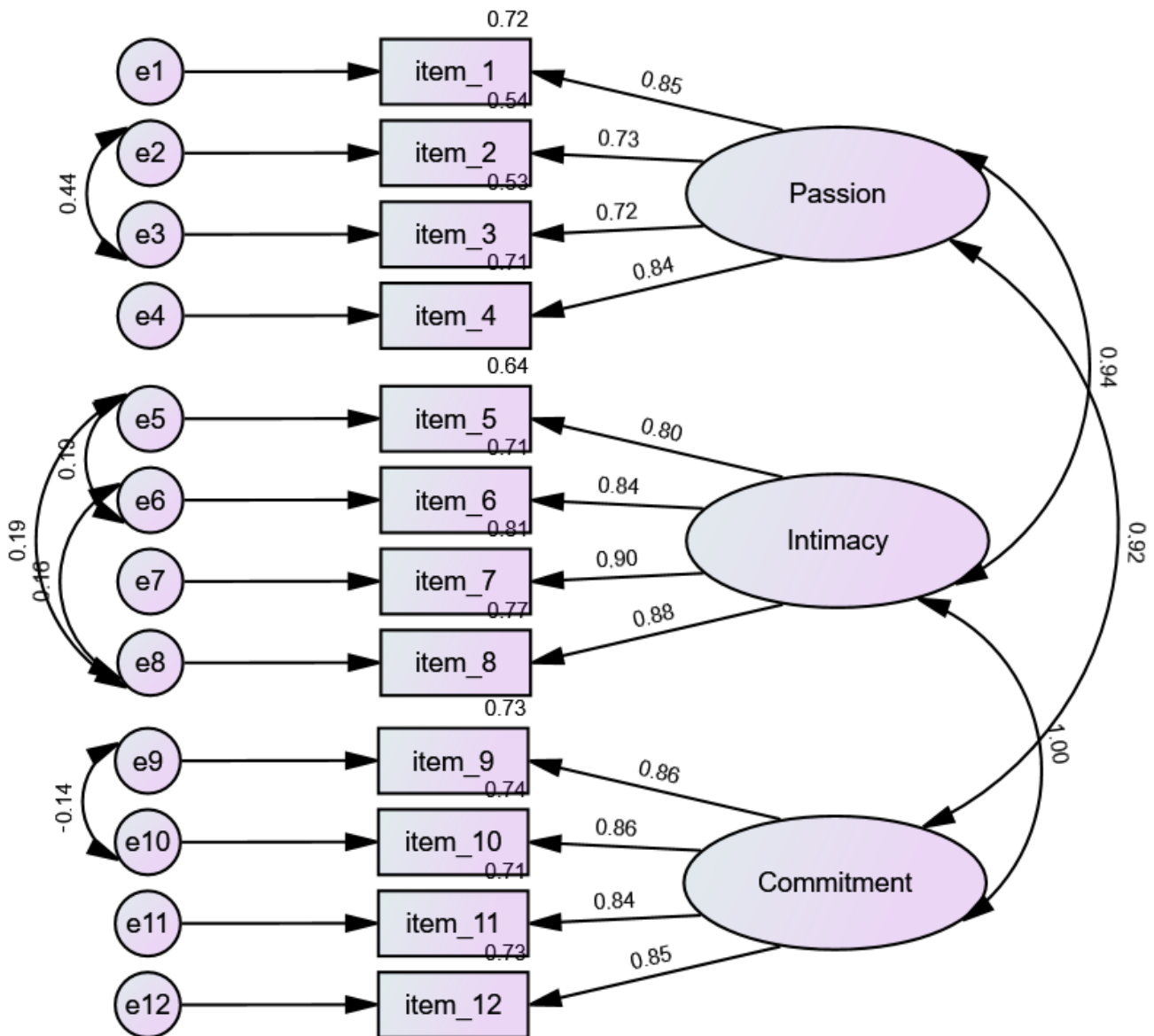

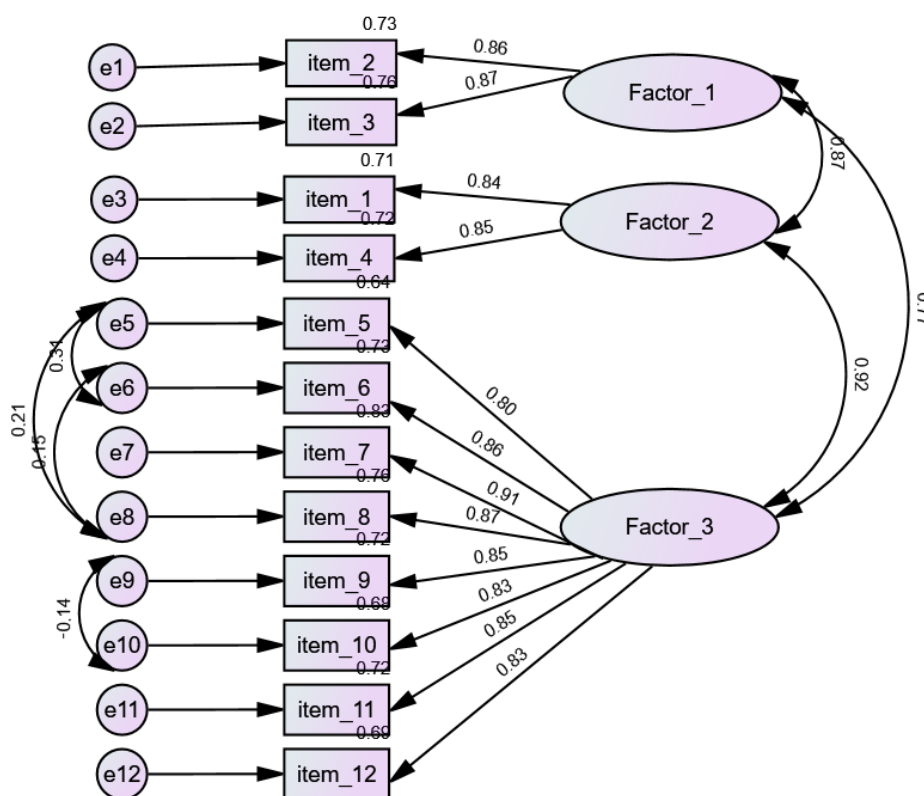**Figure 1.** Theory driven SLS-12 model (*n* = 470).

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Figure 2. Three-factor SLS-12 model based on EFA solution (*n* = 470). Factor 1—sexual life; Factor 2—closeness; Factor 3—commitment.

3.3. Reliability and Validity

Descriptive statistics for the three-factors of the SLS-12 scale are presented in Table 5. Internal consistency values indicate good reliability for all three factors (Cronbach's alpha = 0.849 for factor 1, Cronbach's alpha = 0.826 for factor 2, and Cronbach's alpha = 0.957 for factor 3). The total Cronbach's α of the scale was 0.959, indicating good internal consistency of the entire scale. Moreover, the total Cronbach's α of the ECR-RS was 0.876, indicating good internal consistency.

Table 5. Descriptive statistics of the three factors of the SLS-12 (N = 941).

	Factor 1	**Factor 2**	**Factor 3**	**SLS-Total**
M (SD)	7.50 (2.16)	7.88 (2.02)	33.31 (6.58)	48.69 (10.01)
Skewness	−0.767	−0.826	−1.040	−0.939
Kurtosis	0.003	0.080	0.867	0.601
Range	8.00	8.00	32.00	48.00
Cronbach's alpha	0.849	0.826	0.957	0.959

M—mean, SD—standard deviation.

All subscales of SLS-12 and ECR-RS correlated at moderate to strong levels (Table 6). A moderate negative correlation (r = −0.535; *p* <0.01) was observed between factor 1 and avoidance. There was a strong correlation between factor 2 and avoidance (r = −0.642; *p* <0.01), factor 3 and avoidance (r = −0.721; *p* <0.01), factor 3 and anxiety (r = −0.561; *p* <0.01). A moderate correlation was observed between factor 1 and anxiety (r = −0.364; *p* <0.01) and factor 2 and anxiety (r = −0.406; *p* <0.01). The SLS-12 total scores showed a very strong negative correlation with the ECR-RS total scores (r = −0.713; *p* <0.01).

The results of these two scales are correlated with each other, the negative correlation is related to the fact that high ECR-RS scores indicate a negative assessment of attachment

in a close relationship. Considering the aforementioned results, this assessment can be said to have high convergent validity.

Table 6. Correlations between SLS-12 subscales and ECR-RS subscales (N = 941).

Spearman's rho	Factor 1	Factor 2	Factor 3	SLS-Total
ECR-RS_avoidance	−0.535 **	−0.642 **	−0.721 **	−0.713 **
ECR-RS anxiety	−0.364 **	−0.406 **	−0.561 **	−0.524 **
ECR_RS-total	−0.521 **	−0.610 **	−0.737 **	−0.713 **

** $p < 0.01$.

3.4. SLS-12 Distribution by Gender and Relationship Status

When considering the construct of love, statistically significant differences were observed in the scores for gender differences and the nature of the relationship. A Mann–Whitney U test was calculated to determine if there were any significant differences in responses to individual items and between subscales among men and women, and those in formal and informal relationships. Statistically significant differences were found between women (N = 512) and men (n = 429) for items 6 (M_{Men} = 4.29, M_{Women} = 4.12, Z = −2.307, p = 0.021), 7 (M_{Men} = 4.11; M_{Women} = 4.22; Z = −2.431; p = 0.015), 8 (M_{Men} = 4.20; M_{Women} = 4.30; Z = −2.705; p = 0.007), 11 (M_{Men} = 4.04; M_{Women} = 4.13; Z = −2.013; p = 0.044). Men scored higher for all items. Gender differences were also significant for the Factor 3 (M_{Men} = 33.96; M_{Women} = 132.76; Z = −2.106; p = 0.035).

Formal (N = 653) and informal (N = 228) relationships showed differences for items 1 (M_{Formal} = 3.85; $M_{Informal}$ = 4.12; Z = −4.119; p <0.001), 3 (M_{Formal} = 3.64; $M_{Informal}$ = 3.85; Z = −3.105, p = 0.002), 4 (M_{Formal} = 3.89; $M_{Informal}$ = 4.09; Z = −2.959, p = 0.003), 5 (M_{Formal} = 4.25; $M_{Informal}$ = 4.44; Z = −3.401; p <0.001). Differences in formal and informal relationships proved to be significant for the Factor 1 (M_{Formal} = 7.41; $M_{Informal}$ = 7.72; Z = −2.508; p = 0.012) and Factor 2 (M_{Formal} = 7.74; $M_{Informal}$ = 8.21; Z = −3.705; p = 0.001). Statistically higher scores were achieved by people in informal relationships for all items.

3.5. ROC Curves

Figure 3 illustrates the two ROC curves facilitating the classification of the overall SLS-12 index. Adopting the criterion of intention to reconnect with the same person (yes or definitely yes) yielded very good curve properties (AUC = 0.914) and an optimal split point corresponding to a score of 45. Assuming the more stringent external criterion of definitely confirming the intention to reconnect with the same person yielded slightly worse but satisfactory curve properties (AUC = 0.858) and a split point corresponding to a score of 52 points. Thus, it can be conventionally assumed that the scores on the SLS-12 general scale ranging from 12 to 44 indicate a poor-quality relationship, sores ranging from 45 to 52 a moderately good relationship, and scores of 53 to 60 a very good relationship. In the sample of 941 people, 28.1%, 29.4%, and 42.5% of the respondents were in each group, respectively.
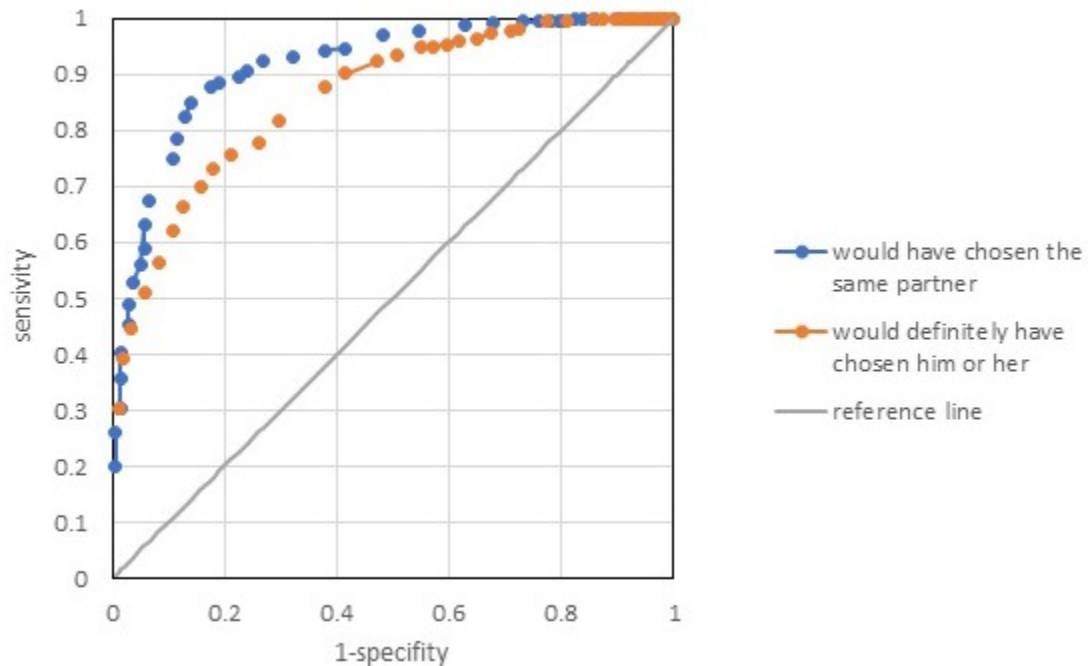
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Figure 3. The receiving operating characteristics curve (ROC) of SLS-12 as a marker of good and very good relationships.

4. Discussion

Assessing the quality of romantic relationships with the SLS-12 may be an important step towards better measuring the self-referential relationship an individual is currently in. Intimate relationships become increasingly important as individuals move from dating during adolescence, to cohabiting as they enter adulthood, and finally marriage in adulthood [45]. Furthermore, there is ample evidence that higher marital quality has been associated with better health, including lower mortality risk and lower cardiovascular reactivity during marital conflict [46]. Additionally, the results of the study indicate a significant variation in adolescents' experiences of romantic relationships and point to the developmental importance of these experiences for short- and long-term well-being [47].

The SLS-12 is a 12-item scale that can be used in both individual and group studies of people in formal or informal relationships. Such a short and easy to use tool is particularly important in projects involving multithreaded questionnaires that require a short completion time. However, given that short scales are usually developed for research and group statistics rather than for diagnostic purposes at the individual level [48], the authors recommend that this type of scale be used in population-based research. The overall score is the sum of the indices from the three dimensions, which can also determine a person's "love profile."

Overall, the results of this study indicate that the SLS-12 is a highly reliable instrument with good convergent validity and adequate construct validity. Construct validity was demonstrated by statistically significant moderate, strong, and very strong negative correlation values between the three subscales of the SLS-12, and the two subscales of the ECR-RS.

The results indicate that the distribution of individual scale scores corresponding to the factors of the SLS-12 scale differed by gender and relationship type. In Factor 3, related to mutual respect and support, men had statistically higher scores, while in Factors 1 and 2, focusing on sex life, mutual longing and showing affection, scores were statistically higher in those in informal relationships. It is noteworthy that initial high levels of passion often end in habituation [12]. Acker and Davis [49] found that passion declines over time

in long-term relationships. In the future, the SLS-12 scale may be correlated with broader assessments of sex life.

The strength of this study is that it attempts to categorize the overall SLS-12 index using an external criterion. However, it is worth recalling, in the context of the ROC analysis, that 7.7% of the subjects did not want to answer the question regarding their intention to be involved with a romantic partner, which may indicate problems in their relationship. A disadvantage of the SLS-12 scale is left-skewed distribution with a clear dominance of positive ratings. This is due to the peculiarity of the phenomenon studied, i.e., the common good evaluation of the relationship with a partner. However, future research with SLS-12 should pay more attention to those who evaluate their relationships less positively, which was the case in every sixth respondent in our study.

It should also be noted that in Izdebski's [30] study of the relationship rating in the current relationship and the response to the question on divorce intentions, among those who are considering divorce, the relationship rating drops to 24.5 points, compared to 32.4 for those not thinking about divorce. With very positive responses to questions about, among other things, mutual understanding, being happy with each other, showing tenderness, being tense, and sexual attraction, thoughts of divorce among respondents hardly appeared.

In this and in earlier works [18,50,51], correlations between subscales were highly significant. One possible reason is simply that dimensions of love tend to occur together in most, though certainly not all, relationships based on love. In the early stages of a successful relationship especially, people may idealize their partners [52]. Romantic idealization, in its most global sense, is "the tendency to describe the relationship [and the partner] in unrealistically positive terms" [53] p. 7. Accordingly, subjects may significantly agree with the (positive) statements in love scales. Moreover, to avoid cognitive dissonance [54], people want to affirm that they have chosen their partner appropriately, so they tend to indicate somewhat positive responses. These two factors may further explain the high ceiling effect in all the analyzed items.

Specifically, studies have shown that friendship and romantic relationships are characterized by a multidimensional nature that implies the presence of similar both positive (intimacy, support, aid, appreciation and admiration, specialness, nurturance and affection, togetherness or reliable alliance, exhilaration and companion- ship) and negative aspects (painfulness, conflict and negative interactions) [55]. The multidimensionality of the love construct can be measured in sub-scales, but the authors also allow it to be measured as a single factor. As the three SLS-12 short form subscales each had acceptable internal consistency and were highly correlated with each other (Figure 2). Despite the fact that there is no sufficient fit in one-factor model, it is possible to use the summary result based on EFA results.

The proposed three-factor model based on EFA results is not in opposition to the original Sternberg model. However, the high standardized coefficient between factors encouraged us to search for other solutions. The proposed optimal model integrates intimacy and commitment, correlated at 1.00 on theory driven model (Figure S1). When questions directly related to sex life (not previously included) were added to the passion dimension, it proved better to make it a separate factor. The third factor that emerged expresses other aspects of love.

In order to vary the possibility of bias, participants were not informed in advance about the nature of the triangular or any other theory, and the overarching goal of the survey was to study the humanization of medicine, not the quality of relationships. In addition, to reduce the total survey error, an online format was used which eliminated the presence of the interviewer. The respondents were assured that their answers would not be linked to them and were not asked to disclose any sensitive information directly to the interviewer.

In the future, it may be advisable to consider behavioral or even psychophysiological measures that correspond to the aspects of love and relationship quality.

Limitations and Future Research Directions

In assessing the strengths and weaknesses of the SLS-12 scale validation conducted, it is important to note that data were obtained via the Internet from a group of individuals enrolled in a research panel. Thus, participants had to have knowledge of computer use and Internet access. This may have eliminated some respondents who were not accustomed to working online. However, as in other validation studies of this type of scales, the oldest respondents (here aged over 60) were not included, which in itself may have led to overrepresentation of those with digital competence.

The cross-sectional nature of the data did not allow us to assess other psychometric properties, such as predictive validity and test–retest reliability, and limited our ability to infer causal relationships. Moreover, the future research should focus on measurement invariance.

Further research is needed to compare the results obtained in the present study with more demographically diverse samples. This study was conducted among participants who had mostly been in relationships for more than one year, and the group of younger participants, under the age of 30, formed a minority. Additional analyses should focus on other subgroups, such as younger couples or those in short-term relationships, as well as attempting to evaluate the relationships of older people with very long ones. The scale can be used for further research, where one can consider expanding the two-item factors with more items.

Moreover, the authors realize that they are not citing a significant amount of works from recent years. This is because we lack current and validated tools that would measure love and relationship quality, while the theoretical foundations created years ago are still valid.

It is also worth noting that this study was conducted as part of a larger project concerning the humanization of medicine. This analysis was conducted on a group of people who had undergone medical treatment or diagnostic tests in the last two years. It can be assumed that the majority of the population has had contact with medical care during such a period, although the COVID-19 pandemic did tend to limit contact with health care units. The context of the pandemic may impact the way we infer about relationship problems, although it should have no relevance in the psychometric evaluation of the scale. The COVID-19 pandemic may have brought additional stress to relationships, altering lifestyles as well as work and family functioning. There were small moderation effects of relationship coping and conflict during the pandemic, one study found that satisfaction increased and maladaptive attributions decreased in couples with more positive functioning, and satisfaction decreased and maladaptive attributions increased in couples with lower functioning [56]. Individuals not living together had limited contact opportunities, as physical contact compounded the risk of infection, and social distancing measures and confinement to the home were recommended to prevent the spread of the SARS-CoV-2 virus. These necessary changes placed great pressure on individuals, leading to the widespread deterioration in community mental health highlighted in many publications [57–59]. The tool presented in this paper for examining close romantic relationships that was used in research during the COVID-19 pandemic allows for a holistic and interdisciplinary view of relationships. This topic remains highly relevant from a public health perspective and requires further investigation in the context of relationships as a protective factor among patients and others.

The aforementioned pandemic-related factors were also likely to have impact on the results of our study. Notwithstanding these limitations, it can be argued that the SLS-12 has been shown to be a promising scale for measuring different patterns of love in formal and informal relationships. Having a good tool and data from the pandemic period provides an ideal starting point for comparisons with the post-pandemic period.

5. Conclusions

In conclusion, our results contribute to empirical research on the measurement of love in romantic relationships by introducing a short and psychometrically validated scale. We obtained a theoretically grounded and psychometrically robust measure of love. Importantly, the SLS-12 contains only items with high content relevance, it has been proven to have good psychometric properties, and its conciseness satisfies the need for adequate measures of love measurement suitable for time-limited research, including large-scale studies. Improving and expanding the range of measures of love available to researchers remains an important task to support the progress of this field of research. The material collected in the project on humanization of medicine provides opportunities for further analyses of the socio-demographic determinants of overall and sub-scores on the SLS-12 scale, as well as on the protective effect of a quality relationship in the face of illness or in relation to the health and psychological effects of the COVID-19 pandemic. The scale can be implemented in subsequent research projects conducted in different population groups and countries.

Supplementary Materials: The following supporting information can be downloaded at: www.mdpi.com/article/10.3390/ijerph192013269/s1, Figure S1. One-factor SLS-12 model based on EFA solution (*n* = 470); Figure S2. Four-factor SLS-12 model based on EFA solution (*n* = 470); Table S1. Exploratory factor analysis (EFA) of the Short Love Scale (SLS-12; *n* = 471); Table S2. Exploratory factor analysis (EFA) of the Short Love Scale (SLS-12; *n* = 471); Table S3. Exploratory factor analysis (EFA) of the Short Love Scale (SLS-12; *n* = 471).

Appendix A

Table A1. W jakim stopniu poniższe stwierdzenia odnoszą się do Pana/Pani stałego związku? (To what extent do the following statements refer to your romantic relationship?).

SLS-12
Factor 1
Item 2   Życie seksualne z moim/moją partnerem/ką jest dla mnie satysfakcjonujące.
I have a satisfying sexual life with my partner.
Item 3   W moim związku przedstawiamy sobie wzajemnie oczekiwania dotyczące życia seksualnego.
In my relationship, we talk about our individual sex life expectations.
Factor 2
Item 1   Okazujemy sobie czułość, przytulamy się, całujemy

		We show affection to each other through hugs and kisses.
Item 4	Bardzo tęsknimy za sobą, gdy któreś z nas nawet na krótko wyjeżdża.	
	We miss each other a lot even when one of us leaves only for a little time.	
Factor 3		
Item 5	Lubimy się.	
	We like each other.	
Item 6	Szanujemy się.	
	We respect each other.	
Item 7	Wspieramy się/wspieramy się emocjonalnie	
	We support each other/support each other emotionally.	
Item 8	Możemy liczyć na siebie.	
	We can rely on each other.	
Item 9	Czujemy się za siebie odpowiedzialni.	
	We feel responsible for each other.	
Item 10	Utrzymujemy dobre relacje nawet mimo występujących problemów.	
	We are maintaining good relations even in spite of the problems that occur.	
Item 11	Staramy się rozwiązywać nieporozumienia występujące między nami.	
	We try to solve disagreements that occur between us.	
Item 12	Dostosowujemy swoje działania dla wspólnego dobra.	
	We are adjusting our actions for the common good.	

W ogóle nie pasuje do opisu mojego związku (Does not fit the description of my relationship at all); Prawie wcale nie pasuje do opisu mojego związki (Hardly fits the description of my relationship); Częściowo pasuje, częściowo nie (Partially fits, partially does not); Dobrze pasuje do opisu mojego związku (Fits well with the description of my relationship); Bardzo dobrze pasuje do opisu mojego związku (Fits very well with the description of my relationship).

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Article

Pandemic-Related Stress and Other Emotional Difficulties in a Sample of Men and Women Living in Romantic Relationships during the COVID-19 Pandemic

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Abstract: This study examined the extent to which relationship quality affects variability in perceived stress and other emotional difficulties associated with the pandemic. The study was conducted March 2–17 2022 using a self-administered online survey. The sample size consisted of 1405 individuals who were in a romantic relationship. The scales used in the study included the PSS-4, ECR-RS, SLS-12 and the standardized Pandemic-ED scale (RMSEA = 0.032). Increased stress levels (U = −5.741), pandemic-related emotional difficulties (U = −8.720), worse romantic relationship quality (U = −2.564) and more frequent anxiety-related attachment (U = −3.371) were characteristic of women. A hierarchical regression model for stress showed that age (b = −0.143), financial situation (b = 0.024), the ECR-RS scores (b = 0.219) and pandemic-related emotional difficulties (b = 0.358) proved to be statistically significant predictors of stress. The hierarchical regression model for pandemic-related emotional difficulties indicated five predictors: gender (b = 0.166), education (b = 0.071), financial situation (b = 0.203), scores on the ECR-RS scale (b = 0.048) and stress (b = 0.367). The SEM model used has satisfactory fit indices (RMSEA = 0.051), romantic relationship quality scores and attachment styles interact with the variability of perceived pandemic-related stress and burdens. The determined model offers conclusions relevant to clinicians working with individuals and couples during periods of intense stress.

Keywords: stress; relationships; love; COVID-19; women; men; gender inequalities; SEM models; indirect effects

1. Introduction

In response to the COVID-19 pandemic outbreak caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the Polish government quickly introduced a lockdown, imposing restrictions and prohibitions in the interest of public health. People who at that time were not living together were strictly forbidden from seeing each other and physical contact became very dangerous. However, social distancing and mandatory home confinement were necessary to prevent infection. The global changes unleashed by the pandemic due to the spreading of the virus were inevitable, yet they had untold pressure on individuals and led to a common deterioration of public mental health [1–3].

Increased pandemic-related stress, life changes, social isolation and negative relationship quality were undoubtedly associated with worse mental well-being. Poorer social ties exacerbated the effects of the COVID-19 pandemic on people's psychological well-being [4–6], triggering primary stressors, fear of infection and the related consequences on their own health and the health of their families, and secondary stressors, fear of social isolation, employment concerns and financial insecurity and the fear of a lack of

resources [7]. Moreover, the impact of these stress factors on health and well-being was lower in individuals with high levels of self-control, self-esteem and/or social support [8,9]. Due to the burdens that the pandemic caused, positive coping strategies such as seeking social support, compassion, engaging in physical exercise, cognitive acceptance, avoidance of dreadful thoughts or positive thinking may have been helpful for many individuals [10–13]. One study showed that, during the COVID-19 pandemic, Polish students coped with stress mostly using the coping strategies of acceptance, planning and seeking emotional support [14]. Another study among Polish students also showed that the most commonly used coping strategies for stress during the second wave of the pandemic were acceptance, doing something else, active coping and physical activity [15].

Studies carried out before the pandemic showed that an excessive focus on social risks changes psychological processes that affect physiological functioning, impair sleep quality and increase morbidity and mortality [16–18]. Additionally, individuals with a lower quality relationship reported worse psychological well-being and a negative relationship quality is more strongly associated with poorer psychological well-being than a positive relationship quality [19,20].

Love is a universal emotion experienced by many people. Historical evidence suggests that people have experienced and have been fascinated by love across various historical eras and cultures worldwide. However, cultural conditions affect the way people feel, think and behave in a romantic relationship; so love is universal, but is also culturally specific [21]. In addition, the concept of love can mean different things in various types of relationships (e.g., friends, children and romantic relationships) and researchers have worked to create models that can distinguish between different experiences of love [22]. A romantic relationship is defined as a mutual, sustained and consensual interaction between two partners that is characterized by specific expressions of attachment and intimacy [23]. The need to belong and cultivate meaningful, positive interpersonal relationships is a basic human motivation and the satisfaction obtained from romantic relationships cannot be achieved through non-romantic relationships [24]. Moreover, how people interpret love plays an important role in predicting how satisfied they are in their relationship and, ultimately, whether it will survive [25].

During the COVID-19 pandemic, compared to single people, individuals living in a happy relationship reported better mental health than those with low relationship satisfaction and in a relationship with low commitment [26]. Here, it should be noted that romantic relationships and experiences are an important source of emotional bonding and contribute to the development of a positive self-concept and greater social integration [27,28]. Individuals in happy relationships showed greater subjective well-being than those in unhappy relationships, regardless of the relationship status [29]. Decades of research have demonstrated that people in romantic relationships are happier and enjoy better mental and physical health than unpartnered individuals [30–32]. Although the broad range of factors mentioned in the studies makes it difficult to establish what direct impact romantic relationships have on well-being, there is **a** general agreement in the literature that love is one of the aspects most strongly associated with personal happiness [33,34].

Moreover, the negative effects of COVID-19 compounded with the unintended consequences resulting from public health policies forced women to face problems ranging from COVID-19 infections and death, to long-term unemployment, to increased domestic violence not previously seen [35]. Undoubtedly, the COVID-19 pandemic is associated with significant health, racial and gender inequalities [36]. It is worth noting that frontline workers during the COVID-19 pandemic largely included women, who, more often than men, have caring responsibilities, which results from the horizontal and vertical segregation of the labor market and the fact that women tend to hold lower-paid jobs and are often associated with the social function of 'care' [37].

Although the severity and mortality associated with COVID-19 infection is twice as high in men than in women [38], women, compared to men, reported greater stress and

anxiety at the beginning of the lockdown [39–41]. Household responsibilities increased for many individuals during the pandemic and gender inequalities were most vivid among those with children [42]. Women, particularly women in committed relationships with men, were expected to reduce their work time to take up care responsibilities, while, men were expected to do so in a lower extent, especially those living in committed relationships with women. It comes as no surprise then that women reported higher levels of stress and anxiety, as the pandemic increased both the burden of roles and expectations of women, and reduced, at the same time, external support [43].

Importantly, gender roles not only expect you to behave in a certain manner, but they are also predetermined, discouraging women from being cold and stoic and men from showing fear or anxiety. These gender roles became evident in the early stages of the pandemic, when women reported greater anxiety, stress and mental suffering, while men reported greater physical strength, peace of mind and determination [44].

Research Question and Hypotheses

In this study the main research question was:

To what extent does the quality of the romantic relationship affect the variability of perceived stress and other emotional difficulties associated with the pandemic among men and women during the COVID-19 pandemic?

Based on the preceding literature review, we assumed the following:

H1. *Women experienced higher levels of stress and pandemic-related difficulties and rate their relationships more poorly than men.*

H2. *Negative relationship quality assessment and insecure attachment styles, relationship status, as well as socio-demographic variables affected the greater experience of stress and other pandemic-related difficulties.*

H3. *There was an indirect effect of a poor financial situation to increase stress for both men and women.*

H4. *Insecure attachment styles in relationships were associated with a higher level of stress directly and indirectly through the emotional response to the pandemic.*

In view of the knowledge available, this is the first such study in Poland that was conducted during the COVID-19 pandemic.

2. Materials and Methods

2.1. Participants and Procedure

The study was performed as part of a larger project on humanizing medicine and clinical communication from 2 to 17 March 2022. The sample size was N = 2050 and contained both adult patients and legal guardians of patients who received medical care between 2020 and 2022. Nevertheless, the sample accurately represents the population, as the use of health services over a 24-month period is highly likely. This survey used the technique of a self-administered online survey (CAWI) registered in a research panel provided by the Polish Research Collective Company. An individual link to an electronic survey form was sent with the survey invitation. Each respondent was double-checked for matching answers to questions about demographic information.

A survey instrument included questions about patients' assessments of different dimensions of their relations with healthcare workers, as well as questions about certain areas of their personal lives and the influence of the COVID-19 pandemic on their evaluations. Participants provided answers to closed-ended questions, usually on nominal or ordinal scales. The questionnaire consisted of 296 variables. Only a small part was selected in this study. The average completion time was 28.8 min and the median value achieved

was 23.9 min. Both values were calculated while taking into account only fully completed questionnaires.

Sample characteristics are shown in Table 1. To participate in the study, the respondents had to be in a formal or informal romantic relationship. A total of 1405 respondents met the inclusion criteria and were included in the sample for further investigation. The study sample is gender balanced, with 709 men and 696 women. The average age was 49.7 years (SD = 15.7). Most respondents had a university degree (39.6), followed by high school graduates (35.2%) and those with elementary and vocational education (25.2%). The sample is representative in terms of residence, with the greatest number of respondents residing in rural areas (38.2%), followed by those from small (31.2%) and big cities (30.6%). A vast majority of the respondents were in a formal relationship (marriage) (77.5%), while 22.5% were living in informal unions. The average length of the relationship was 21.9 years (SD = 15.9), and 83.6% of respondents had children. Concerning the financial situation, most respondents said their financial situation was the same (58.9%), 36.2% found it worse and 4.8% rated their situation as improved. The question the respondents were asked was "has your household financial situation deteriorated due to the COVID-19 pandemic?" and it referred to a change in the financial situation precisely during the pandemic.

Table 1. Sample characteristics: individuals in relationships (all data presented as percentages).

Variable	Categories	Total N = 1405	Male N = 709	Female N = 696
Education	Elementary and vocational	25.2	20.6	29.9
	High school	35.2	33.9	36.6
	University	39.6	45.6	34.5
Place of residence	Large cities	30.6	36.8	24.3
	Small towns	31.2	33.4	29.0
	Rural areas	38.2	29.9	46.7
Relationship status	Formal	77.5	78.7	76.3
	Informal	22.5	21.3	23.7
Children	Yes	83.6	83.2	84.1
	No	16.4	16.8	15.9
Financial situation	Worse	36.2	33.9	38.6
	Same or hard to say	58.9	60.9	56.9
	Improved	4.8	5.2	4.5

2.2. Tools

The short four-item Perceived Stress Scale (PSS-4), a standardized measure also known as Cohen's scale [45], was used as the first dependent variable. The scale is available in fourteen-, ten- and four-item versions. While the PSS-10 is highly recommended, some authors objected to the four-item version [46]. However, the latter works well in multithreaded questionnaires, as it allows for a reduction in the time needed to collect data or phone surveys. The PSS-4 comprises four questions asked from the perspective of the past month's experience. An example of such questions is: in the past month, how often have you felt difficulties were piling up so high that you could not overcome them? In total, five categories of answers were provided, i.e., from never to very often. The answers were coded from 0 to 4 for negative statements and from 4 to 0 for positive statements. The summary index ranged from 0 to 16 points, where a high score meant a significant intensity of stress.

The second dependent variable used in the study was a scale that measured emotional difficulties experienced during the COVID-19 pandemic (the pandemic emotional difficulties scale). The respondents were asked to refer to the statement "because of the

pandemic I feel…" with reference to four emotional states: frustration and/or uncertainty about the future, loneliness, anger and fear. The respondents used a five-point scale to rate their responses: never, rarely, sometimes, quite often and very often. Moreover, the respondents had the choice not to answer the questions. To test the psychometric properties, the analyses of the original pandemic emotional difficulties scale were carried out.

The Experiences in Close Relationships-Revised Scale (ECR-RS) was used as the independent variable. It is a nine-item tool for measuring attachment styles in different close relationships. The test–retest reliability of the individual scales was approximately 0.65 for the romantic relationship dimension and 0.80 for the parental dimension. Some of the ECR-RS items were: "It helps turn to people in times of need"; "I usually discuss my problems and concerns with this person"; "I talk things over with this person"; "I find it easy to depend on this person"; "I don't feel comfortable opening up to this person"; "I prefer not to show this person how I feel deep down"; "I often worry that this person do not really care for me"; "I'm afraid that this person may abandon me"; "I worry that this person won't care about me as much as I care about them" [47], s. 618. The permission of the author was received for the purposes of this study and the Polish translation by M. Marszal was used. The author of the tool provided the Polish translation at the request of the project team. The scale was a self-referential tool and included two dimensions, anxiety and avoidance. The same nine items were used to assess attachment styles in relation to four targets (i.e., mother, father, romantic partner and best friend). For the purposes of this survey, though, the assessment was measured only in relation to romantic partners.

Another independent variable used in the study was the SLS-12. Every item was presented on a five-point Likert scale, where 5 was "very much fits the description of my relationship" and 1 was "does not at all fit the description of my relationship". The maximum score was 60 and the minimum score was 12. The total index assumed a range of 12–60. For both the total index and subscales, high scores suggest a stronger relationship. The SLS-12 scale includes 12 items and three subscales of two items, two items and eight items. Factor 1 related directly to sex life, factor 2 spoke of longing and affectionate gestures, while factor 3 focused on mutual respect, support, the capacity to resolve disagreements and a sense of security in a relationship. The overall Cronbach's alpha coefficient for this scale was 0.959. Scores on the SLS-12 general scale ranging from 12 to 44 indicate a poor-quality relationship, scores ranging from 45 to 52 a moderately good relationship and scores of 53 to 60 a very good relationship [48]. Note that these two abovementioned scales were relevant for romantic relationships, yet the SLS-12 referred, to a greater extent, to a positive perception of a relationship and the ECR-RS identified attachment issues in a relationship.

The explanatory variables in the hierarchical regression and in the SEM model were the following: gender (0—men; 1—women); education (0—high school and lower; 1—university); place of residence (0—rural areas and small towns; 1—large and mid-sized cities); relationship status (0—informal; 1—formal); having children (0—no; 1—yes); and financial situation (0—other; 1—worse). Other variables were continuous or ordinal.

2.3. Statistical Analyses

As a first step, the distribution of total index values in the study sample of 1405 people was presented.

During the preliminary analysis phase, the psychometric properties of the pandemic difficulties scale were examined. The frequency distributions for the items and summary measures were described using mean and dispersion scores and the frequency of outliers. An item was considered to demonstrate a floor or ceiling effect if a large percentage of respondents were at the edges of the scale [49]. Up to 15% of effects were reported to be tolerable [50]. Skewness and kurtosis were both estimated to verify the normality of the data using item analysis and were checked with a multivariate normality test (n = 1405) using AMOS. Cronbach's alpha coefficient was used to estimate the internal consistency

of the data on the pandemic-related difficulties scale. Cronbach's alpha values above 0.70 were generally expected to provide an indication of a reliable set of items. [51].

A maximum-likelihood estimation method was used to perform CFA along with 5000 bootstrapped samples due to violations of the assumption of multivariate normality. Bootstrapping is a resistant procedure for coping with non-normality in multivariate data [52–54]. The following model fit indices were shown as outcomes: CMIN/DF, comparative fit indices (CFI), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI) and root mean square error of approximation (RMSEA) and were used to evaluate the model's fit. The values of the AGFI, the GFI, the CFI, the Tucker-Lewis index (TLI) and the normalized fit index (NFI) ≥0.90 indicated a good and adequate fit of the model to the data [55]. In confirmatory factor analysis, RMSEA values <0.08 were determined to be significant [56,57]. For CMIN/DF, a value lower than 5 indicated a reasonable fit, while a value of lower than 3 was recommended [58].

Next, Mann–Whitney U tests were used to calculate the group differences between men and women with regard to the scales under study. The non-parametric–parametric nature of the variables was tested using the Kolmogorov–Smirnov test procedure. The calculation of descriptive statistic parameters included means, standard deviations and percentages. The magnitude of differences between men and women was calculated by effect size analysis Glass' delta. The rho Spearman correlation test was used to assess the correlation between individual scales. When comparing genders, we made comparisons between the scales and subscales (ECR-RS and SLS-12), whereas in correlation analysis we used general indices.

Hierarchical regression models were estimated, in which the dependent variables were stress and pandemic-related difficulties**.** Hierarchical regression analysis is a sequential investigation of the influence of multiple predictors, whereby the relative importance of a predictor is judged through incremental variance accounted by each predictor set [59]. The effect of the size of the associations is represented by the B coefficient.

Significant interactions between the analyzed factors were also sought using a general linear model (GLM). The results from this model are presented graphically as marginal means.

Furthermore, structural equation modeling (SEM) was used and a path model was estimated for the entire sample and for men and women. The maximum likelihood method and the following model goodness-of-fit statistics were used: TLI (Tucker-Lewis's index), CFI (comparative fit index) and RMSEA (root mean square error of approximation) and SRMR (standardized root mean square residual).

To analyze the mediation effects between the said factors, the approach of Zhao et al. [60] was used, including the Monte Carlo method (bootstrap 5000 samples), to assess the standardized mediation effects with a 95% confidence interval [61].

In the SEM analysis, we included scales relevant to a romantic relationship, having children, the financial situation, education, age and pandemic-related emotional difficulties as factors that may affect the level of perceived stress during the COVID-19 pandemic and we developed a theoretical model used in further analyses (Figure 1).
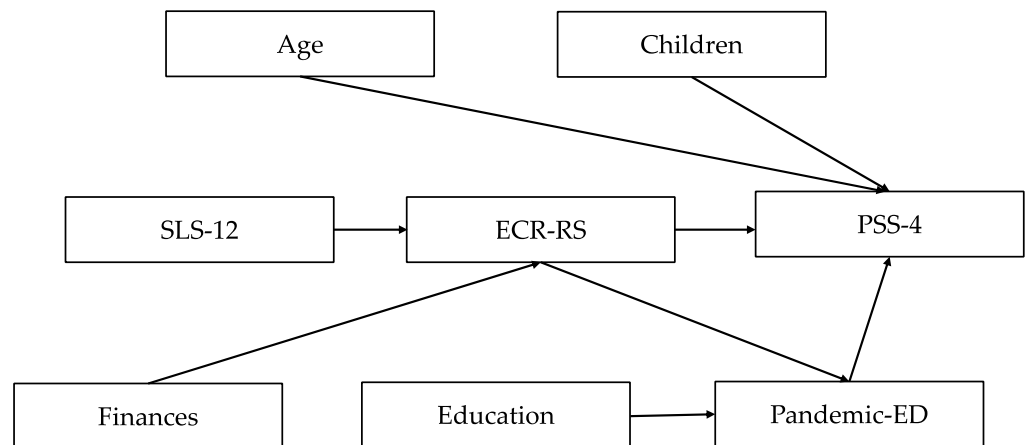
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Figure 1. The theoretical framework of the SEM model.

3. Results

3.1. Pandemic-Related Emotional Difficulties Scale

As the pandemic ED scale is new, analyses directly related to the title of the paper were followed by an analysis of its structure and reliability. After analyzing the quality of fit of the model, the CMIN/DF value was showed to be 2.432, which indicated an acceptable result. The model's absolute and incremental fit parameters demonstrated a good fit, as all values were >0.90 (CFI = 0.999, TLI = 0.996, NFI = 0.999, RFI = 0.994, incremental fit index (IFI) = 0.999, GFI = 0.999, AGFI = 0.991). The RMSEA and RMR values measured 0.032 (90%CI 0.001–0.007) and 0.008.

All the fit indices showed that the model fit was acceptable, as shown in Table 2. The Cronbach's alpha for the entire tool was 0.844. The values of the standardized regression coefficients ranged from 0.65 to 0.87 (Figure A1). Table 3 presents descriptive statistics and floor and ceiling effects for individual items. Loneliness, anger and anxiety show right skewness with a maximum absolute value of 0.471. Frustration shows left skewness with a value of −0.056. The kurtosis coefficients ranged from −0.454 to −0.760. The analysis of the floor and ceiling effects shows that the proportion of extremely positive responses ranged from 5.4% to 12.7% and was the highest in frustration. The proportion of extremely negative responses ranged from 12.6% to 27.8% and was the lowest in frustration.

Table 2. Fitness Model Summary (N = 1405).

CMIN/DF	RMR	GFI	AGFI	CFI	NFI	RFI	IFI	TLI	RMSEA
2.432/1	0.008	0.999	0.991	0.999	0.999	0.994	0.999	0.996	0.032

CMID/DF : the Chi-square value/ degrees of freedom; RMR: root mean square residual; GFI: goodness-of-fit index; AGFI: adjusted goodness-of-fit index; CFI: comparative fit indices; NFI: normed fit index; IFI: incremental fit index; TLI: Tucker-Lewis's index; RMSEA: root mean square error of approximation

Table 3. Descriptive statistics, floor and ceiling effects for individual items (N = 1405).

Pandemic-ED items	M	SD	Skewness	Kurtosis	Floor Effect (%)	Ceiling Effect (%)
frustration	3.03	1.164	−0.056	−0.599	12.6	12.7
loneliness	2.38	1.135	0.471	−0.454	27.8	5.4
anger	2.81	1.204	0.113	−0.760	17.7	10.5
anxiety	2.76	1.139	0.175	−0.512	16.2	9.0

M: mean; SD: standard deviation.

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3.2. Correlational Analyses

Correlation analysis (Table 4) among the examined scales showed a moderate correlation between the stress scale and pandemic-related emotional difficulties (r = 0.444). Moreover, perceived stress correlated positively and moderately with the ECR-RS scale, while a poor and negative correlation was found between stress and the SLS-12 results (r = −0.248). A poor correlation was revealed between age and the level of perceived stress (r = −0.232), pandemic-related difficulties (r = −0.084) and attachment styles (−0.098). The correlation between relationship quality assessment and age appeared insignificant.

Table 4. Correlational analyses PSS-4, Pandemic-ED, ECR-RS total and SLS-12 (rho Spearman) (N = 1405).

Scale	PSS-4	Pandemic-ED	ECR-RS Total	SLS-12	Age in Years
PSS-4	1	0.444 **	0.370 **	−0.248 **	−0.232 **
Pandemic-ED	0.444 **	1	0.262 **	−0.226 **	−0.084 *
ECR-RS-total	0.370 **	0.262 **	1	−0.701 **	−0.098 **
SLS-12	−0.248 **	−0.226 **	−0.701 **	1	−0.051
Age in years	−0.232 **	−0.084 *	−0.098 **	−0.051	1

** $p < 0.001$; * $p < 0.01$; PSS-4: Perceived Stress Scale; Pandemic-ED: Pandemic Emotional Difficulties Scale; ECR-RS: Experiences in Close Relationships-Revised Scale; SLS-12: Short Love Scale;

3.3. Differences between Women and Men in Stress and Pandemic-Related Difficulties

The obtained results, presented in Table 5, show there were no significant differences between women and men on the ECR-RS avoidance scores and SLS-12 sexual life and closeness scores. The ECR-RS scores were borderline significant. The mean score of perceived stress in women and men was 5.65 (SD = 3.17). Women achieved significantly higher scores (U = −5.741 $p < 0.001$), with a medium effect size (Glass' Δ = 0.331). The mean score on the pandemic-related difficulties scale in both groups was 10.99 (3.83) and women achieved significantly higher scores (U = −8.720; $p < 0.001$); the effect size was large (Glass' Δ = 0.474). The scores for anxiety were also statistically significant in women compared to men (U = −2.371; $p = 0.018$). Women, compared to men, were also characterized by a lower relationship quality (U = −2.564; $p = 0.010$)—effect size small (Glass' Δ = 0.192) —and lower commitment (U = −3.386; $p < 0.001$)—effect size small (Glass' Δ = 0.215). The results confirm that women and men differ in terms of experienced stress and emotional difficulties, as well as in relationship quality assessment and attachment pattern, with the score for the latter being borderline significant.

Table 5. Differences between women and men within the scope of the study scales (N = 1405).

Scale	M (SD) (N = 1405)	Men (N = 709)	Women (N = 696)	U Mann-Whitney	*p*	Glass' Delta
PSS-4	5.65 (3.17)	5.15	6.16	−5.741	<0.001	0.331
Pandemic-ED	10.99 (3.83)	10.12	11.86	−8.720	<0.001	0.474
ECR-RS_total	22.52 (11.26)	21.70	23.35	−1.862	0.068	
Anxiety	7.46 (4.84)	7.05	7.87	−2.371	0.018	0.183
Avoidance	15.06 (8.17)	16.65	15.48	−0.607	0.544	
SLS-12	48.46 (10.23)	49.35	47.54	−2.564	0.010	0.192
Sexual life	7.21 (2.38)	7.27	7.16	−0.618	0.537	
Closeness	7.77 (2.09)	7.90	7.64	−1.434	0.152	
Commitment	33.47 (6.62)	34.18	32.74	−3.386	<0.001	0.215

M: mean; SD: standard deviation; U: Mann–Whitney test value; *p*: the significance value; Glass' delta: effect size for statistically important differences; PSS-4: Perceived Stress Scale; Pandemic-ED: Pandemic Emotional Difficulties Scale; ECR-RS: Experiences in Close Relationships-Revised Scale; SLS-12: Short Love Scale.

3.4. Determinants of Stress and Pandemic-Related Difficulties

We attempted to determine what factors affected the variability of the experienced stress and pandemic-related difficulties in patients receiving treatment during the COVID-19 pandemic. The results of the hierarchical linear regression models are shown in Table 6.

In model 3, pandemic-related emotional difficulties were found to be the most significant predictors of stress. The sociodemographic variables entered in step 1 and the love scale measurements accounted for 16% of the variance, while the ECR-RS measurement included in step 2 changed the accounted-for variance to 20%. The pandemic-related emotional difficulties variable, which was introduced in the final step, accounted for 30% of the total variance with respect to experienced stress. The last model consists of 11 predictors (factors), four of which, age, financial situation, scores on avoidance and anxiety in close relationships scales and pandemic-related difficulties, were found to be statistically significant.

Table 6. Hierarchical regression for the PSS-4 variable. Variables in the model (N = 1405).

Independent Variable	Model 1		Model 2		Model 3	
PSS-4	β	*p*	β	*p*	β	*p*
Gender *	0.094	<0.001	0.099	<0.001	0.027	0.262
Age	−0.165	<0.001	−0.138	<0.001	−0.143	<0.001
Education *	−0.026	0.307	−0.021	0.402	−0.043	0.060
Place of residence *	0.009	0.717	−0.005	0.829	0.000	0.991
Relationship status *	−0.022	0.465	−0.007	0.823	0.000	0.988
Length of relationship	−0.041	0.353	−0.032	0.456	−0.017	0.668
Children *	−0.034	0.223	−0.035	0.208	−0.047	0.068
Financial situation *	0.159	<0.001	0.145	<0.001	0.053	0.024
SLS-12	−0.250	<0.001	−0.045	0.212	−0.025	0.453
ECR-RS			0.280	<0.001	0.219	<0.001
Pandemic-ED					0.358	<0.001
R-sq	0.163		0.198		0.298	

* dummy variable. β: beta coefficient; p: the significance value; PSS-4: Perceived Stress Scale; SLS-12: Short Love Scale; ECR-RS: Experiences in Close Relationships-Revised Scale; Pandemic-ED: Pandemic Emotional Difficulties Scale; R-sq: coefficient of determination.

Additionally, in the general linear model we looked for interactions among the analyzed factors. The assessment of attachment styles in close romantic relationships was transcoded at three levels (1: low anxiety and avoidance; 2: average anxiety and avoidance; 3: high anxiety and avoidance).

The interaction of those three factors was significant, at the level of *p* = 0.005. The analyses confirmed that the gender factor affects the perception of stress in interaction with other factors. Men reported lower stress levels, even considering the high scores on attachment styles. Both in men and women, the scores on perceived stress increased with the increase in scores on the ECR-RS, as shown in Figure 2.
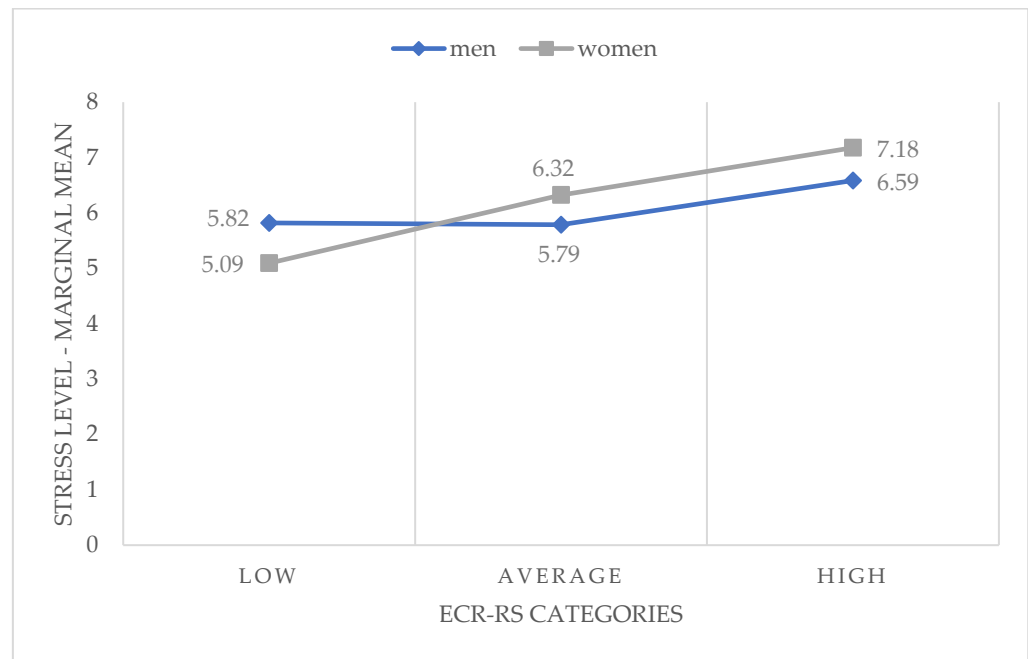
Figure 2. Interaction between gender and the assessment of relationship attachment styles (ECR-RS categories) as predictors of perceived stress level in women and men (N = 1405) (marginal means from the GLM model).

Next, we considered a model with the independent variable of pandemic-related emotional difficulties, as shown in Table 7. In model 3, stress was the most significant predictor of pandemic-related difficulties. The sociodemographic variables and the love scale measurement entered in step 1 accounted for 17% of the variance, while the ECR-RS measurement included in step 2 changed the accounted-for variance to 28%. Perceived stress, the variable entered in the final step, accounted for 28% of the total variance with respect to pandemic-related difficulties.

The last model consisted of 11 predictors (factors), five of which—age, education, financial situation, scores on avoidance and anxiety in close relationships scales and stress—were statistically significant, while having children was borderline significant.

Table 7. Hierarchical regression for pandemic-related emotional difficulties. Variables in the model (N = 1405).

Independent Variable	Model 1		Model 2		Model 3	
Pandemic-ED	β	*p*	β	*p*	β	*p*
Gender *	0.199	<0.001	0.202	<0.001	0.166	<0.001
Age	−0.005	0.910	−0.011	0.789	0.062	0.118
Education *	0.060	0.016	0.063	0.011	0.071	0.002
Place of residence *	0.016	0.513	0.014	0.572	0.012	0.601
Relationship status *	−0.029	0.334	−0.020	0.511	−0.017	0.536
Length of relationship	−0.047	0.285	−0.042	0.340	−0.030	0.463
Children *	0.034	0.221	0.034	0.221	0.047	0.072
Financial situation *	0.266	<0.001	0.256	<0.001	0.203	<0.001
SLS-12	−0.180	<0.001	−0.055	0.131	−0.038	0.257
ECR-RS			0.171	<0.001	0.068	0.048
PSS_4					0.367	<0.001
R-sq	0.159		0.172		0.280	

* dummy variable. β: beta coefficient; p: the significance value; Pandemic-ED: Pandemic Emotional Difficulties Scale; SLS-12: Short Love Scale; ECR-RS: Experiences in Close Relationships-Revised Scale; PSS-4: Perceived Stress Scale; R-sq: coefficient of determination.

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Additionally, in the general linear model we looked for interactions among the analyzed factors, as presented in Figure 3. The assessment of close romantic relationships was transcoded at three levels (1: low-quality relationship; 2: moderate-quality relationship; 3: high-quality relationship).

The interaction of those three factors was significant, at a level of *p* = 0.005. These analyses confirm that the gender factor affects the pandemic-related difficulties in interaction with other factors. Men reported fewer pandemic-related difficulties as their relationships improved, while in women this remained relatively stable, even with high scores on relationship quality. In men, romantic relationships proved to be a protective factor.
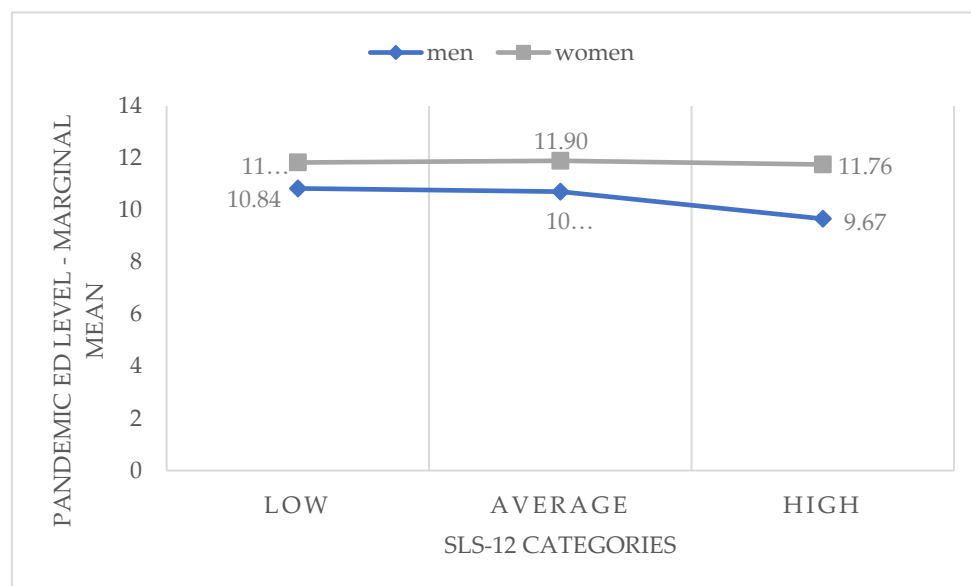

Figure 3. Interaction between gender and the assessment of relationship quality (SLS-12 categories) as predictors of perceived pandemic-related difficulties in women and men (N = 1405) (marginal means from GLM model).

3.5. SEM Models

The study authors investigated the sources of stress variability during the COVID-19 pandemic and the SEM model was conducted to test whether the relationship quality and attachment pattern mediated the perceived stress.

The defined path model for the entire sample had satisfactory fit indices (RMSEA = 0.051). The TLI value was 0.949, CFI 0.969, while RMSEA was 0.051 and SRMR 0.041. Similarly, the defined path models for genders, men and women, also had satisfactory fit indices: for men TLS = 0.940, CFI = 0.964 and RMSEA = 0.055, SRMR = 0.042. and for women TLI = 0.947, CFI = 0.968, RMSEA 0.053, SRMR = 0.047.

Standardized paths from the SEM are presented in Table 8. As shown, the scores of the romantic relationship quality were significantly and negatively associated with the attachment pattern in a romantic relationship (b = −0.724, *p* < 0.01), whereas the attachment styles in a relationship were significantly and positively associated with perceived stress (b = 0.241, *p* < 0.001). Pandemic-related emotional difficulties were also significantly and positively (b = 0.378, *p* < 0.01) associated with stress. Having children also correlated significantly and positively with the perceived stress in the entire study sample (b = 0.094, *p* = 0.05) compared to the male sample, in which having children was not significantly associated with the perceived stress (b = 0.016 *p* = 0.650). Age was a significant predictor of the perceived stress in the entire study sample (b = −0.163, *p* < 0.001), as it was for both genders separately. The financial situation, as a mediating predictor, was significantly and positively associated with the presented attachment styles in the entire sample (b = 0.056, *p* = 0.02), whereas in women the financial situation was significant (b = 0.061, *p* = 0.015)

and for men borderline significant (b = 0.051, *p* = 0.053). Note that education was not an important predictor in the entire study sample (b = 0.038, *p* = 0.123) or in men (b = 0.057; *p* = 0.103), whereas in women it was borderline significant (b = 0.067; *p* = 0.061).

Table 8. Standardized regression weights for SEM models.

	Total (N = 1405)		Men (N = 709)		Women (N = 696)	
Path	Estimate	*p*	Estimate	*p*	Estimate	*p*
SLS-12 -> ECR-RS	−0.724	<0.001	−0.701	<0.001	−0.739	<0.001
Finances -> ECR-RS	0.056	0.002	0.051	0.053	0.061	0.015
ECR-RS -> Pandemic-ED	0.228	<0.001	0.279	<0.001	0.170	<0.001
Education -> Pandemic-ED	0.038	0.123	0.057	0.103	0.067	0.061
ECR-RS -> PSS-4	0.241	<0.001	0.219	<0.001	0.266	<0.001
Pandemic-ED -> PSS-4	0.378	<0.001	0.371	<0.001	0.360	<0.001
Children -> PSS-4	0.049	0.042	0.016	0.650	0.094	0.005
Age -> PSS-4	−0.163	<0.001	−0.114	0.002	−0.196	<0.001

p: the significance value; Pandemic-ED: Pandemic Emotional Difficulties Scale; SLS-12: Short Love Scale; ECR-RS: Experiences in Close Relationships-Revised Scale; PSS-4: Perceived Stress Scale

The standardized indirect effects are shown in Table 9. The analysis of standardized indirect effects showed that finances were significantly and positively associated with pandemic-related emotional difficulties in the entire study sample (b = 0.013, *p* = 0.002) and women (b = 0.010, *p* = 0.010), while in men they were borderline significant (b = 0.014, *p* = 0.064). The analysis yielded similar results for the mediation effect of finances on stress, which was found to be significant and positive in the entire study sample (b = 0.018, *p* = 0.002) and in women (b = 0.020, *p* = 0.013), while in men the effect was borderline significant (b = 0.016, *p* = 0.068). The assessment of the relationship quality had a negative and significant effect on both pandemic-related emotional difficulties and perceived stress in all samples, at a level of *p* < 0.001, with the greatest indirect effect reported in men (b = −0.196) with respect to pandemic-related emotional difficulties and in women (b = −0.024) with respect to perceived stress levels. Education was not found to be significant in any study samples, whereas in women education was positively associated with perceived stress with borderline significance (b = 0.024, *p* = 0.055). Attachment styles in a romantic relationship were positive and significant across all study samples (*p* < 0.001), with the highest standardized indirect effect in men (b = 0.103).

Table 9. Standardized indirect effects with 95% confidence intervals (CIs) (bootstrap sample = 5000).

	Total (N = 1405)		Men (N = 709)		Women (N = 696)	
Path	Indirect Effect (95%CI)	*p*	Indirect Effect (95%CI)	*p*	Indirect Effect (95%CI)	*p*
Finances -> Pandemic-ED	0.013 (0.006–0.021)	0.002	0.014 (0.002–0.028)	0.064	0.010 (0.003–0.020)	0.010
Finances -> PSS-4	0.018 (0.008–0.029)	0.002	0.016 (0.002–0.032)	0.068	0.020 (0.006–0.035)	0.013
SLS-12 -> Pandemic-ED	−0.165 (−0.198−−0.131)	<0.001	−0.196 (−0.240−−0.151)	<0.001	−0.126 (−0.172−−0.078)	<0.001
SLS-12 -> PSS-4	−0.236 (−0.270−−0.204)	<0.001	−0.226 (−0.268−−0.183)	<0.001	−0.242 (−0.292−−0.193)	<0.001
Education -> PSS-4	0.015 (0.000–0.030)	0.111	0.021 (0.000–0.042)	0.096	0.024 (0.003–0.046)	0.055
ECR-RS -> PSS-4	0.086 (0.068–0.105)	<0.001	0.103 (0.078–0.135)	<0.001	0.061 (0.039–0.085)	<0.001

p: the significance value; Pandemic-ED: Pandemic Emotional Difficulties Scale; SLS-12: Short Love Scale; ECR-RS: Experiences in Close Relationships-Revised Scale; PSS-4: Perceived Stress Scale

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The study results prove that the relationship quality assessment and attachment styles affected the variability of perceived stress and pandemic-related difficulties and that relationship attachment styles affected perceived stress levels directly and indirectly via an emotional reaction to the pandemic. Given hypothesis four, our study results confirm that financial factors have a strong indirect effect on stress through attachment styles in both study samples.

4. Discussion

In response to the outbreak of the COVID-19 pandemic, specific regulations and restrictions, as well as the associated uncertainties, resulted in increased emotional stress in the population [62]. The literature review clearly shows that individuals across the world reported worse mental well-being and greater depression and anxiety than before the pandemic [63,64]. In times of prolonged stress and challenges, interpersonal relationships become increasingly important [65] and in crisis situations, people tend to turn to and rely on their close ones and in adulthood, these are most often their romantic partners [66].

Research has shown that romantic relationships are associated in a particular way with subjective well-being. Marriage has been cited as one of the main sources of both support and stress. In both genders, support from the romantic partner and family were predictors of well-being, whereas partner strain was predictive of health problems [67]. Marriage is particularly associated with lower levels of psychological suffering and greater well-being in adulthood [68,69].

Regarding hypothesis one, this study showed statistically significant differences between men and women living in romantic relationships with respect to perceived stress, pandemic-related difficulties and relationship quality assessment and attachment styles (anxious and avoidant), with women reporting greater stress and emotional difficulties and less favorably assessing their relationships.

Women appeared particularly vulnerable to the negative effects of the COVID-19 pandemic and our study results confirm the study results obtained in Great Britain, where women reported more mental health problems than men at the time of the pandemic [70,71]. Moreover, one study showed that the decline in mental well-being among the UK respondents was twice as large for women as it was for men [72]. A study conducted in 26 countries showed that women experienced greater increased stress than men during quarantine caused by the COVID-19 pandemic [73]. A cross-sectional study with respondents from Germany and Austria, conducted during the COVID-19 pandemic, found that single, unmarried or unpartnered younger women experienced greater stress [74]. Furthermore, another study suggests that gender inequalities contributed to lower indices of sexual functioning and satisfaction and may have deepened the pleasure gap between men and women. Importantly, in our study, women also reported greater stress than men and a greater emotional burden in that respect [75].

In the study sample, women had higher scores on the anxiety attachment style and were less committed in their relationships. Despite being statistically insignificant, the mean scores of the sexual life and relationship closeness subscales were lower in women. Research shows that both men and women experienced more stress during the pandemic than before because they felt restricted in their relationships. However, women reported significantly more perceived relationship stress in lockdown than before the pandemic due to conflicts in their relationships [76].

Men experienced less stress—even considering high scores on attachment styles—with both men and women with insecure attachment styles experiencing more stress, which confirms that early nonadaptive attachment experiences provide inadequate and unstable stress regulation mechanisms, hindering thereby the development of the psychological resources necessary to cope with stressful events in life [77]. Differences between partners' attachment styles may have aggravated difficulties in coping with and adapting to the COVID-19 crisis.

Moreover, a romantic relationship proved to be a protective factor for men; as their relationships improved, men reported fewer pandemic-related difficulties, which was not the case in women. It should be noted, however, that women, compared to men, paid more attention to the relationship status [78]. Also, women typically experienced more chronic and daily stress compared to men [79] and were less satisfied with their marriage [80]. Similar differences emerged in a study, which highlights that women are less satisfied with their marriage and life compared to men [81].

On the other hand, Randall et al. [82] found that in the Bangladeshi, Canadian, Chilean, Ghanese and Spanish subjects, positive dyadic coping did not mitigate the association between mental suffering after COVID-19 and relationship quality, which we also found was true for women in our study. They also highlighted that they did not find clear differences between those countries in terms of financial resources, governments' responses, the scope of the pandemic or other cultural aspects that would account for why positive dyadic coping did not moderate the association between mental suffering and relationship quality [82]. It was also reported that COVID-19-related concerns significantly endangered mental well-being and unhappy partners were more at risk than happy partners, as they had fewer interpersonal resources and showed lower levels of individual well-being [83].

With regard to the second hypothesis, the hierarchical regression model for stress as an independent variable showed that age, financial status, the scores on the avoidance and anxiety scales in close relationships and pandemic-related emotional difficulties were statistically significant predictors of stress. While the hierarchical regression model for emotional difficulties as an independent variable revealed six predictors for difficulties—age, education, children (borderline significance), financial situation, the scores on avoidance and anxiety scales in close relationships and stress—that were statistically significant. Both final models did not confirm the importance of assessing the quality of a romantic relationship in terms of experiencing the aforementioned difficulties.

Considering age as a predictor for stress, numerous studies confirm that COVID-19-related mental stress was higher in younger adults [84,85]. While most studies focused on the general population, the COVID-19 pandemic produced new challenges and opportunities for families that may have impacted the mental distress of parents and consequently children's well-being [86,87].

A growing number of studies into the impact of the COVID-19 pandemic on families stress the importance of considering individual risk as well as the interaction of parental (couple) and pedagogical (children's well-being) factors [88,89]. Particularly, recent findings revealed that parents tended to be more stressed than nonparents during the COVID-19 pandemic [90,91]. Moreover, for mothers, personal mental issues and having younger children were found to be predictors for greater parental exhaustion [92], as confirmed by our findings—in the SEM model having children predicted stress only in women—and by studies, where mothers reported a poorer work balance compared to fathers and rated the balance between their work and family and doing things for others versus doing things for themselves less favorably [93].

The study also showed that finances matter a great deal for various aspects of couple and family relationships [94,95]. Finances are consistently identified as one of the major stressors for both individuals and relationships [96]. The COVID-19 pandemic together with the associated lockdown and restrictions created global economic challenges, resulting in increased financial stress among many individuals. A demand for families during the COVID-19 pandemic was financial stress (i.e., a growing number of financial stressors such as the loss of a source of income and housing insecurity because of the pandemic). Some respondents reported increased stress in their relationships and demands resulting from COVID-19-related financial stress [97].

This study shows that finances were a significant predictor of stress and other pandemic-related difficulties. In the standardized model, finances indirectly affected both stress and the pandemic-related emotional difficulties; however, these effects were

statistically significant only for the general population and women. Therefore, the third hypothesis has been partially confirmed. One study [98] revealed that it may be assumed that women, due to significant work-related difficulties, worried more about finances than men. Yet another study [99] found that women were more susceptible to the devastating impact of the COVID-19 pandemic. Further, women worldwide were more vulnerable to stress, anxiety and depression and job loss during the pandemic [100]. And a study found that perceived stress, but not economic pressure or pandemic concerns, was associated with relationship instability [101]. Undoubtedly, the impact of finances—broadly understood as a socioeconomic situation—requires further investigation, whilst bearing in mind that, although the lifestyle of people with a more stable financial condition might have changed during the COVID-19 pandemic, the pandemic meant greater instability for individuals already affected by financial hardship, which in turn probably resulted in greater stress.

These study findings show the importance of romantic relationships in the lives of individuals, both in men and women, and the potential sources of risks and resilience that shaped the perception of stress during the COVID-19 pandemic. Regarding hypothesis four, the relationship quality and attachment styles in romantic relationships affected, directly and indirectly, stress levels in both men and women.

Importantly, the most powerful path of indirect effects was the relationship quality assessment as a predictor for lower sexual, romantic and individual functioning on both levels of the SEM. Increased stress related to COVID-19 during specific months predicted relevant declines in sexual functioning, which in turn predicted declines in individual well-being [102]. Another study supports our findings, showing that mental well-being was worse among individuals in relationships with low commitment and those living with a child, as compared to relationships with high commitment or without a child. Our findings showed that both having children and relational attachment styles were associated with perceived stress during the COVID-19 pandemic [26].

These findings are consistent with previous findings, suggesting that experiencing sudden and significant stress may negatively affect a relationship [103,104]. It is worth noting that, according to the systemic transactional model [105], romantic partners play an important role in mutual stress management when individual resources have been exhausted, as might have been the case during the COVID-19 pandemic. Moreover, it is considered that conflicts are destructive moderate associations between relationship quality and emotional health across all relationships—a romantic or family relationship or friendship. Tension in a relationship particularly impacts the well-being of individuals who believe that conflict is debilitating rather than productive [106].

For the above reasons, further research is needed into the differences between women and men and into how romantic relationships shape their perceptions of stress and pandemic-related difficulties. Future research should also focus on comparing coupled and unpartnered individuals and look into other than heterosexual relationships.

Given that the respondents were patients—i.e., individuals receiving treatment—it is worth noting that the COVID-19 pandemic and the accompanying lockdowns limited out-of-home leisure opportunities, forcing people to stay confined (together) at home most of the time, and that this may have decreased overall satisfaction with life [107,108], which in turn may have affected peoples' relationships with their romantic partners. Moreover, additional challenges and difficulties emerged in relationships, where one partner had a chronic disease, a circumstance leading to reduced mental well-being and increased anxiety and worries about their family members being infected with COVID-19. A family member having a disease was associated with increased anxiety related to COVID-19, depression and stress, which affected relationship quality in couples [109].

Given the knowledge available, this research is the first to analyze both perceived stress and pandemic-related difficulties during the COVID-19 pandemic in Poland. However, this study has some limitations. First, due to the limitations regarding the questionnaire length, the study has few items assessing mental well-being, types of stress or sexual

life; therefore, future research should include a more in-depth analysis of the above aspects. This study measures stress with respect to four statements; however, stress is multidimensional (e.g., daily, chronic) and significant dimensions may vary across individuals. We lack information on how respondents cope with stress or on their stress experiences early on in their lives. Moreover, the study collected data at the final stage of the COVID-19 pandemic and it did not include longitudinal data. Stress levels might have been higher following the pandemic outbreak compared to the time when the respondents had already adapted—even if only partially—to the new circumstances. Moreover, the degree to which couples are resilient, maintain positive functioning of their relationship and stay together may vary depending on additional factors. Furthermore, the nature of an online survey allows the generalization of the study findings to a population with higher digital competence.

5. Conclusions

The study conducted an aggregated analysis of romantic relationship variables and determined the most significant association paths among the variables under study in a comprehensive stress model. The findings prove that women were characterized by higher levels of stress and pandemic-related difficulties and less favorable assessments of their relationships. Furthermore, the assessment of the relationship quality, attachment styles and other sociodemographic variables affected the variability of perceived stress and other pandemic-related difficulties. For women, having children and their financial situation were significant predictors of perceived stress and this allowed us to understand the differences between men and women, which, in turn, will help to adopt clinical recommendations regarding coping with major stressors when faced with a pandemic. Moreover, the relationship attachment styles were directly and indirectly related to stress through an emotional reaction to the pandemic. The tested model highlights the key predictors of stress, not only allowing us to better understand the impact of the COVID-19 pandemic on the functioning of women and men, but also presenting the conclusions relevant for clinicians and therapists working with both individuals and couples in times of severe stress. It is necessary to take action to promote the survival of global crises and strengthen mental health resources so that strategies for coping with further difficulties can be developed.

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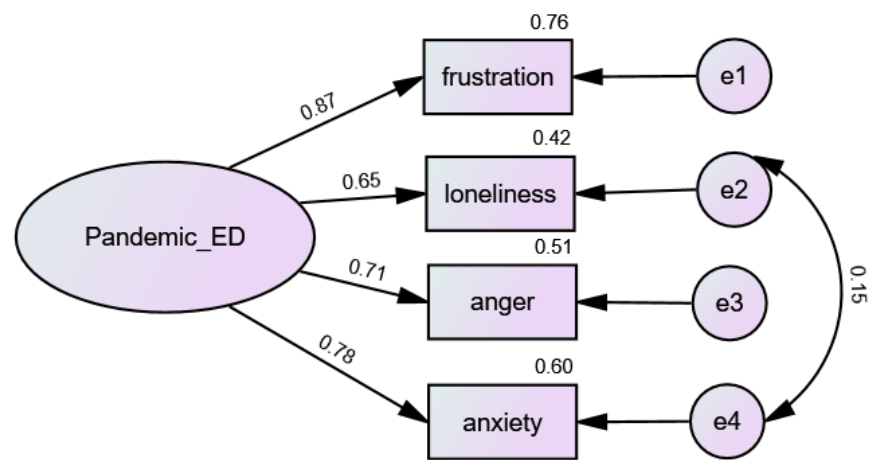
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Appendix A

Figure A1. Pandemic Emotional Difficulties model (n = 1405).

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Quality of communication with patients and difficulties in close relationships among health care workers during the COVID-19 pandemic

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ABSTRACT

Introduction: Communication is a skill and its quality is associated with adult attachment styles. This study aimed to assess the association between self-reported quality of health care workers' (HCWs) communication with their patients and HCWs' attachment styles and personal relationship status and quality during the COVID-19 pandemic in Poland.

Material and methods: Two thousand three hundred three HCWs participated in the online survey conducted in all voivodeships in Poland in early 2022, including 1791 individuals living in close relationships (defined as being in a relationship for at least six months). The study explored this association among four groups of HCWs: physicians ($n = 498$), nurses ($n = 1216$), paramedics ($n = 166$), others ($n = 423$). Communication competencies were evaluated using the 12-item Health Professionals Communication Scale (HPCSS-12) (range 12-72) measuring empathy, informative communication, respect, and social skills. The quality of the HCWs' relationships was examined using Experiences in Close Relationships – Revised Scale (ECR-RS), which measures security of attachment.

Results: The overall mean HPCSS-12 index was 59.58 ± 7.36, with a significant difference between physicians according to their relationship status. Problems in relationships were reported by 24.5% of respondents, ranging from 21.2% among physicians to 31.7% among paramedics. HCWs reporting a less secure attachment style scored 2.73 points lower on the HP-CSS scale as compared to those with no such problems ($p < 0.001$). In males, having good and secure relationships was associated with better communication particularly among the group of other HCWs (64.55 ± 7.05) and in paramedics (61.83 ± 3.94). Also, high HPCSS-12 values were achieved by female physicians and other female professionals living in secure relationships (61.61 ± 7.13 and 61.04 ± 6.30, respectively).

Conclusions: Health care providers should be aware that the quality of HCW-patient communication is not only associated with gender, age, or occupational group, but also with the HCW's personal situation in a family or other close relationship.

KEY WORDS: healthcare workers, communication skills, occupational groups, gender inequalities, close relationship.

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INTRODUCTION

Recent studies worldwide have shown that during pandemics, health care workers (HCWs) were exposed to increased levels of stress, mental distress, anxiety, depression, insomnia and other mental health problems [1, 2].

Social relationships can have a buffering role, thereby helping to cope with stress by enabling mutual listening and providing emotional regulation [3], and attachment is a method used to conceptualize and measure the quality of the relationship between two individuals. Attachment understood as an emotional bond creates a sense of psychological security [4], and three major attachment styles are secure, insecure-avoidant, and insecure-anxious/ambivalent [5]. In developmental and social psychology, one of the key theories for building effective social relationships is attachment theory. Although attachment in earlier studies has been used to explain individual differences in emotional and physical stress responses, coping styles, feelings and behaviors in interpersonal relationship situations [6, 7], it has relatively recently been applied to understanding interpersonal relationships at work. Hazan and Shaver [8] were among the first to apply attachment theory directly to work research. Their results suggest that compared to insecure workers, secure workers showed higher levels of overall well-being and increased job satisfaction.

Physicians, nurses and workers in other healthcare sectors indicated that one of the main methods of stress reduction was drawing support from family [9], and married persons reported higher levels of support than single ones [10]. The social impact of the pandemic has undoubtedly extended to intra-family relationships, while many people were in sudden, forced closeness to their closest family [3]. It is worth noting that medical professionals and their families have been avoided, shunned, or ostracized due to public fear that they are sources of infection, which contributed to stress and anxiety [11], and may have made it difficult to sustain interpersonal relationships.

In addition, during the pandemic period, employees were exposed to an increase in difficulties related to work-family conflict, which has been shown to be associated with job dissatisfaction, stress and absenteeism [12]. The importance of the quality of romantic relationships in relation to the level of communication, which is directly related to the performance at work, remains important in view of this.

Conducting an effective therapeutic process and obtaining clinical information is largely dependent on the communication taking place between medical professionals and patients. Improved communication leads to better health outcomes, while also affecting patient satisfaction and better compliance. Moreover, patient-centered communication using empathy and clear language can buffer the negative impact of fear of COVID-19 [13].

It remains significant that few studies comparing medical professions have been conducted to date, and particularly regarding the paramedic group. Due to the nature of their work, paramedics are exposed to work accidents and clinical incidents, including failed resuscitations, and may even be victims of assaults and verbal threats, or significant exposure to pathogens [14]. Prehospital care focuses on short-term interventions, more often interacting with families under particularly stressful circumstances. In addition, their work is more often associated with traumatic experiences, such as contact with death [15].

The aim of the study was to assess the level of communication with patients according to the status of being in a relationship and the quality of these relationships in a professionally diverse group of HCWs, adjusting for their gender and age.

MATERIAL AND METHODS
STUDY DESIGN AND PROCEDURE

The survey was conducted as part of a project entitled "Humanizing the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic". The project was funded by the Medical Research Agency under a contract with the University of Warsaw (2021/ABM/COVID/UW). The cross-sectional survey, conducted from February 21 to April 28, 2022, included 2340 HCWs. Of this group, 2115 (91.5%) worked in the 114 health care units that agreed to participate in the survey, and 225 (9.5%) completed the questionnaire, refusing to provide their place of work. Interactive Research Center Ltd. was responsible for organizing the field survey, which collected 89.3% of the cases using online techniques through its own survey platform, and 10.7% of the cases using paper surveys.

The procedure and tools used in this research project were approved by the Research Ethics Committee of the Faculty of Pedagogy of the University of Warsaw No. 2021/8. Respondents were informed of the goals of the project, and they could stop their participation in the survey at any time, without giving any reason and without any consequences.

TOOLS, VARIABLES AND INDICATORS

The main dependent variable in this study was a 12-item scale describing the communication competencies of medical professionals. The questions were derived from the Health Professionals Communication Scale (HP-CSS), which originally contains 18 items indexed into four dimensions: empathy, informative communication, respect and social skills (assertiveness) [16]. Responses were given on a 6-point Likert-type scale (1 = almost never to 6 = many times). In our project, the full version was used in a pilot study, after which it was decided to limit ourselves to 12 items (naming

the scale HPCSS-12), with three statements from each dimension.

Example items were: *I try to understand the feelings of my patient* (empathy); *I make sure that patients have comprehended the information provided* (informative communication); *I respect the right of patients to express themselves freely* (respect); *When I interact with patients, I express my opinions clearly and firmly* (social skills).

The overall index takes a range from 12 to 72 points, where high scores indicate better communication skills. The HPCSS-12 scale had good psychometric properties with a Cronbach's α coefficient of 0.880.

Gender, age, occupational group, status of being in a relationship and quality of relationship were used as independent variables. Respondents were asked: *Are you currently in a stable relationship?* – with the option to answer yes/no or to refuse to answer. Questions on relationship quality were answered by 1,791 respondents living in stable relationships. The 9-item ECR-RS (*Experiences in Close Relationships – Revised Scale*) scale [17] was used. For the purposes of this project, permission was obtained from the author and M. Marszal's translation was used. Four questions make up the dimension related to anxious attachment style, and five questions make up the dimension related to avoidant attachment style. However, the assumption was made to use a general summary index, taking a range of 9-63 points. Responses are given on a 5-point Likert scale, ranging from strongly disagree to strongly agree.

Example items were: *I usually discuss my problems and concerns with my partner*; *I prefer not to show this person how I feel deep down*; *I worry that this person won't care about me as much as I care about him or her.*

Some of the questions had to be recoded so that a high score meant less security in the relationship. In the study sample, the reliability of the ECR-RS, as measured by the Cronbach coefficient, is 0.848. In further analyses an arbitrary division into three categories was adopted, with a cutoff of 11/12 and 30/31 points, respectively.

STATISTICAL ANALYSIS

In the first step of the analyses, occupational groups were compared according to gender, age and relationship status. The second step examined the distribution of ECR-RS and HPCSS-12 results by gender, age and profession. In the third step of the analyses, it was examined how the mean values of HPCSS-12 change in different groups of HCWs singled out due to relationship status and relationship quality.

The χ^2 test of independence was used for categorized variables, while for comparison of means, the non-parametric Mann-Whitney *U* test (two independent samples) or the Kruskal-Wallis H test (three independent samples) was used. SPSS software version 27 was used to analyze the data. All significance levels were set as $p < 0.05$ (two-tailed).

RESULTS

Two thousand three hundred three HCWs who worked with patients during the COVID-19 pandemic were included in the analyses, including 18.9% men and 81.1% women. They were classified into four occupational groups: physicians, nurses, paramedics and other professions. Due to the unequal size of the groups and general over-representation of women (Table 1), the more important analyses were conducted separately for men and women and by profession.

The average age of the respondents was 46.52 (SD = 11.44) years. Those under 35 accounted for 20.6% of the sample, and those over 55 accounted for 24.3%. Women were about 1.7 years older than men ($p = 0.002$). There were also significant differences between occupational groups ($p < 0.001$). The mean age of the respondents was: 38.49 (SD = 9.13) years for paramedics, 41.07 (SD = 10.34) years for other professions, 47.26 (SD = 12.50) for physicians, and the highest, 49.21 years (SD = 10.23), for nurses.

As can be seen from the data presented above in Table 1, in the surveyed group, 1791 health care workers (77.8%) stated that they were in a stable relationship,

TABLE 1. Health care workers by gender, age, and close relationship status

| Profession/Age | N | % of the sample | % women | Being in close relationship | | | | | |
| | | | | Yes | | No | | Refusal to answer | |
				N	%	N	%	N	%
Total	2303	100.0	81.1	1791	77.8		14.2	185	8.0
Profession									
Physicians	498	21.6	51.4	386	77.5	66	13.3	46	9.2
Nurses	1216	52.8	97.8	959	78.9	162	13.3	95	7.8
Paramedics	166	7.2	30.7	123	74.1	33	19.9	10	6.0
Other	423	18.4	87.9	323	76.4	66	15.6	34	8.0
Age [years]									
≤ 35	475	20.6	77.3	350	73.7	89	18.7	36	7.6
> 35	1828	79.4	82.1	1441	78.8	238	13.0	149	8.2

TABLE 2. ECR-RS categories (%) among respondents who are in a relationship (*N* = 1791) by profession and gender

Attachment security/Gender	*N* (%)	Profession				χ² *p*
		Physicians	Nurses	Paramedics	Others	
Total						0.027
High	458 (25.6)	23.1	25.7	20.3	30.3	
Average	894 (49.9)	55.7	48.5	48.0	47.7	
Low	439 (24.5)	21.2	25.8	31.7	22.0	
Males						0.179
High	74 (20.6)	21.0	21.7	19.8	19.5	
Average	189 (52.5)	52.7	74.0	46.1	53.7	
Low	97 (26.9)	26.3	4.3	34.1	26.8	
Females						0.012
High	384 (26.8)	25.4	25.7	21.9	31.9	
Average	705 (49.3)	59.1	48.0	53.1	46.8	
Low	342 (23.9)	15.5	26.3	25.0	21.3	

TABLE 3. Mean HPCSS-12 indices by profession, gender, age, and relationship status

Profession/ Gender/Age	Total, M ± SD	Being in close relationship			*p*
		Yes, M ± SD	No, M ± SD	Refusal to answer, M ± SD	
Total	59.58 ± 7.36	59.66 ± 7.29	59.55 ± 7.57	58.89 ± 7.68	0.542
Professions					
Physicians	59.78 ± 8.12	59.63 ± 8.31	61.39 ± 7.75	58.63 ± 6.71	0.039
Nurses	59.61 ± 7.07	59.75 ± 7.04	59.01 ± 6.86	59.19 ± 7.68	0.398
Paramedics	57.59 ± 7.85	57.71 ± 7.11	57.36 ± 10.28	56.90 ± 8.31	0.855
Other	60.05 ± 6.96	60.15 ± 6.69	60.11 ± 7.19	58.97 ± 8.87	0.917
Gender					
Males	58.79 ± 7.71	58.64 ± 7.54	59.51 ± 9.14	59.42 ± 7.22	0.439
Females	59.77 ± 7.27	59.92 ± 7.21	59.55 ± 7.26	58.81 ± 7.76	0.292
Age [years]					
≤ 35	59.78 ± 7.03	59.99 ± 6.85	59.03 ± 7.73	59.50 ± 7.08	0.537
> 35	59.53 ± 7.45	59.58 ± 7.40	59.74 ± 7.52	58.74 ± 7.83	0.570

Kruskal-Wallis or Mann-Whitney nonparametric test.

and in most cases, there was one union (*N* = 1707). Formal relationships (marriage) predominated, which was the case for 1424 respondents (61.8%). Almost one in eight unions was informal, and 2.4% of 1,791 respondents did not specify the nature of their relationship. Also 327 people living alone were identified. The average age of respondents was similar across the three groups distinguished by relationship status (*p* = 0.315). In contrast, those living in informal relationships were significantly younger (37.63 ± 11.87 years).

Professional groups did not differ significantly in terms of relationship status (*p* = 0.259).

However, gender-related differences were observed (*p* = 0.016). Women were more likely to report being single or refuse to state their relationship status, while men were more likely to be in a stable relationship. A significantly higher percentage of singles was found among younger respondents (*p* = 0.006).

Table 2 shows the distributions of ECR-RS attachment style categories by gender and profession. Differences between occupational groups proved to be statistically significant (*p* = 0.027). They were expressed in a higher proportion of relationships with a safer attachment style among representatives of other professions, an above-average proportion of average quality relationships among physicians, and an increase in relationship difficulties among paramedics. The same comparison by gender showed statistically significant differences only among

TABLE 4. Mean HPCSS-12 indices by profession and gender according to ECR-RS level

Profession/Gender	Attachment security (ECR-RS)			Kruskal-Wallis
	High	Average	Low	p
Total sample	60.98 ± 6.48	59.68 ± 6.94	58.25 ± 8.46	< 0.001
Professions in total				
Physicians	61.11 ± 6.57	59.63 ± 7.74	58.05 ± 10.88	0.151
Nurses	60.80 ± 6.69	59.82 ± 6.69	58.60 ± 7.84	0.008
Paramedics	60.88 ± 4.29	58.27 ± 6.05	54.82 ± 8.89	0.005
Other	61.33 ± 6.40	59.87 ± 6.84	59.15 ± 6.63	0.084
Profession males				
Physicians	60.58 ± 5.94	59.69 ± 7.16	57.72 ± 10.12	0.419
Nurses	59.00 ± 5.43	57.41 ± 5.11	57.00*	0.830
Paramedics	61.83 ± 3.94	57.48 ± 5.83	53.29 ± 8.26	< 0.001
Other	64.55 ± 7.05	58.36 ± 7.58	57.91 ± 6.67	0.097
Profession females				
Physicians	61.61 ± 7.13	59.57 ± 8.32	58.68 ± 12.41	0.285
Nurses	60.83 ± 6.72	59.91 ± 6.73	58.61 ± 7.85	0.008
Paramedics	58.43 ± 4.47	60.24 ± 6.30	60.75 ± 9.27	0.677
Other	61.04 ± 6.30	60.12 ± 6.71	59.38 ± 6.65	0.323

One man with major problems.

women. Female nurses and paramedics were most likely to indicate significant relationship problems, manifesting a less secure attachment style.

Gender-related differences within four occupational groups are presented in Table 3. Among physicians, significantly more problems were reported by men. Introducing the age factor into the analyses, no differences were obtained between younger and older people ($p = 0.126$). The lack of age-dependent differences persisted in all professional groups.

The communication skills of HCWs were used as the main outcome variable in this study (Table 4). Among the 2303 respondents, the mean HPCSS-12 index was 59.58 ± 7.36, with no age-dependent differences ($p = 0.376$) or differences according to relationship status ($p = 0.953$) (Table 4). A gender-related and occupation-related difference were found ($p = 0.031$). The mean HPCSS-12 score ranged from 57.59 ± 7.85 among paramedics to 60.05 ± 6.96 in other occupations ($p = 0.009$). Analyzing the status of remaining in a relationship showed a statistically significant difference among physicians, in favor of those living alone.

The most important results from the point of view of the objectives of this study are shown in Table 4. Those reporting a less secure attachment style in their stable relationships scored 2.73 points lower in communication skills with the patient compared to those with no such problems in their relationships ($p < 0.001$). There was a 6.06-point difference between the extreme ECR-RS categories. After stratifying the analyses by
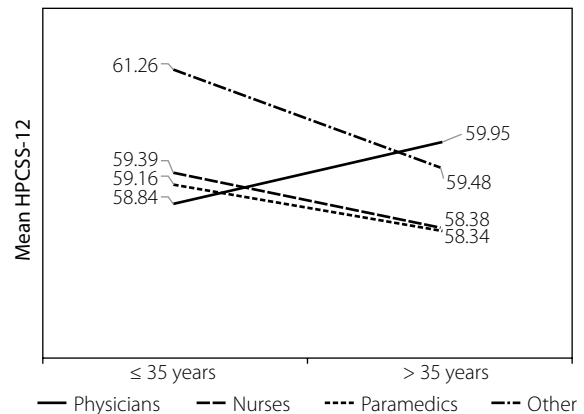

FIGURE 1. The comparison of junior and senior health professionals within occupational groups

gender, a statistically significant difference depending on relationship attachment style persisted for male paramedics and female nurses.

Including the age factor, younger and older HCWs within professional groups were compared, adjusting the analyses for gender and relationship quality (Figure 1).

Younger people representing other medical or non-medical professions had the highest level of communication skills, with no differences between the other groups. For other professions, however, the rate of decline in the index value after age 35 was the highest. Only for physicians did the HPCSS-12 average increase with age. Among relatively older paramedics and nurses, the aver-

age HPCSS-12 was much the same and significantly lower than the values recorded in the other two groups, albeit with a slower rate of age-related decline.

DISCUSSION

The literature has indicated that an opportunity to manage HCWs' fears during health emergencies – such as COVID-19 – may involve restoring interpersonal interactions [18]. Social skills are particularly important in health care, as HCWs are in constant contact with other workers and with patients and their families.

There is some evidence that physicians with insecure attachment styles show a reduced ability to empathize and take the perspective of others, and exhibit increased negative affect compared to those with secure attachment styles [19]. The present study has shown that among nurses and paramedics, the relationship quality associated with insecure attachment styles significantly decreases communication resources, and in the other groups, the average HP-CSS indexes also were lowered.

Research supports predictions based on attachment theory that insecure attachment of physicians can have negative effects on physician-patient interactions [20], and is also associated with lower levels of empathy in both nurses and paramedics [21]. Medical students with insecure attachment styles have also been shown to exhibit less empathy and cause greater emotional distress to patients than their peers with secure attachment [22-24]. Later-career physicians' attachment styles also influence patient care, with providers with insecure attachment showing greater criticism of patients with medically unexplained symptoms [25]. Those with secure attachment, on the other hand, communicate more effectively about medically unexplained symptoms and offer medical interventions that are more sensitive to patients' needs [26]. Moreover, physicians with insecure attachment have more symptoms of burnout and lower job satisfaction [27], and nurses have higher rates of stress [28]. A previous study emphasized that a lack of secure attachment style is associated with aggressive behavior, which inhibits empathy [29]. Moreover, the study also found that it was women health care workers in relationships who scored higher on communication skills. In the context of gender differences, another study found that female physicians respond more easily to emotional cues and spend more time seeing their patients than male physicians [30].

A noteworthy observation is the protective nature of secure attachment. Studies have shown an association between secure attachment style and lower levels of PTS symptoms [31]. And HCWs involved in emergency medicine and frontline workers involved in the direct diagnosis, treatment and care of patients with COVID-19 were more likely to exhibit symptoms of stress, anxiety and depression [32]. As our results suggested the highest involvement of relationship problems in the paramedic group, work overload and also working under particularly difficult conditions may have played a significant role in this outcome.

Additionally, it has been shown that communication skills deteriorate with age in health care workers, except for physicians. When working 6-10 years, the rate of professional burnout was the highest, with 41.4% presenting such symptoms. Working both 6-10 years and more than ten years remained a significant predictor of professional burnout, which can contribute to depersonalization and thus communication impairment [33]. In addition, research indicates that communication skills acquired by paramedics during training are subject to regression during working life [34]. It is possible that communication skills deteriorate due to a lack of adequate didactic activities, and work-related burnout promotes the activation of mechanisms responsible for the decreased quality of communication. Older people may also have been more fearful of COVID-19 infection during the study period, which contributed to a reduction in interpersonal contact.

This study is one of only a few that have compared different professional groups, allowing conclusions to be made about each of them separately. An additional strength of the survey is its regional nationwide coverage. Further research is needed to establish whether and how different strategies to improve HCWs' communication skills could be effective at different stages of pre-graduate and post-graduate training.

STUDY STRENGTHS AND LIMITATIONS

The results presented here are consistent with attachment theory, which posits that childhood experiences with caregivers are an important predictor of later social and emotional functioning. Although attachment theory suggests a causal mechanism for this relationship, causality cannot be confirmed by the results of this study. The cross-sectional nature of the study and the lack of longitudinal follow-up do not allow causal relationships to be inferred between variables and the long-term consequences of the psychological effects found. In future studies, it would be worthwhile to analyze attachment style in the context of patient communication together with other individual and environmental factors. In addition, the study showed an overrepresentation of the professional group of nurses, as well as a significant overrepresentation of females among the respondents, but this is consistent with the well-described gender gap in the health care sector [35]. The significant differentiation of HPCSS-12 values in the group of problematic relationships should also be noted. It may mean that with personal problems communication may be significantly impaired, but may also remain at a good level. This is worth further investigation to determine whether forming satisfying relationships with other people can be a compensatory mechanism for personal difficulties.

PRACTICE IMPLICATIONS

A deeper understanding of the role of attachment in the doctor-patient relationship in health care can lead to improved patient care and enhance the clinical experience of health care professionals. The present research identifies practical implications for interventions regarding how HCWs' attachment orientations can be approached in the context of adequate training programs. HCWs with an insecure orientation may be educated to utilize more caring strategies and smarter emotion regulation [36]. In addition, educating students about the possible impact of their attachment styles on their effective communication with patients can make a valuable contribution to undergraduate and postgraduate medical education programs. It can help students understand how their conscious feelings about close relationships can affect their communication. Education could also help practicing HCWs' identify situations in which their attachment styles may affect their clinical communication. This would allow students and HCWs to be aware of the impact of their attachment styles prior to clinical interaction with patients.

CONCLUSIONS

In conclusion, increased self-awareness of personal relational abilities, including attachment style, can help HCWs understand their strengths and limitations at the workplace. It is suggested that psycho-educational training be implemented according to how the attachment style formed in childhood affects medical practice. It is also important to take proactive, preventive measures to increase protective factors.

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DISCLOSURE

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ROMANTIC RELATIONSHIPS AND EMOTIONAL DIFFICULTIES AND POST-TRAUMATIC GROWTH DURING THE COVID-19 PANDEMIC

RELACJE ROMANTYCZNE A TRUDNOŚCI EMOCJONALNE I WZROST POTRAUMATYCZNY W CZASIE PANDEMII COVID-19

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D. Data interpretation /
   Interpretacja danych
E. Preparation of manuscript /
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Summary: The purpose of the study was to assess the level of emotional difficulties and post-traumatic growth in accordance with relationship quality and attachment style in a romantic relationship in view of selected sociodemographic variables.
Material and methods: The cross-sectional study was conducted online in March 2022, and the subject of analysis is data on 1,332 adults in a relationship. The Post-Traumtic Growth (PTG) scale was used to measure post-traumatic growth, the Pandemic Emotional Difficulties (Pandemic-ED) scale was used to measure pandemic-related emotional difficulties. Relationship quality was measured with the Short Love Scale 12 (SLS-12) and The Experiences in Close Relationships-Relationship Structures (ECR-RS) scale.
Results: Emotional difficulties were shown to be lower among those in relationships rated more positively, and rates of post-traumatic growth increased as relationship scores increased.
Conclusions: The results presented allow to understand the impact of romantic relationships on individuals' functioning, thus providing indications for those working in the field of couples counseling.

Keywords: sexual life, post-traumatic growth, romantic relationships, mental health, emotional difficulties

Streszczenie: Celem badania była ocena poziomu trudności emocjonalnych i wzrostu potraumatycznego w zależności od jakości relacji i stylu przywiązania w związku romantycznym w świetle wybranych zmiennych socjodemograficznych.
Materiał i metody: Badanie przekrojowe przeprowadzono online w marcu 2022 r., a przedmiotem analiz są dane dotyczące 1332 dorosłych pozostających w związku. Do pomiaru wzrostu potraumatycznego użyto skali Post-Traumtic Growth (PTG), skali Pandemic Emotional Difficulties (Pandemic-ED) do pomiaru trudności emocjonalnych związanych z pandemią. Jakość relacji była mierzona skalą Short Love Scale 12 (SLS-12) oraz skalą The Experiences in Close Relationships-Relationship Structures (ECR-RS).
Wyniki: Wykazano, że trudności emocjonalne były niższe wśród osób pozostających w relacjach ocenianych bardziej korzystnie, a wskaźniki wzrostu potraumatycznego rosły wraz ze wzrostem oceny relacji.
Wnioski: Prezentowane wyniki pozwalają zrozumieć oddziaływanie relacji romantycznych na funkcjonowanie jednostek, dostarczając tym samym wskazówek dla osób pracujących w obszarze poradnictwa partnerskiego.

Słowa kluczowe: życie seksualne, wzrost potraumatyczny, relacje romantyczne, zdrowie psychiczne, trudności emocjonalne

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Introduction

Romantic relationships are consensual relations, predominantly between two people, entailing mutual physical and emotional attractiveness (Zielony-Koryczan, 2020). Contrary to friendship, romantic relationships usually involve commitment and expectation of exclusivity. The literature of reference states that being in a romantic relationship reduces the frequency of depression (Uecker, 2012) and mental health issues (Braithwaite, Holt-Lunstad, 2017). At the same time, it is stressed that the loss of such a relationship may have a detrimental impact on the general well-being, which is manifested, among others, by increased emotional anxiety (Slotter, Gardner, Finkel, 2010). Social support may constitute a protective factor in the case of mental disorders (Glanz, Rimer, Viswanath, 2008), and the social support provided to individuals by their partners influences the well-being of such individuals (Okabayashi, Liang, Krause, Akiyama, Sugisawa, 2004).

It is, however, indicated that the correlation between being in a romantic relationship and the mental well-being is much more complex. Romantic relationships may serve as a protective factor in relation to mental health, but they can also become a source of problems (Kazan, Calear, Batterham, 2016). It was demonstrated that conflicts and the sense of unhappiness in a romantic relationship entail mental anguish and low life satisfaction (Carr, Freedman, Cornman, Schwarz, 2014), a higher anxiety level and a higher probability of depression (Leach, Butterworth, Olesen, Mackinnon, 2013), as well as a higher risk of suicides (Santini, Koyanagi, Tyrovolas, Haro, 2015).

Functioning in a romantic relationship is also understood from the viewpoint of attachment styles concept. Bowlby (1969) states that attachment styles influence the way people think, feel and behave in close relationships throughout their entire lives. In the psychological perspective, the feeling of intimacy helps reduce anxiety and agitation, making it possible for individuals to effectively engage in daily tasks (Simpson and Rholes 2017).

The avoidant attachment style Unikowy styl reflects the degree in which individuals feel comfortable about being close to each other and about the emotional intimacy in their relationships (Bartholomew, 1990; Karbowa-Płowens, 2019). People demonstrating low

Wstęp

Romantyczne związki to konsensualne relacje najczęściej między dwiema osobami, które wiążą się z wzajemną, fizyczną i emocjonalną atrakcyjnością (Zielony-Koryczan, 2020). W przeciwieństwie do przyjaźni, romantyczne relacje zwykle wiążą się z zaangażowaniem i oczekiwaniem wyłączności. W literaturze wskazuje się, że bycie w bliskich związkach romantycznych zmniejsza częstość występowania depresji (Uecker, 2012) i trudności w obszarze zdrowia psychicznego (Braithwaite, Holt-Lunstad, 2017). Jednocześnie podkreśla się, iż utrata relacji może mieć szkodliwy wpływ na ogólny dobrostan objawiając się między innymi zwiększonym niepokojem emocjonalnym (Slotter, Gardner, Finkel, 2010). Wsparcie społeczne może stanowić czynnik chroniący w przebiegu zaburzeń psychicznych (Glanz, Rimer, Viswanath, 2008), a wsparcie społeczne, które jednostki mogą otrzymywać od partnera, oddziałowują na ich dobrostan (Okabayashi, Liang, Krause, Akiyama, Sugisawa, 2004).

Wskazuje się jednak, że korelacja między byciem w romantycznym związku a dobrostanem psychicznym jest bardziej złożona. Romantyczne relacje mogą być czynnikiem ochronnym w odniesieniu do zdrowia psychicznego, ale także mogą stanowić źródło trudności (Kazan, Calear, Batterham, 2016). Wykazano, że konflikty i poczucie bycia nieszczęśliwym w związku romantycznym wiążą się z cierpieniem psychicznym i niską satysfakcją z życia (Carr, Freedman, Cornman, Schwarz, 2014), wyższym poziomem lęku i większym prawdopodobieństwem występowania depresji (Leach, Butterworth, Olesen, Mackinnon, 2013) oraz wyższym ryzykiem samobójstw (Santini, Koyanagi, Tyrovolas, Haro, 2015).

Funkcjonowanie w relacjach romantycznych jest rozumiane również poprzez koncepcje stylów przywiązania, a Bowlby (1969) stwierdził, że style przywiązania wpływają na to, jak ludzie myślą, czują i zachowują się w bliskich związkach na przestrzeni całego życia. W perspektywie psychologicznej poczucie bliskości pozwala redukować lęk i niepokój, pozwalając jednostkom efektywnie angażować się w zadania życiowe (Simpson i Rholes 2017).

Unikowy styl przywiązania, odzwierciedla stopień, w jakim jednostki czują się komfortowo z bliskością i emocjonalną intymnością w związkach (Bartholomew, 1990; Karbowa-Płowens, 2019). Osoby, które osiągają niskie wyniki

scores in the scope of avoidance (i.e. those whose attachment is more secure) feel no discomfort in intimate relationships, and are willing to rely on others, as well as to make others rely on them.

On the other hand, the style involving anxiety determines the degree in which individuals worry that they will be abandoned by their romantic partners. People with high anxiety levels are strongly committed to their relationships and crave emotional intimacy, which provides them with a sense of security (Collins, 1996). People with low anxiety levels (i.e. people with more secure attachment styles) do not experience chronic worries and fears.

The additional, extremely important factor which could influence both the romantic relationships and the mental health, was the COVID-19 pandemic, including the hardships caused by the restrictions imposed in connection with the disease. The literature of reference indicates that partners in intimate relationships were the main source of mutual support during the COVID-19 pandemic (Balzarin et al., 2022). Global crises entail difficulties, but they can also foster post-traumatic growth in some individuals. Post-traumatic growth means positive changes in characteristics, personality, worldview and relationships, which individuals may experience as a result of hardships (Jayawickreme et al., 2021).

The research was aimed at assessing the level of emotional problems related to the COVID-19 pandemic and the post-traumatic growth, depending on the quality of relationships and the attachment styles in romantic relationships, in view of the selected socio-demographical variables. The researchers also assessed to what extent the people engaging in better/ worse relationships felt the lack of intimacy, and whether those individuals thought that the period of the pandemic provided an opportunity for them to better understand their own sexuality. The following research hypotheses were formulated:

- The average scores concerning emotional difficulties related to the pandemic decrease if the relationships are assessed positively.
- The average scores concerning post-traumatic growth increase if the relationships are assessed positively.
- The people assessing their relationships more positively tend to declare better understanding of their sexual expectations and preferences more often, and report the lack of intimacy less frequently.

w zakresie unikania (te, które są bardziej bezpiecznie przywiązane), nie odczuwają dyskomfortu, będąc w intymnych relacjach i są skłonne zarówno polegać na innych, jak i sprawić, by inni polegali na nich.

Zaś styl związany z lękiem określa stopień, w jakim jednostki martwią się, że zostaną porzucone przez swoich romantycznych partnerów. Osoby o wysokim poziomie lęku są wysoce zaangażowane w swoje związki i pragną zbliżyć się emocjonalnie do swoich partnerów, aby czuć się bezpieczniej (Collins, 1996). Osoby z niskim poziomem lęku, (które są bardziej bezpiecznie przywiązane) nie mają chronicznych zmartwień i obaw.

Dodatkowym niezwykle istotnym czynnikiem, który mógł wpłynąć zarówno na romantyczne relacje, jak i na zdrowie psychiczne, była pandemia COVID-19, w tym trudności spowodowane narzuconymi ograniczeniami z nią związanymi. W literaturze wskazuje się, że partnerzy w związkach intymnych stanowili główne źródło wzajemnego wsparcia podczas pandemii COVID-19 (Balzarini i in., 2022). Globalne kryzysy wiążą się nie tylko z trudnościami, ale mogą prowadzić u niektórych jednostek do wzrostu potraumatycznego. Wzrost potraumatyczny to pozytywne zmiany w zakresie cech, osobowości, światopoglądu i relacji, których jednostki mogą doświadczać w następstwie przeciwności losu (Jayawickreme i in., 2021).

Celem badania była ocena poziomu trudności emocjonalnych związanych z pandemią COVID-19 oraz wzrostu potraumatycznego w zależności od jakości relacji i stylu przywiązania w związku romantycznym w świetle wybranych zmiennych socjodemograficznych. Oceniono także, w jakim stopniu osoby żyjące w lepszych i gorszych związkach odczuwały brak bliskości z drugą osobą i czy uznawały, że okres pandemii stworzył okazję do lepszego zrozumienia własnej seksualności. Postawiono następujące hipotezy badawcze:

- Średnie wyniki trudności emocjonalnych związanych z pandemią maleją w przypadku korzystnej oceny relacji.
- Średnie wyniki wzrostu potraumatycznego rosną w przypadku korzystnej oceny relacji.
- Osoby o korzystniejszej ocenie związku częściej deklarują lepsze zrozumienie swoich oczekiwań i upodobań seksualnych oraz rzadziej zgłaszają brak bliskości z drugą osobą.

Material and methods

Respondents and procedure

The quantitative research was conducted as part of the project entitled "Humanization of the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic", in the period from March 2nd to March 20th, 2022, among the people associated in ReaktorOpinii.pl research panel. The research employed the CAWI (computer-assisted web interview) technique. The analysis covers the data concerning 1332 adults who declared to be in monogamous relationships at the time of the research. The procedures and the tools used in this research project have been approved by the Research Ethics Commission of the University of Wrocław Faculty of Pedagogy, at No. 2021/8 (Izdebski, Mazur, Furman, Kozakiewicz, Białorudzki, 2023).

Research tools

Dependent variables. The first dependent variable used in the research was the scale measuring emotional difficulties experienced during the COVID-19 Pandemic Emotional Difficulties Scale (Pandemic-ED), the reliability of which was verified in the previous research conducted by the authors, Cronbach's α = 0.884 (Kozakiewicz, Izdebski, Białorudzki, Mazur, 2023). The respondents referred to the statement: "because of the pandemic, I feel…", in the context of four emotional states: frustration and/or uncertainty of the future, loneliness, anger and fear. The answers were arranged in a five-point scale, namely: never, rarely, sometimes, quite often and very often. The created additive scale assumes a scope between 4 and 20 points, where higher results stand for more emotional difficulties. The second dependent variable is the Post-Traumatic Growth (PTG) aggregate scale, formulated by the research team and described in the previous study (Izdebski, Mazur, Białorudzki, Kozakiewicz, 2023). The aggregate scale covers the scope from 0 to 24 points, with the addition that a high score indicates positive redefinition of values and contains six items relating to a positive change. In accordance with the principal components method, it has a uniform structure, and the Cronbach's α reliability coefficient is 0.848. A separate analysis was also conducted with

Materiał i metody

Badane osoby i procedura

Badanie o charakterze ilościowym zostało przeprowadzone w ramach projektu pt. „Humanizacja procesu leczenia i komunikacja kliniczna pomiędzy pacjentem a personelem medycznym przed i w czasie pandemii COVID-19" w dniach od 2 do 20 marca 2022 roku wśród osób zrzeszonych w panelu badawczym ReaktorOpinii.pl. W badaniu wykorzystano technikę samodzielnej ankiety internetowej (CAWI). Przedmiotem analiz są dane dotyczące 1332 dorosłych, którzy zadeklarowali, że aktualnie pozostają w monogamicznym związku. Procedury i narzędzia zastosowane w tym projekcie badawczym zostały zatwierdzone przez Komisję Etyki Badań Wydziału Pedagogicznego UW pod numerem 2021/8 (Izdebski, Mazur, Furman, Kozakiewicz, Białorudzki, 2023).

Narzędzia badawcze

Zmienne zależne. Pierwszą zmienną zależną wykorzystaną w badaniu była skala mierząca trudności emocjonalne doświadczane w czasie pandemii COVID-19 Pandemic Emotional Difficulties Scale (Pandemic-ED), której rzetelność została sprawdzona w poprzednich badaniach własnych, α Cronbacha = 0,884 (Kozakiewicz, Izdebski, Białorudzki, Mazur, 2023). Respondenci odnosili się do stwierdzenia „z powodu pandemii czuję się…" w kontekście czterech stanów emocjonalnych: frustracji i/lub niepewności, co do przyszłości, samotności, złości i strachu. Użyto pięciostopniowej skali: nigdy, rzadko, czasami, dość często i bardzo często. Utworzona skala addytywna przyjmuje zakres między 4-20 punktów, gdzie wyższe wyniki oznaczają więcej trudności emocjonalnych. Drugą zmienną zależną jest sumaryczna skala Post-Traumatic Growth (PTG), zbudowana przez zespół badawczy i opisana we wcześniejszych badaniach (Izdebski, Mazur, Białorudzki, Kozakiewicz, 2023). Skala sumaryczna mieści się w zakresie od 0 do 24 punktów, przy czym wysoki wynik wskazuje na pozytywne przewartościowanie i zawiera sześć pozycji dotyczących pozytywnej zmiany. Według metody głównych składowych ma on jednorodną strukturę, a współczynnik rzetelności α Cronbacha wynosi 0,848. Osobno analizowano też niewłączone do skali wzrostu potraumatycznego i nieopisane

regard to two questions included in the survey in the same set of questions, but not covered by the post-traumatic growth scale and not described earlier. The said questions concerned the sense of a lack of intimacy and the noticed changes in understanding of the respondents' sexual preferences during the pandemic.

Independent variables. The scales describing the quality of a romantic relationship were selected as variables potentially explaining the changes related to emotional difficulties and positive redefinition of values. The first one was the Short Love Scale 12 (SLS-12). Each statement was assessed on a five-point Likert scale, with 5 meaning "definitely matches the description of my relationship", and 1 meaning "does not match the description of my relationship at all". The maximum score was 60, and the minimum was 12. The Cronbach's α for this scale = 0.959. Scores in the scope from 12 to 44 indicate the low quality of the relationship, scores from 45 to 52 suggest a moderately good relationship, whereas scores from 53 to 60 indicate a very good relationship (Kozakiewicz, Izdebski, Mazur, 2022). The second scale was The Experiences in Close Relationships-Relationship Structures (ECR-RS). It is a five-point tool for measuring attachment styles in intimate relationships. For the needs of this research, we obtained the author's consent and used the Polish translation by M. Marszal (2015). The scale is a self-reference tool and covers two aspects: fear and avoidance (Fraley, Heffernan, Vicary, Brumbaugh, 2011). The scale covers a score from 9 to 63, where higher scores indicate less secure attachment styles. The scores from both scales are presented with breakdown into relationship categories, as positive, average and negative assessments. It is worth stressing that the SLS-12 scale refers, to a greater extent, to positive perception of a relationship, whereas ECR-RC identifies the issues relating to attachment in a relationship. In addition, the authors employed socio-demographic variables, such as gender, education, place of residence and age.

Statistical analyses

Due to the lack of standards for assessing the scores on the ECR-RS scale, it was agreed to divide the scale into three ranges, with low scores meaning attachment close to secure one, and high scores indicating non-secure attachment.

wcześniej dwa pytania zamieszczone w ankiecie w tym samym bloku pytań. Dotyczyły one odczuwania braku bliskości z drugą osobą i postrzeganych zmian w zrozumieniu własnych upodobań seksualnych w okresie pandemii.

Zmienne niezależne. Jako zmienne potencjalnie objaśniające zmiany odnoszące się do trudności emocjonalnych oraz pozytywnego przewartościowania wybrano skale opisujące jakość relacji romantycznej. Pierwszą z nią była skala Short Love Scale 12 (SLS-12). Każde stwierdzenie było oceniane na pięciostopniowej skali Likerta, gdzie 5 oznaczało „bardzo pasuje do opisu mojego związku", a 1 oznaczało „w ogóle nie pasuje do opisu mojego związku". Maksymalny wynik wynosił 60, a minimalny 12. Współczynnik α Cronbacha dla tej skali = 0,959. Wyniki w zakresie od 12 do 44 wskazują na niską jakość związku, wyniki w zakresie od 45 do 52 na umiarkowanie dobry związek, a wyniki od 53 do 60 na bardzo dobry związek (Kozakiewicz, Izdebski, Mazur, 2022). Drugą skalą była The Experiences in Close Relationships-Relationship Structures (ECR-RS). Jest to dziewięciopunktowe narzędzie do pomiaru stylów przywiązania w bliskich związkach. Na potrzeby niniejszego badania uzyskano zgodę autora i wykorzystano polskie tłumaczenie autorstwa M. Marszal (2015). Skala jest narzędziem autoreferencyjnym i obejmuje dwa wymiary, lęk i unikanie (Fraley, Heffernan, Vicary, Brumbaugh, 2011). Skala ma punktację od 9 do 63, gdzie wyższe wyniki oznaczają mniej bezpieczne style przywiązania. Wyniki obu skal przedstawiane są w podziale na kategorie związku jako ocena korzystna, przeciętna i niekorzystna. Warto zaznaczyć, że skala SLS-12 odnosi się w większym stopniu do pozytywnego postrzegania związku, a ECR-RS identyfikuje kwestie przywiązania w związku. Ponadto wykorzystano zmienne socjodemograficzne, takie jak płeć, wykształcenie, miejsce zamieszkania i wiek.

Analizy statystyczne

Ze względu na brak norm do oceny wyników skali ECR-RS, podzielono ją umownie na trzy przedziały, gdzie wyniki niskie oznaczają przywiązanie zbliżone do bezpiecznego, a wyniki wysokie przywiązanie pozabezpieczne. Następnie

This was followed by verification of changes in average PTG and Pandemic-ED values, according to the selected socio-demographic variables, with reference to SLS-12 and ECR-RS levels. Then, the researchers compared the differences in the scope of the changes in sexual preferences and the lack of intimacy, depending on the declared quality of a relationship. Chi2 test was used for categorized variables, whereas the averages were compared using Krusal-Wallis H non-parametric test. The researchers used SPSS v.27 statistical software (IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Armonk, NY: IBM Corp).

Research results

The presented analyses concerned the data on 1332 people in romantic relationships (table 1). 77.1% of the people were in registered relationships, 22.6% were in vunregistered relationships, and 0.3% of the respondents refused to answer the question about the present nature of their relationships. The research sample included 653 women (49%) and 679 men (51%) The majority of the respondents were people with higher education, i.e. 535 (40.2%), followed by 467 respondents with secondary education (35.1%) and 330 with primary or vocational education (24.8%). The highest percentage of respondents came from medium-sized towns and cities (with 49.9 to 1 million inhabitants), i.e. 467 (35.1%), followed by the inhabitants of villages, i.e. 511 (39.4%) and people from large cities (more than 1 million inhabitants), i.e. 165 (12.4%) The average SLS-12 score for the entire sample (N = 1332) was 48.31 (10.23), whereas the average ECR-RS score was 22.71 (11.33).

The level of emotional difficulties related to the pandemic was used in the present research as one of the dependent variables. Among 1332 respondents, the average Pandemic-ED index was 11.02 (3.80). The researchers analysed the average results in the scope of Pandemic-ED scale in relation to the selected socio-demographic variables against three SLS-12 categories. In the case of all indexes, significant differences were recorded, i.e. a drop in averages in the Pandemic-ED scale was noticed with regard to a positive assessment of a relationship. The differences proved to be insignificant only in the group of respondents from large cities (p = 092) (table 2).

sprawdzono, jak zmieniają się średnie wartości PTG oraz Pandemic-ED według wybranych zmiennych socjodemograficznych w odniesieniu do poziomu SLS-12 i ECR-RS. Następnie porównano różnice w zakresie zmiany upodobań seksualnych oraz braku bliskości w zależności od deklarowanej jakości związku. Dla zmiennych skategoryzowanych wykorzystano test chi2, a dla porównań średnich wykorzystano nieparametryczny test H Kruskala-Wallisa. Wykorzystano program statystyczny SPSS v.27 (IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Armonk, NY: IBM Corp).

Wyniki badań

Przedmiotem niniejszych analiz są dane dotyczące 1332 osób pozostających w związkach romantycznych (tabela 1). W związku formalnym pozostawało 77,1% osób, w nieformalnym 22,6%, a 0,3% osób odmówiło odpowiedzi na pytanie, w jakim charakterze relacji są obecnie. Próba składała się z 653 (49%) kobiet oraz z 679 (51%) mężczyzn. Najwięcej osób uzyskało wykształcenie wyższe 535 (40,2%), następnie średnie 467 (35,1%) oraz podstawowe i zawodowe 330 (24,8%). Najwyższy odsetek odnotowano dla osób mieszkających w średnich miastach (od 49,9 tysięcy do 1 mln) 467 (35,1%), następnie na wsiach 511 (39,4%) oraz w dużych miastach (powyżej 1 mln) 165 (12,4%). Średni wynik SLS-12 w całej próbie (N = 1332) wynosił 48,31 (10,23), a średni wynik ECR-RS 22,71 (11,33).

Poziom trudności emocjonalnych związanych z pandemią został wykorzystany jako jedna ze zmiennych zależnych w tym badaniu. Wśród 1332 respondentów średni wskaźnik Pandemic-ED wynosił 11,02 (3,80). Analizowano średnie wyniki w zakresie skali Pandemic-ED w odniesieniu do wybranych zmiennych socjodemograficznych względem trzech kategorii SLS-12. W zakresie wszystkich wskaźników odnotowano istotne różnice, gdzie dla korzystnej oceny związku odnotowano spadek średnich w zakresie skali Pandemic-ED. Jedynie w grupie mieszkańców dużych miast różnice okazały się być nieistotne (p = 0,092) (tabela 2).

W kolejnym kroku analizowano średnie wyniki w zakresie skali Pandemic-ED w odniesieniu do wybranych zmiennych socjodemograficznych względem trzech kategorii ECR-RS. Również w zakresie wszystkich wskaźników odnotowano

Table 1. Characteristics of the study sample (N=1332)
Tabela 1. Charakterystyka badanej grupy (N=1332)

Zmienna / Variable	Kategorie / Categories	N (%)
Płeć / Gender	Kobiety / Women	653 (49%)
	Mężczyźni / Men	679 (51%)
Wykształcenie / Education	Podstawowe i zawodowe / Primary and vocational	330 (24.8%)
	Średnie / Secondary	467 (35.1%)
	Wyższe / Higher	535 (40.2%)
Miejsce zamieszkania / Place of living	Wieś / Rural areas	511 (38.4%)
	Średnie miasta / Medium cities	656 (49.2%)
	Duże miasta / Big cities	165 (12.4%)
Wiek / Age	18-29	139 (10.4%)
	30-49	534 (40.1%)
	50+	659 (49.5%)

Source: Research results.

Źródło: Wyniki badań.

Table 2. Mean Pandemic-ED scores by SLS-12 level in the total group and by selected sociodemographic variables
Tabela 2. Średnie wyniki Pandemic-ED według poziomu SLS-12 w grupie ogółem oraz według wybranych zmiennych socjodemograficznych

Zmienne socjodemograficzne / Sociodemographic variables	Kategorie związku (SLS-12) / Relationship categories (SLS-12)			Kruskall--Wallis p
	Ocena korzystna / Positive assessment M±SD	Ocena przeciętna / Average assessment M±SD	Ocena niekorzystna/ Negative assessment M±SD	
Cała próba / Total sample	10.07±3.88	11.30±3.51	12.07±3.63	<0.001
Płeć / Gender				
Kobieta / Women	11.23±3.75	11.96±3.69	12.57±3.68	<0.001
Mężczyzna / Men	9.08±3.71	10.67±3.22	11.48±3.47	<0.001
Wykształcenie / Education				
Podstawowe i zawodowe / primary and vocational	9.90±4.12	11.04±3.62	12.40±4.03	<0.001
Średnie / Secondary	10.11±3.75	11.40±3.52	11.82±3.50	<0.001
Wyższe / Higher	10.15±3.86	11.37±3.46	12.07±3.46	<0.001
Miejsce zamieszkania / Place of living				
Wieś / Rural areas	10.35±3.98	11.41±3.46	11.98±3.73	<0.001
Średnie miasta / Medium cities	9.90±3.81	11.23±3.67	12.35±3.61	<0.001
Duże miasta / Big cities	9.95±3.86	11.24±3.09	11.35±3.28	0.092
Wiek / Age				
18-29	10.54±4.08	12.58±3.64	12.31±3.95	0.014
30-49	10.31±4.04	11.29±3.35	12.48±3.74	<0.001
50+	9.76±3.67	11.10±3.60	11.71±3.45	<0.001

Source: Research results.

Źródło: Wyniki badań.

The next step included the analysis of the average results in the Pandemic-ED scale, with reference to the selected socio-demographic variables against three ECR-RS categories. In the case of all indexes, significant differences were also recorded, i.e. a drop in averages in the Pandemic-ED scale was noticed with regard to a positive assessment of a relationship. The differences proved to be insignificant only in the group of respondents from large cities (p = 0.060) and people aged 18 to 29 (p = 0.071) (table 3).

The declared post-traumatic growth was used in the research as another dependent variable. Among the 1332 respondents, the average PTG index was 17.52 (4.42). Firstly, the analysis was conducted as to the average PTG score with reference to the selected socio-demographic variables against three SLS-12 categories. Both women (p<0.001) and men (p<0.001) assessing their relationships negatively gained lower PTG scores. Also, people with various education levels differed significantly, depending on the relationship quality, with the addition that the highest differences were recorded in the case of respondents possessing secondary education (p<0.001). The quality of a relationship had the strongest impact on differences among the respondents from villages (p<0.001). Additionally, in all categories of residence, the highest PTG scores were recorded in the case of groups declaring a positive assessment of their relationships. As regards age groups, significant differences were recorded in the group of respondents aged 30 to 49 (p < 0.001) and people aged above 50 (p < 0.001). In all the presented groups, the PTG average was the highest in the case of a positive assessment of relationships The differences proved insignificant in the group of respondents from large cities (p = 0.190) and people aged 18 to 29 (p = 0.063) (table 4).

The next step was an analysis of average PTG results in relation to the selected socio-demographic variables against three ECR-RS categories. The post-traumatic growth indexes demonstrated statistically significant differences for men (p = 0.017) and differences at the limit of significance for women (p = 0.054). In both cases, the results were higher in the case of positive assessments of relationships. Moreover, the quality of a relationship affected the differences among the respondents possessing secondary education (p < 0.001), living in villages (p < 0.001)

istotne różnice, gdzie dla korzystnej oceny związku odnotowano spadek średnich w zakresie skali Pandemic-ED. Jedynie w grupie mieszkańców dużych miast (p = 0,060) oraz osób w wieku 18-29 (p = 0,071) różnice okazały się być nieistotne (tabela 3).

Deklarowany wzrost potraumatyczny został wykorzystany jako kolejna ze zmiennych zależnych w tym badaniu. Wśród 1332 respondentów średni wskaźnik PTG wynosił 17,52 (4,42). W pierwszej kolejności analizowano średnie wyniki PTG w odniesieniu do wybranych zmiennych socjodemograficznych względem trzech kategorii SLS-12. Zarówno kobiety (p < 0,001), jak i mężczyźni (p < 0,001) o niekorzystnej ocenie związku uzyskali niższe wyniki w zakresie PTG. Również osoby o różnym poziomie wykształcenia różniły się istotnie w zależności od jakości relacji, przy czym największe różnice odnotowano w przypadku osób z wykształceniem średnim (p < 0,001). Jakość związku w największym stopniu oddziaływała na różnice wśród osób mieszkających na wsi (p < 0,001), przy czym we wszystkich kategoriach zamieszkania najwyższe wyniki PTG odnotowano dla grup deklarujących korzystną ocenę związku. W odniesieniu do grup wiekowych istotne różnice odnotowano w grupie osób 30-49 (p < 0,001) oraz w grupie 50+ (p < 0,001). We wszystkich przedstawionych grupach średnia PTG była najwyższa dla korzystnej oceny związku. W grupie mieszkańców dużych miast (p = 0,190) oraz osób w wieku 18-29 (p = 0,063) różnice okazały się być nieistotne (tabela 4).

Następnie analizowano średnie wyniki PTG w odniesieniu do wybranych zmiennych socjodemograficznych względem trzech kategorii ECR-RS. Wskaźniki wzrostu potraumatycznego okazały się różnić istotnie statystycznie dla mężczyzn (p = 0,017) i na granicy istotności dla kobiet (p = 0,054) w obu przypadkach wyższe dla korzystnej oceny związku. Ponadto, jakość związku oddziaływała na różnice wśród osób z wykształceniem średnim (p < 0,001), mieszkających na wsi (p < 0,001) oraz w grupie osób 50+ (p = 0,020). Dla pozostałych grup socjodemograficznych różnice okazały się nieistotne (tabela 5).

W całej próbie badanych 28,3% zgodziło się ze stwierdzeniem, że lepiej zrozumiało swoje oczekiwania i upodobania seksualne, 41,4% odpowiedziało ani tak, ani nie, a 30,3% nie zgodziło się. W tabeli 6 odnotowano istotne statystycznie (p <0,001) różnice w zakresie odpowiedzi

Table 3. Mean Pandemic-ED scores by ECR-RS level in the total group and by selected sociodemographic variables
Tabela 3. Średnie wyniki Pandemic-ED według poziomu ECR-RS w grupie ogółem oraz według wybranych zmiennych socjodemograficznych

Zmienne socjodemograficzne / Sociodemographic variables	Kategorie związku (ECR-RS) / Relationship categories (ECR-RS)			Kruskall-Wallis p
	Ocena korzystna / Positive assessment M±SD	Ocena przeciętna / Average assessment M±SD	Ocena niekorzystna/ Negative assessment M±SD	
Cała próba / Total sample	9.51±3.82	11.09±3.55	12.28±3.81	<0.001
Płeć / Gender				
Kobieta / Women	10.60±3.70	11.97±3.48	12.82±3.98	<0.001
Mężczyzna / Men	8.39±3.62	10.33±3.43	11.65±3.52	<0.001
Wykształcenie / Education				
Podstawowe i zawodowe / primary and vocational	9.18±4.12	11.03±3.75	12.11±4.18	<0.001
Średnie / Secondary	9.73±3.85	11.05±3.51	12.15±3.50	<0.001
Wyższe / Higher	9.43±3.61	11.14±3.48	12.55±3.75	<0.001
Miejsce zamieszkania / Place of living				
Wieś / Rural areas	9.54±3.91	11.40±3.62	12.15±3.72	<0.001
Średnie miasta / Medium cities	9.48±3.80	10.90±3.55	12.59±3.92	<0.001
Duże miasta / Big cities	9.52±3.69	10.81±3.24	11.60±3.66	0.060
Wiek / Age				
18-29	10.12±5.03	11.51±3.53	12.27±4.02	0.071
30-49	9.50±3.55	11.11±3.63	12.77±3.95	<0.001
50+	9.42±3.79	10.98±3.48	11.79±3.56	<0.001

Źródło: Wyniki badań.

Source: Research results.

Table 4. Mean PTG scores by SLS-12 level in the total group and by selected sociodemographic variables
Tabela 4. Średnie wyniki PTG według poziomu SLS-12 w grupie ogółem oraz według wybranych zmiennych socjodemograficznych

Zmienne socjodemograficzne / Sociodemographic variables	Kategorie związku (SLS-12) / Relationship categories (SLS-12)			Kruskall-Wallis p
	Ocena korzystna / Positive assessment M±SD	Ocena przeciętna / Average assessment M±SD	Ocena niekorzystna/ Negative assessment M±SD	
Cała próba / Total sample	18.15±4.66	17.40±3.99	16.75±4.32	<0.001
Płeć / Gender				
Kobieta / Women	18.79±4.44	17.91±4.04	17.36±4.37	<0.001
Mężczyzna / Men	17.60±4.79	16.93±3.89	16.03±4.17	<0.001
Wykształcenie / Education				
Podstawowe i zawodowe / primary and vocational	18.25±4.73	16.86±4.18	16.90±4.65	0.007
Średnie / Secondary	18.37±4.59	17.94±3.49	16.47±3.95	<0.001
Wyższe / Higher	17.86±4.71	17.31±4.20	16.86±4.41	0.025
Miejsce zamieszkania / Place of living				

and aged above 50 (p = 0.020). The differences proved insignificant for other socio-demographic groups (table 5).

In the entire group of respondents, 28.3% agreed that they understood their sexual expectations and preferences better, 41.4 did not give a definitive answer (yes or no), whereas 30.3% disagreed. Table 6 presents statistically significant (p < 0.001) differences in the scope of responses in relations to three categories of a relationship, assessed in SLS-12 scale (p < 0.001). Respondents declaring to assess their relationships positively agreed with this statement (33.8%) more frequently than people with low relationship quality (23.9%), and, accordingly, disagreed less frequently. However, no statistically significant differences (p = 0.075) were recorded as to the breakdown in accordance with the ECR-RS scale.

In the entire research sample, 43.5% agreed that they lacked intimacy, 28.5% did not give a definitive answer (yes or no), whereas 28.0% disagreed. Table 7 presents statistically significant differences (p < 0.005) differences in the scope of responses in relation to three categories in the SLS-12 scale. The respondents declaring positive assessments of their relationships agreed with this statements to a similar extent (42.8%) to people assessing their relationships negatively. However, more people from the group declaring a positive assessment disagreed with this statement (32.9%), compared to the group declaring a negative assessment (22.9%). The relation with regard to ECR-RS scale is even stronger (p < 0.001). Respondents with secure attachment styles declared the lack of intimacy less frequently (38.9% against 50.8%), but more frequently than people with non-secure attachment styles (37.3% against 18.0%).

Discussion

This paper presents the data concerning 1332 adult inhabitants of Poland, living in relationships and surveyed in 2022. The main focus was on the assessment of the relationships' quality in view of the selected effects of life at the time of the COVID-19 pandemic. Firstly, the results of authors' own research showed that mental health indexes were higher among people living in high-quality relationships, as compared to respondents with low-quality relationships. These results comply

w odniesieniu do trzech kategorii związku ocenianej w skali SLS-12 (p < 0,001). Osoby deklarujące korzystną ocenę związku częściej zgadzały się (33,8%) z tym stwierdzeniem, do osób o niskiej jakości związku (23,9%) i odpowiednio rzadziej się z nim nie zgadzały. Nie odnotowano, jednakże istotnych statystycznie różnic (p = 0,075) dla podziału zgodnego ze skalą ECR-RS.

W całej próbie badanych 43,5% zgodziło się ze stwierdzeniem, że brakowało im bliskości z drugą osobą, 28,5% odpowiedziało ani tak, ani nie, a 28,0% nie zgodziło się. W tabeli 7 wykazano, że istnieją istotne statystycznie (p < 0,005) różnice w zakresie odpowiedzi w odniesieniu do trzech kategorii skali SLS-12. Osoby deklarujące korzystną ocenę związku w podobnym stopniu (42,8%) do osób deklarujących ocenę niekorzystną (44,3%) zgodziły się z tym stwierdzeniem. Jednak więcej osób w grupie o korzystnej ocenie nie zgodziło się z tym stwierdzeniem (32,9%) porównując do grupy deklarujących niekorzystną ocenę (22,9%). Zależność w odniesieniu do skali ECR-RS jest jeszcze silniejsza (p < 0,001). Osoby o bezpiecznych stylach przywiązania rzadziej deklarowały brak bliskości z drugą osobą (38,9% wobec 50,8%) oraz częściej brak takiego odczucia w porównaniu do osób przywiązanych pozabezpiecznie (37,3% wobec 18,0%).

Dyskusja

W pracy przedstawiono dane dotyczące 1332 dorosłych mieszkańców Polski żyjących w związkach, ankietowanych w 2022 roku. W centrum zainteresowania znalazła się ocena jakości relacji w związku z wybranymi skutkami życia w pandemii COVID-19. Po pierwsze, wyniki badań własnych wskazały, że wskaźniki zdrowia psychicznego były wyższe wśród osób pozostających w relacjach o wysokiej jakości w porównaniu z tymi, których jakość relacji pozostawała niska.

Wieś / Rural areas	18.86±4.17	17.28±4.21	16.55±4.79	<0.001
Średnie miasta / Medium cities	17.73±4.93	17.62±3.58	17.02±3.81	0.013
Duże miasta / Big cities	17.70±4.73	16.96±4.76	16.37±4.51	0.190
Wiek / Age				
18-29	17.00±5.37	15.45±3.56	15.84±4.28	0.063
30-49	18.06±4.89	17.39±4.43	16.35±4.61	<0.001
50+	18.52±4.22	17.74±3.56	17.21±4.05	<0.001

Source: Research results.

Źródło: Wyniki badań.

Table 5. Mean PTG scores by ECR-RS level in the total group and by selected sociodemographic variables

Tabela 5. Średnie wyniki PTG według poziomu ECR-RS w grupie ogółem oraz według wybranych zmiennych socjodemograficznych

Zmienne socjodemograficzne / Sociodemographic variables	Kategorie związku (ECR-RS) / Relationship categories (ECR-RS)			Kruskall-Wallis p
	Ocena korzystna / Positive assessment M±SD	Ocena przeciętna / Average assessment M±SD	Ocena niekorzystna/ Negative assessment M±SD	
Cała próba / Total sample	18.11±4.67	17.31±4.42	17.41±4.13	0.003
Płeć / Gender				
Kobieta / Women	18.56±4.44	18.09±4.35	17.16±4.03	0.054
Mężczyzna / Men	17.67±4.86	16.65±4.36	17.63±4.22	0.017
Wykształcenie / Education				
Podstawowe i zawodowe / primary and vocational	17.50±5.42	17.44±4.50	17.39±±4.18	0.711
Średnie / Secondary	18.67±4.41	17.47±4.07	17.13±4.14	<0.001
Wyższe / Higher	17.83±4.44	17.12±4.63	17.68±4.10	0.288
Miejsce zamieszkania / Place of living				
Wieś / Rural areas	18.91±4.17	17.56±4.55	16.83±4.44	<0.001
Średnie miasta / Medium cities	17.60±5.08	17.34±4.12	17.77±3.76	0.325
Duże miasta / Big cities	17.76±3.96	16.41±5.02	17.76±4.39	0.259
Wiek / Age				
18-29	15.69±5.98	16.43±4.54	16.54±4.30	0.939
30-49	18.06±5.06	17.12±4.72	17.34±4.43	0.106
50+	18.52±4.07	17.64±4.10	17.75±3.73	0.020

Source: research results.

Źródło: Wyniki badań.

with the research conducted during the COVID-19 pandemic, where it was shown that people dissatisfied with their relationships demonstrate worse mental health than singles (Till, Niederkrotenthaler, 2017). Moreover, in a recent study in Austria, it was observed that people in high-quality relationships demonstrated better mental health indexes than people declaring low quality of their relationships (Pieh, Budimir, Probst, 2020). It seems that satisfying support provided by a partner or a spouse during stressful times in life, especially during a pandemic period, may help prevent suicidal thoughts or anxiety from developing (Till, Niederkrotenthaler, 2017).

Secondly, the authors' own research demonstrated that the post-traumatic growth indexes increased simultaneously with the rise in the quality of relationships. Despite the insignificant amount of research on this matter, in the American sample, the social support received from the family, friends and a particular loved one entailed increased immunity during the initial stage of the COVID-19 pandemic (Killgore, Taylor, Cloonan, Dailey, 2020). Furthermore, higher support was positively associated with satisfaction with a relationship, and negatively associated with the stress experienced (Holmstrom et al., 2021). Intimate relationships may play a vital role in supporting PTG, where people experience mutual growth, and personal growth of one person can influence the growth of another (Canevello, Michels, Hilaire, 2016). An important fact is also that theoretical and empirical studies suggest that personality traits may serve as crucial predictors of health-related results (such as PTG) in the context of a trauma, as people with stronger positive characteristics are more willing to maximize their internal and external resources to overcome adversities (Hampson, Freidman, 2008). It is possible that the high quality of relationship fostered the development of positive traits in particular people.

Thirdly, in the authors' own research people declaring high quality of their relationships (measured on the SLS-12 scale) agreed more frequently that they understood their sexual expectations and preferences better than people in low-quality relationships. What is more, people in high-quality relationships tended to disagree with the aforementioned statement less frequently than the group of respondents in low-quality relationships. It is believed that sexual

Wyniki te zgodne są z przeprowadzonymi badaniami w okresie pandemii COVID-19, gdzie wykazano, że w porównaniu z singlami, zdrowie psychiczne było gorsze u osób z niską satysfakcją ze związku (Till, Niederkrotenthaler, 2017). Co więcej, w niedawnym badaniu w Austrii, stwierdzono, że osoby w związkach dobrej jakości miały lepsze wskaźniki zdrowia psychicznego w porównaniu do osób deklarujących złą jakość związku (Pieh, Budimir, Probst, 2020). Wydaje się, że posiadanie satysfakcjonującego wsparcia ze strony partnera lub współmałżonka w stresujących okresach życia, szczególnie w okresie pandemicznym, może pomóc w zapobieganiu wzrostowi myśli samobójczych lub lęku (Till, Niederkrotenthaler, 2017).

Po drugie, w badaniach własnych wykazano, że wskaźniki wzrostu potraumatycznego rosły wraz ze wzrostem jakości relacji. Mimo nieznacznej liczby badań w tym obszarze, w próbie amerykańskiej wsparcie społeczne ze strony rodziny, przyjaciół i konkretnej bliskiej osoby wiązało się ze zwiększoną odpornością podczas początkowego etapu pandemii COVID-19 (Killgore, Taylor, Cloonan, Dailey, 2020). Ponadto wyższe wsparcie było pozytywnie związane z satysfakcją z relacji i negatywnie z odczuwanym stresem (Holmstrom i in., 2021). Bliskie relacje mogą odgrywać ważną rolę we wspieraniu PTG, w którym ludzie doświadczają wzajemnego wzrostu, a wzrost osobisty może być przekazywany z jednej osoby na drugą (Canevello, Michels, Hilaire, 2016). Istotnym pozostaje także fakt, że badania teoretyczne i empiryczne sugerują, że cechy osobowości mogą być ważnymi predyktorami wyników związanych ze zdrowiem (takich jak PTG) w kontekście traumy, ponieważ osoby o silniejszych pozytywnych cechach są bardziej skłonne do maksymalizacji zasobów wewnętrznych i zewnętrznych w celu przezwyciężenia przeciwności losu (Hampson, Freidman, 2008). Być może dzięki wysokiej jakości związków osoby mogły w większym stopniu rozwijać swoje pozytywne cechy.

Po trzecie w badaniach własnych osoby deklarujące wysoką jakość związku (mierzoną skalą SLS-12) częściej zgadzały się ze stwierdzeniem, że lepiej zrozumiały swoje oczekiwania i upodobania seksualne w porównaniu do osób o niskiej jakości związku. Co więcej, osoby o wysokiej jakości związku rzadziej się nie zgadzały z tym stwierdzeniem w porównaniu do grupy osób żyjących w relacjach o niskiej jakości. Uważa się, że intymność seksualna jest powiązana z większym

Table 6. Those who agree and disagree with the statement that during the pandemic they better understood their expectations and sexual preferences according to the evaluation of the quality of the relationship – N (%)

Tabela 6. Osoby, które zgadzają i nie zgadzają się ze stwierdzeniem, że w czasie pandemii lepiej zrozumiały swoje oczekiwania i upodobania seksualne według oceny jakości związku – N (%)

Lepiej zrozumiałem/am swoje oczekiwania i upodobania seksualne / I better understood my expectations and sexual preferences	Kategorie związku / Relationship categories		
	Ocena korzystna / Positive assessment	Ocena przeciętna / Average assessment	Ocena niekorzystna / Negative assessment
według SLS-12 / according to SLS-12			
Zgadzam się / I agree	187 (33.8%)	95 (24.9%)	95 (23.9%)
Ani tak ani nie / Neither yes nor no	224 (40.4%)	181 (47.5%)	147 (37.0%)
Nie zgadzam się / I disagree	143 (25.8%)	105 (27.6%)	155 (39.0%)
χ^2 = 30.074; d.f.= 4; p < 0.001			
według ECR-RS / according to ECR-RS			
Zgadzam się / I agree	81 (26.7%)	184 (26.2%)	112 (34.3%)
Ani tak ani nie / Neither yes nor no	133 (43.9%)	300 (42.7%)	119 (36.4%)
Nie zgadzam się / I disagree	89 (29.4%)	218 (31.1%)	96 (29.4%)
χ^2 = 8.496; d.f.= 4; p = 0.075			

Source: Research results.

Źródło: Wyniki badań.

Table 7. Those who agree and disagree with the statement that they missed intimacy with another person during the pandemic according to relationship quality evaluation - N (%)

Tabela 7. Osoby, które zgadzają i nie zgadzają się ze stwierdzeniem, że w czasie pandemii brakowało im bliskości z drugą osobą według oceny jakości związku – N (%)

Brakowało mi bliskości z drugą osobą / I missed the intimacy with the other person	Kategorie związku / Relationship categories		
	Ocena korzystna / Positive assessment	Ocena przeciętna / Average assessment	Ocena niekorzystna / Negative assessment
według SLS-12 / according to SLS-12			
Zgadzam się / I agree	237 (42.8%)	166 (43.6%)	176 (44.3%)
Ani tak ani nie / Neither yes nor no	135 (24.4%)	115 (30.2%)	130 (32.7%)
Nie zgadzam się / I disagree	182 (32.9%)	100 (26.2%)	91 (22.9%)
χ^2 =15.063; d.f.= 4; p = 0.005			
według ECR-RS / according to ECR-RS			
Zgadzam się / I agree	118 (38.9%)	295 (42.0%)	166 (50.8%)
Ani tak ani nie / Neither yes nor no	72 (23.8%)	206 (29.3%)	102 (31.2%)
Nie zgadzam się / I disagree	113 (37.3%)	201 (28.6%)	59 (18.0%)
χ^2 = 30.183; d.f. = 4; p < 0.001			

Source: Research results.

Źródło: Wyniki badań.

intimacy is associated with a higher sense of happiness, satisfaction, well-being and general health (Muise, Schimmack, Impett, 2016), and in the research conducted in the United Kingdome, some of the respondents reporting deterioration in the quality of their relationships simultaneously declared symptoms of anxiety and lower quality of their sex life. (Mitchell et al., 2023). In other studies, among the respondents in relationships, 34% reported a certain degree of conflict with their romantic partners, due to the COVID-19 pandemic and the related restrictions. These people tended to report a drop in the frequency of partner's intimate and sexual behaviours (including hugging, kissing or holding hands) more frequently compared to the respondents who did not experience such a conflict (Luetke, Hensel, Herbenick, Rosenberg, 2020).

As regards differences in relation to ECR-RS, people with secure attachment styles declared the lack of intimacy less frequently, compared to people with non-secure attachment styles, which complies with the assumptions of the attachment theory. The literature of reference stresses the crucial role of touch in romantic relationships (Bevan, Murphy, Lannutti, Slatcher, Balzarini, 2023). Research shows that the fearful attachment style between partners made it possible to predict greater difficulties in the relationship, lower quality of the relationship, as well as less stable and less coherent family environment, if people experienced greater stress. Higher scores in the scope of avoidance-related attachments served as a prediction of lower problem-solving effectiveness and weaker family bonds (Overall, Chang, Pietromonaco, Low, Henderson, 2021). Furthermore, high satisfaction with a relationship and an intention to continue it were related to sexual intimacy among romantic partners living together (Fleming, Franzese, 2021).

Emphasis was also put on the breakdown of values of two key dependent variables, according to social and demographic characteristics of the respondents. The examined relations were mostly stable in all the analysed sub-groups, distinguished due to their social and demographic characteristics. However, inhabitants of large cities and young people are an exception. Perhaps the quality of a relationship had no impact on a decrease in difficulties and post-traumatic growth due to the intensity of stress factors related to living in urban areas. Considering the

szczęściem, satysfakcją, dobrym samopoczuciem i ogólnym stanem zdrowia (Muise, Schimmack, Impett, 2016), a w badaniach z Wielkiej Brytanii część osób zgłaszających pogorszenie jakości związku deklarowało jednocześnie objawy niepokoju i spadek jakości życia seksualnego (Mitchell i in., 2023). W innych badaniach, wśród osób pozostających w związkach, 34% zgłosiło pewien stopień konfliktu ze swoimi partnerami romantycznymi z powodu pandemii COVID-19 i związanych z nią ograniczeń. Osoby te znacznie częściej zgłaszały zmniejszoną częstotliwość partnerskich zachowań intymnych i seksualnych w porównaniu z osobami, które nie doświadczyły takiego konfliktu, w tym rzadziej przytulały się, całowały lub trzymały za ręce ze swoimi partnerami (Luetke, Hensel, Herbenick, Rosenberg, 2020).

Zaś w zakresie różnic w odniesieniu do ECR-RS to osoby o bezpiecznych stylach przywiązania rzadziej deklarowały brak bliskości z drugą osobą w porównaniu do osób przywiązanych pozabezpieczne, co jest zgodnie z założeniami teorii przywiązania. W literaturze podkreśla się, że dotyk odgrywa kluczową rolę w relacjach romantycznych (Bevan, Murphy, Lannutti, Slatcher, Balzarini, 2023). Badania wskazują, że lękowy styl przywiązania partnerów przewidywał większe trudności w związku, niższą jego jakość oraz mniej stabilne i spójne środowisko rodzinne, gdy ludzie doświadczali większego stresu. A wyższe wyniki w zakresie przywiązania związanego z unikaniem przewidywało niższą skuteczność rozwiązywania problemów i spójność rodziny (Overall, Chang, Pietromonaco, Low, Henderson, 2021). Co więcej, wysoka satysfakcja z relacji i zamiar pozostania w związku były związane z intymnością seksualną wśród partnerów romantycznych mieszkających razem (Fleming, Franzese, 2021).

Ponadto zwrócono uwagę na rozkład wartości dwóch kluczowych zmiennych zależnych według społecznych i demograficznych cech respondentów. Badane zależności były przeważnie stabilne we wszystkich analizowanych podgrupach wyróżnionych ze względu na cechy społeczne i demograficzne. Wyjątek stanowią jednak mieszańcy dużych miast i osoby młode. Być może jakość relacji nie oddziaływała na zmniejszenie trudności i wzrost potraumatyczny ze względu na natężenie czynników stresogennych związanych z zamieszkiwaniem obszarów miejskich. Biorąc

large populations and intense business activities in cities, such places were frequent points of COVID-19 infection outbreaks (Sharifi, Khavarian-Garmsir, 2020). Moreover, in other Polish studies from the pandemic period, it was observed that inhabitants of large cities demonstrated higher scores in the scope of anxiety and depression (Babicki, Bogudzińska, Kowalski, Mastalerz-Migas, 2022). As regards the group of respondents aged 18 to 29, the review research results show that most of the studies demonstrated deterioration in mental health of teenagers and young people, concurrently with an increase in depression, anxiety and mental stress after the onset of the pandemic (Kauhanen et al., 2023). This factor remains significant in the context of reflections on how and whether the romantic relationships affect the people from this age group.

Limitations of authors' own research

Considering the available knowledge, the present research is the first one to analyse the functioning of people in romantic relationships, in terms of emotional difficulties and post-traumatic stress during the COVID-19 pandemic period in Poland. This research, however, is bound by certain limitations. Future studies should cover a more thorough analysis of mental health and post-traumatic growth indexes. In order to assess the causal relation between a relationship status and mental health/post-traumatic growth, it will be necessary to apply a longitudinal research scheme, making it possible to draw conclusions on causality in relation to the identified differences. Furthermore, the examined relations were analysed in sub-groups, according to the socio-demographic characteristics. Future research should include analysis of main relations in multi-factor models. What is more, the nature of a web questionnaire enables generalization of research results for a population with higher digital competences. It would also be worth examining the differences between people in marital and in civil unions. It remains unclear whether the same benefits for mental health, observed in married people, extend to other forms of romantic relationships, characterized by lesser commitment (Whitton, Weitbrecht, Kuryluk, Bruner, 2013).

bowiem pod uwagę wysoką liczbę ludności i aktywność gospodarczą w miastach, były one często ogniskami infekcji COVID-19 (Sharifi, Khavarian-Garmsir, 2020). Co więcej, w innych polskich badaniach z okresu pandemicznego stwierdzono, że mieszkańcy dużych miast charakteryzowali się wyższymi wynikami w zakresie lęku i depresji (Babicki, Bogudzińska, Kowalski, Mastalerz-Migas, 2022). W odniesieniu do grupy osób 18-29, wyniki badań przeglądowych wskazują, że w większości prac badawczych odnotowano pogorszenie zdrowia psychicznego nastolatków i młodych ludzi, wraz ze wzrostem depresji, lęku i stresu psychicznego po rozpoczęciu pandemii (Kauhanen i in., 2023). Czynnik ten pozostaje znaczący w kontekście rozważań, jak i czy relacje romantyczne oddziałowują na osoby w tym przedziale wiekowym.

Ograniczenia badań własnych

Biorąc pod uwagę dostępną wiedzę, niniejsze badanie jest pierwszym, które analizuje funkcjonowanie osób pozostających w relacjach romantycznych w zakresie trudności emocjonalnych i stresu potraumatycznego w okresie pandemii COVID-19 w Polsce. Badanie to wiąże się jednak z pewnymi ograniczeniami. Przyszłe badania powinny obejmować bardziej dogłębną analizę wskaźników zdrowia psychicznego oraz wzrostu potraumatycznego. Aby ocenić związek przyczynowy między statusem związku a zdrowiem psychicznym i wzrostem potraumatycznym, konieczne jest zastosowanie w przyszłości schematu badania podłużnego, który pozwoliłyby wnioskować o przyczynowości w odniesieniu do zidentyfikowanych różnic. Co więcej, badane zależności analizowane były w podgrupach według cech socjodemograficznych. W przyszłych badaniach należałoby przeanalizować główne zależności w modelach wieloczynnikowych. Ponadto charakter ankiety internetowej pozwala na uogólnienie wyników badania na populację o wyższych kompetencjach cyfrowych. Warto by było także zbadać różnice pomiędzy osobami w związkach małżeńskich i związkach partnerskich. Pozostaje niejasne czy te same korzyści dla zdrowia psychicznego stwierdzone u osób pozostających w związku małżeńskim rozciągają się na inne, mniej zaangażowane formy romantycznych relacji (Whitton, Weitbrecht, Kuryluk, Bruner, 2013).

Conclusions

The research results prove that emotional difficulties and post-traumatic growth experienced during the COVID-19 pandemic period vary depending on the declared quality of a relationship, with the addition that people in high-quality relationships and with more secure attachment styles obtain better scores. The presented results make it possible to understand the impact of romantic relationships on the functioning of individuals in crisis situations, and thus provide guidelines for people providing assistance in the area of couple counselling. Such counselling services should be more accessible to couples willing to work on their relationships, but requiring help or support in this process, especially due to the aftermath of the COVID-19 pandemic (Pierce et al., 2020). It is necessary to conduct further research on the role of romantic relationships in the scope of mental health of individuals and post-traumatic growth, in order to gain an insight into potential risk and protection factors.

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Wnioski

Wyniki tego badania, dowodzą, że trudności emocjonalne oraz wzrost potraumatyczny doświadczane w okresie pandemii COVID-19 różnią się w zależności od deklarowanej jakości związku, przy czym bardziej korzystne wyniki uzyskują osoby pozostające w relacjach o wysokiej jakości i mające bardziej bezpieczne style przywiązania. Prezentowane wyniki pozwalają zrozumieć oddziaływanie relacji romantycznych na funkcjonowanie jednostek w sytuacjach kryzysowych, dostarczając tym samym wskazówek dla osób pracujących pomocowo w obszarze poradnictwa partnerskiego. Poradnictwo to powinno być bardziej dostępne dla par, które chcą pracować nad swoim związkiem, ale potrzebują pomocy lub wsparcia w tym procesie, szczególnie w związku z następstwami pandemii COVID-19 (Pierce i in., 2020). Konieczne są dalsze badania nad rolą romantycznych związków w zakresie zdrowia psychicznego jednostek i wzrostu potraumatycznego, aby uzyskać wgląd w potencjalne czynniki ryzyka i czynniki ochronne.

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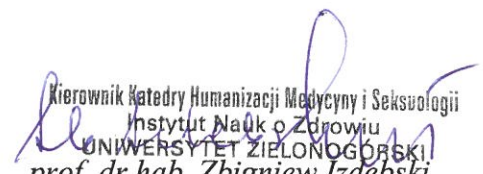Przewodniczący Senatu
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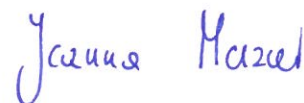Przewodniczący Senatu
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Oświadczam, że jestem współautorem publikacji zatytułowanej **Pandemic-Related Stress and Other Emotional Difficulties in a Sample of Men and Women Living in Romantic Relationships during the COVID-19 Pandemic**; autorstwa: Kozakiewicz A., Izdebski Z., Białorudzki M., Mazur J; która ukazała się w czasopiśmie International Journal of Environmental Research and Public Health 2023; 20(4):2988

Mój wkład w powstanie powyższej pracy obejmował: koncepcję i projekt badań, zbieranie i/ gromadzenie danych, pisanie artykułu, krytyczną weryfikację artykułu, ostateczne zatwierdzenie artykułu.

Swój całkowity wkład w przygotowanie publikacji oceniam na **20%.**

Jednocześnie wyrażam zgodę na włączenie przez mgr Alicję Kozakiewicz w/w publikacji w postępowaniu o nadanie stopnia doktora nauk medycznych.

Kierownik Katedry Humanizacji Medycyny i Seksuologii
Instytut Nauk o Zdrowiu
UNIWERSYTET ZIELONOGÓRSKI
prof. dr hab. Zbigniew Izdebski

prof. dr hab. Zbigniew Izdebski

Zielona Góra, 06.11.2023r.

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**Jego Magnificencja
Rektor Uniwersytetu
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Przewodniczący Senatu
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mgr Maciej Białorudzki

Zielona Góra, 06.11.2023r.

mgr Alicja Kozakiewicz
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Swój całkowity wkład w przygotowanie publikacji oceniam na **30%**.

mgr Alicja Kozakiewicz

Zielona Góra, 06.11.2023r.

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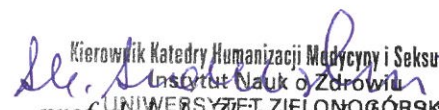Przewodniczący Senatu
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Zielona Góra, 06.11.2023r.

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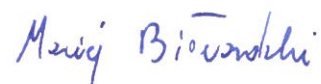**Uniwersytetu Zielonogórskiego**

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Swój całkowity wkład w przygotowanie publikacji oceniam na **10%**.

Jednocześnie wyrażam zgodę na włączenie przez mgr Alicję Kozakiewicz w/w publikacji w postępowaniu o nadanie stopnia doktora nauk medycznych.

mgr Maciej Białorudzki

Zielona Góra, 06.11.2023r.

lek. Szymon Michniewicz
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Swój całkowity wkład w przygotowanie publikacji oceniam na 10%.

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lek. Szymon Michniewicz

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mgr Alicja Kozakiewicz
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Oświadczam, że jestem współautorem publikacji zatytułowanej **Relacje romantyczne a trudności emocjonalne i wzrost potraumatyczny w czasie pandemii COVID-19**; autorstwa: Kozakiewicz A., Izdebski Z., która ukazała się w czasopiśmie Rozprawy Społeczne 2023; Vol. 17, nr 1

Mój wkład w powstanie powyższej pracy obejmował: zaplanowanie badań, zebranie danych, analizę i statystyki, interpretację danych, przygotowanie artykułu, wyszukanie i analizę literatury,

Swój całkowity wkład w przygotowanie publikacji oceniam na **70%**.

mgr Alicja Kozakiewicz

Zielona Góra, 06.11.2023r.

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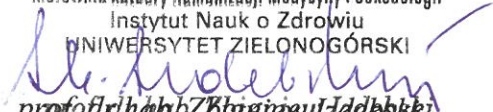**Uniwersytetu Zielonogórskiego**

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Mój wkład w powstanie powyższej pracy obejmował: zaplanowanie badań, zebranie danych, zebranie funduszy.

Swój całkowity wkład w przygotowanie publikacji oceniam na **30%.**

Jednocześnie wyrażam zgodę na włączenie przez mgr Alicję Kozakiewicz w/w publikacji w postępowaniu o nadanie stopnia doktora nauk medycznych.

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